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Elizabeth (Lisa) Samelson, Ph.D.
Elliott Schwartz, M.D.
Elizabeth Shane, M.D.
Eileen Shore, Ph.D.
Shonni Silverberg, M.D.
Natalie Sims, Ph.D.
Emily Stein, M.D.
Rajesh Thakker, M.B., B.Chir.
Andre Van Wijnen, Ph.D.
Deborah Veis, M.D., Ph.D.
Nelson Watts, M.D.
Deborah Wenkert, M.D.
Jennifer Westendorf, Ph.D.

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GENERAL MEETING INFORMATION

ASBMR 2018 Annual Meeting Location

All ASBMR sessions will take place in the Palais des congrès de Montréal in Montréal, Québec, Canada, unless otherwise stated. The Palais des congrès de Montréal in Montréal is located at 1001 Jena Paul Riopelle Pl, Montreal, QC H2Z 1H5, Canada.

Annual Meeting Evaluation

The ASBMR 2018 Annual Meeting Evaluation will be accessible online starting Thursday, October 4. An email will be sent to all meeting attendees who provided their email addresses at the time of registration. The email will provide a hyperlink to the online evaluation site. It will also be accessible via the ASBMR website at www.asbmr2018.org. We strongly encourage and welcome all attendees to provide us with feedback on the meeting. Your input is very important to us.

Registration Hours

Registration desks will be open for new registrants and material pick-up in the Palais des congrès de Montréal in the Registration Hall – Viger Hall Level 2 during the following hours:

Thursday, September 27..... 7:00 am – 6:00 pm
Friday, September 28 7:00 am – 7:00 pm
Saturday, September 29 7:00 am – 5:00 pm
Sunday, September 30..... 7:30 am – 5:00 pm
Monday, October 1..... 7:30 am – 2:30 pm

Discovery Hall Hours

Exhibits are located in the ASBMR Discovery Hall inside Exhibit Hall 220 B-E of the Palais des congrès de Montréal. Please note that children aged 12 and under are not permitted in Discovery Hall at any time. Lunch will be available for purchase in the hall during Exhibit hours.

Friday, September 28 5:00 pm – 7:00 pm
Saturday, September 29 9:30 am – 4:30 pm
Sunday, September 30..... 9:30 am – 4:30 pm
Monday, October 1..... 9:30 am – 2:30 pm

ASBMR Press Office

The ASBMR Press Office will be in operation to facilitate press-related activities during the meeting. The Press Office will be located in Room 514 C in the Palais des congrès de Montréal.

Press Office - Hours of Operation

Thursday, September 27.....2:00 pm – 5:00 pm
Friday, September 28 8:00 am – 6:00 pm
Saturday, September 29 8:00 am – 6:00 pm
Sunday, September 30..... 8:00 am – 5:00 pm
Monday, October 1..... 8:00 am – 4:00 pm

Future ASBMR Annual Meeting Dates

ASBMR 2019 Annual Meeting

Orange County Convention Center, Orlando, FL, USA
September 20-23, 2019

ASBMR 2020 Annual Meeting

Washington State Convention Center, Seattle, WA, USA
September 11-14, 2020

ASBMR POLICIES

Re-Use of ASBMR Annual Meeting Material

The ASBMR Annual Meeting is held to facilitate the open, non-commercial dissemination of scientific knowledge in the bone and related fields. Material presented at the ASBMR Annual Meeting is subject to copyright or other re-use restrictions. Information about these restrictions, ASBMR policies regarding re-use of such material, and procedures for obtaining permission are detailed below.

Abstracts

Abstracts submitted to the ASBMR 2018 Annual Meeting are copyrighted by the American Society for Bone and Mineral Research and published in the *JBMR*[®]. Reproduction, distribution, or transmission of the abstracts in whole or in part, by electronic, mechanical or other means, or other intended use, is prohibited without the express written permission of the American Society for Bone and Mineral Research. Information about how to obtain permission to re-use ASBMR Annual Meeting abstracts is provided below in the section entitled “Re-Use of ASBMR Annual Meeting Abstracts.”

Other Material

Information presented at the ASBMR 2018 Annual Meeting other than abstracts, including but not limited to posters, on-screen presentations (e.g. PowerPoint), and hand-outs, are the intellectual property of individual presenters or organizations other than the ASBMR. Such material may not be re-used without the written consent of the relevant individual or organization and, in some cases, the ASBMR. Details are provided below in the section entitled “Re-Use of Other ASBMR Meeting Materials.”

Re-Use of ASBMR Annual Meeting Abstracts

Embargo

The Abstracts On-Line, Itinerary Builder, and a printable PDF of the *Abstracts* book are made available to Annual Meeting attendees and to members of the ASBMR in advance but are embargoed until one hour after the time of their presentation at the Annual Meeting. ASBMR does not grant permission for reproduction or reuse of any ASBMR Annual Meeting abstract until after that abstract has been presented at the meeting.

The ASBMR is sensitive to issues of commercial confidentiality and relevant aspects of the U.S. Securities and Exchange Commission (SEC) regulations. Therefore, the ASBMR reminds all readers that all must adhere to the U.S. Securities and Exchange Commission regulations and treat all scientific information as confidential until the embargo has been lifted – one hour after the abstract has been presented. Any reader of, or listener to, ASBMR Annual Meeting content may be viewed as an “insider” by the SEC due to knowledge of information included in abstracts, particularly clinical trial abstracts. SEC regulations may call for criminal penalties for using such information.

Permission for Re-Use of Abstracts: Individuals and News Media

Permission requests for individual or news media reproduction or reuse of *JBMR*[®] material or for reproduction or reuse of *JBMR*[®] material in a professional work (e.g., a journal or professional reference book) must be made in writing to the Permissions Department, John Wiley & Sons, Inc., 111 River Street MS 4-02, Hoboken, NJ 07030-5774 USA; fax: +1 (201) 748-6008; e-mail: permissions@wiley.com, and should include a statement of intended use, as well as explicit specifications of the materials to be reproduced. When submitting your permission request, please include the following information:

- A complete citation of the requested material (title of journal, volume number, issue number, year, author name, article or abstract title, specific page numbers, and, if applicable, abstract number)
- The intended use of the material (for publication, slides, handouts, etc.)
- If for handouts: the number of copies being made
- If for republication: the publisher and the name of the new publication
- How the material will be reproduced and distributed
- Complete contact details (name, institution/company name, address, telephone, fax, email)

Permission for Re-Use of Abstracts: Corporate Purposes

Permission for reproduction or reuse of *JBMR*[®] material, including abstracts, for corporate purposes (e.g., storage on a corporate intranet, corporately-sponsored distribution to physicians) is subject to approval by the ASBMR. Requests for commercial reprints or similar reuse of *JBMR*[®] material, including abstracts, must be directed to Beth Ann Rocheleau, Reprints and Eprints Manager, Rockwater, Inc., PO Box 2211, Lexington, SC 29071, USA, phone: +1 (803) 359-4578; email: info@rockwaterinc.com.

Should ASBMR grant permission for abstract reproduction, the following must occur: A disclaimer must be prominently displayed/printed (often this appears on the inside front cover), indicating that the choice of abstracts to reproduce full-text was not made by the ASBMR. *Example: Selection of abstracts was made by {company name} and does not necessarily include all abstracts presented on this subject at the 2018 Annual Meeting of the American Society for Bone and Mineral Research {Montréal, Québec, Canada, USA 9/28/2018-10/1/2018}. The compilation does not constitute an endorsement by ASBMR of the product, assay or information contained herein. No responsibility is assumed and responsibility is hereby disclaimed by the American Society for Bone and Mineral Research for any injury and/or damage to persons or property as a matter of product liability, negligence or otherwise, or from any use or operation of methods, products, instructions or ideas presented in the abstracts. Independent verification of diagnosis and drug dosages should be made. Discussions, views and recommendations as to medical procedures, choice of drugs and drug dosages are the responsibilities of the authors.*

Translation of Abstracts

Translation of *JBMR*[®] material, including abstracts, into languages other than English is subject to the approval of the ASBMR. Translations must carry the following disclaimer in English and in the language of the translation: *The American Society for Bone and Mineral Research takes no responsibility for the accuracy of the translation from the published English original and is not liable for any errors which may occur. No responsibility is assumed, and responsibility is hereby disclaimed, by the American Society for Bone and Mineral Research for any injury and/or damage to persons or property as a matter of product liability, negligence or otherwise, or from any use or operation of methods, products, instructions or ideas presented in the Journal. Independent verification of diagnosis and drug dosages should be made. Discussions, views, and recommendations as to medical procedures, choice of drugs and drug dosages are the responsibility of the authors.*

Re-Use of Other ASBMR Annual Meeting Material

Re-Use for Commercial purposes

Organizations may not re-use material presented at the Annual Meeting for commercial purposes without the written consent of the presenter or other appropriate party (e.g., the copyright holder) and the ASBMR. Commercial purposes include but are not limited to symposia, educational programs, and other forms of presentation, whether developed or offered by for-profit or not-for-profit entities, and that involve funding from for-profit firms or a registration fee that is other than nominal. Questions regarding this policy or requests for re-use of Annual Meeting materials may be directed to the ASBMR Business Office at +1 (202) 367-1161 or asbmr@asbmr.org.

Disclaimer

All authored abstracts, findings, conclusions, recommendations, or oral presentations are those of the author(s) and do not reflect the views of the ASBMR or imply any endorsement. No responsibility is assumed, and responsibility is hereby disclaimed, by the American Society for Bone and Mineral Research for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of methods, products, instructions, or ideas presented in the materials herein (2018 Abstracts). Independent verification of diagnosis and drug dosages should be made. Discussions, views, and recommendations as to medical procedures, choice of drugs, and drug dosages are the responsibility of the authors.

Audio, Photo and Video Recording Policy

ASBMR expects that attendees respect each presenter's willingness to provide free exchange of scientific information without the abridgement of his or her rights or privacy and without the unauthorized copying and use of the scientific data shared during his or her presentation. In addition, ASBMR expects that attendees will respect exhibitors' desires not to have their products or booths photographed or video-recorded.

The use of mobile devices, tablets, cameras, audio-recording devices, and video-recording equipment is strictly prohibited within all Scientific Sessions, the Discovery Hall, and Poster Sessions without the express written permission of both the ASBMR and the presenter/exhibitor. Unauthorized use of the recording equipment may result in the confiscation of the equipment or the individual may be asked to leave the session or Discovery Hall. These rules are strictly enforced.

Use of ASBMR Name and Logo

ASBMR reserves the right to approve the use of its name in all materials disseminated to the press, public and professionals. The ASBMR name, meeting name, and meeting logo may not be used without permission. Use of the ASBMR logo is prohibited without the express written permission of the ASBMR Executive Director. All ASBMR corporate supporters and exhibitors should share their media outreach plans with the ASBMR before release.

No abstract presented at the ASBMR 2018 Annual Meeting may be released to the press before its official presentation date and time. Press releases must be embargoed until one hour after the presentation.

CONTINUING MEDICAL EDUCATION CREDITS



JOINTLY ACCREDITED PROVIDER™
INTERPROFESSIONAL CONTINUING EDUCATION

This activity has been planned and implemented by Creighton University Health Sciences Continuing Education (HSCE) and The American Society for Bone and Mineral Research (ASBMR) for the advancement of patient care. Creighton University Health Sciences Continuing Education is accredited by the American Nurses Credentialing Center (ANCC), the Accreditation Council for Pharmacy Education (ACPE), and the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing education for the healthcare team.

AMA PRA Statement

Creighton University Health Sciences Continuing Education designates this live activity for a maximum of *23.75 AMA PRA Category 1 Credit(s)™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

AAPA accepts AMA category 1 credit for the PRA from organizations accredited by ACCME.

Online Evaluation to Receive CME

The online evaluation to receive CME will be available beginning Thursday, October 4. *Please Note:* There is a \$50 fee per application. This fee can be paid when you register for the Annual Meeting or added during the Meeting at the Registration Desk.

Meeting Objectives

Upon returning home from the meeting, participants should be able to:

- Identify and discuss the most current and significant advances in biomedical and clinical research in bone and mineral metabolism and better understand the interrelationship among basic research, clinical research and patient care.
- Improve the ability to treat and care for patients through an enhanced knowledge of osteoporosis, other diseases of bone, basic bone biology and its correlation to mineral metabolism.
- Develop and apply new and enhanced strategies for the assessment, diagnosis and treatment of patients at risk for or with osteoporosis and improve the ability to treat and care for patients.

Target Audience

The program is designed for researchers, physicians and other health and allied health professionals with interests in biomechanics, cell biology, dentistry, endocrinology, epidemiology, genetics, internal medicine, metabolism and musculoskeletal research, molecular biology, molecular genetics, nephrology, orthopaedics, pathology, pharmacology, physiology and rheumatology.

ASBMR Expectations of Authors and Presenters

Through ASBMR meetings, the Society promotes excellence in bone and mineral research. To that end, ASBMR expects that all authors and presenters affiliated with the ASBMR 2018 Annual Meeting and the 2018 Ancillary Program will provide informative and fully accurate content that reflects the highest level of scientific rigor and integrity.

ASBMR depends upon the honesty of the authors and presenters and relies on their assertions that they have had sufficient full access to the data and are convinced of its reliability.

Furthermore, ASBMR expects that:

- Authors and presenters will disclose any conflicts of interest, real or perceived.
- Authors of an abstract describing a study funded by an organization with a proprietary or financial interest must affirm that they had full access to all the data in the study. By so doing, they accept complete responsibility for the integrity of the data and the accuracy of the data analysis.
- The content of abstracts, presentations, slides and reference materials must remain the ultimate responsibility of the author(s) or faculty.
- The planning, content and execution of abstracts, speaker presentations, slides, abstracts and reference materials should be free from corporate influence, bias or control.
- All authors and presenters (invited and abstracts-based oral and poster presenters) should give a balanced view of therapeutic options by providing several treatment options, whenever possible, and by always citing the best available evidence.

In addition, ASBMR's meeting evaluations will seek feedback regarding commercial bias at ASBMR 2018 Annual Meeting sessions, including the 2018 Ancillary Program.

Disclosure Policy

The ASBMR is committed to ensuring the balance, independence, objectivity and scientific rigor of all its individually sponsored or industry-supported educational activities. Accordingly, the ASBMR adheres to the requirement set by ACCME that audiences at jointly-sponsored educational programs be informed of a presenter's (speaker, faculty, author, or planner) academic and professional affiliations, and the disclosure of the existence of any significant financial interest or other relationship a presenter or their spouse has with any proprietary entity over the past 12 months producing, marketing, re-selling or distributing health care goods or services, consumed by, or used on patients, with the exemption of non-profit or government organizations and non-health care related companies. When an unlabeled use of a commercial product, or an investigational use not yet approved for any purpose, is discussed during the presentation, it is required that presenters disclose that the product is not labeled for the use under discussion or that the product is still investigational. This policy allows the listener/attendee to be fully knowledgeable in evaluating the

information being presented. The On-Site Program book will note those speakers who have disclosed relationships, including the nature of the relationship and the associated commercial entity.

Disclosure should include any affiliation that may bias one's presentation or which, if known, could give the perception of bias. This includes relevant financial affiliations of a spouse or partner. If an affiliation exists that could represent or be perceived to represent a conflict of interest, this must be reported in the abstract submission program by listing the name of the commercial entity and selecting the potential conflict(s) by clicking in the box next to the relationship type. Disclosures will be printed in the program materials. These situations may include, but are not limited to: 13. Grant/Research Support; 14. Consultant; 15. Speakers' Bureau; 16. Major Stock Shareholder; 17. Other Financial or Material Support.

ANNUAL MEETING RESOURCE MATERIALS

Abstracts Book

The 2018 Abstracts Book is published as a supplement of the *Journal of Bone and Mineral Research (JBMR®)*. Electronic copies are available on the ASBMR website, free of charge. Printed copies are only available to those who ordered in advance.

Abstracts On-line and Itinerary Builder

Only members and registered Annual Meeting attendees are able to access the 2018 Abstracts On-line Program. This tool can be used to help you search for and review abstract presentations, as well as plan your meeting itinerary. You may access this convenient program via the ASBMR website.

ASBMR Annual Meeting Mobile App

This free smartphone application is a mobile version of the on-site program book and includes the meeting abstracts. The app also features general meeting information, exhibitor listings and detailed maps of the convention center. To download the app, go to the app store on your smartphone or mobile device and search ASBMR 2018.

Meet-the-Professor Handout Booklet

The Meet-the-Professor Handout Booklet contains all the handouts supplied by the professors in one convenient PDF download. The MTP Handout Booklet PDF is free of charge, on the ASBMR website and in the mobile app.

ADDITIONAL RESOURCES

Special Notices and Safety Tips

- Remove your convention badge outside the meeting sites. Do not wear your badge outside or advertise that you're a visitor and not familiar with your surroundings.
- Walk with another person rather than alone. Avoid alleys, walkways between buildings, and deserted parking lots.

- Remain alert, be aware of your surroundings, and carry your handbag in front of you.
- While in your hotel room, always lock your door. Know where emergency exits are in your hotel.
- Place any valuables in a hotel safety deposit box rather than leaving them in your room or carrying them with you.
- Keep a copy of your passport and travel papers in a safe place.

ASBMR Career Center

The ASBMR Career Center Service is easily accessible year-round online. You can access the most up-to-date job and candidate listings using the ASBMR Career Center Website. Simply submit your resumé or job announcement using the online forms at **www.asbmr.org**. After your forms are submitted and payment is received, you will be able to use your self-assigned login name and password to access the Online Placement Service database anytime you wish.

Employers enrolled in the service will be entitled to display unlimited job announcements online. In addition, employers will have access to candidates' Curricula Vitae and to interview rooms.

Employers and candidates may request further information by accessing the ASBMR Career Center at www.asbmr.org.

Poster Tours

Annual Meeting Poster Session Tours will take place during each of the three poster sessions. These poster tours will be guided by a prominent scientist in the bone field to assist attendees in navigating the science within the poster hall. Participants will be able to choose between tours related to either basic or clinical science, or tours focused on specific research topics. Tours will begin near the ASBMR Networking Center located in the Discovery Hall in the Palais des congrès de Montréal and will last approximately 60 minutes.

Poster Session	Tour Start Time	Start Location
Poster Session I: Saturday, September 29	1:00 p.m.	ASBMR Networking Center, Discovery Hall
Poster Session II: Sunday, September 30	1:00 p.m.	ASBMR Networking Center, Discovery Hall

NIH Lounge

Representatives from the U.S. National Institutes of Health (NIH) and the Center for Scientific Review (CSR) will be available in the NIH Lounge in the Discovery Hall to discuss grant proposals and ideas. Program staff from the following institutes and centers will be available to talk with you:

- National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
- National Cancer Institute (NCI)
- National Institute of Dental and Craniofacial Research (NIDCR)
- National Institute on Aging (NIA)
- National Institute of Child Health and Human Development (NICHD)
- Center for Scientific Review (CSR)

Early Stage Investigator and Diversity Member Lounge

All early stage and diverse investigator attendees are invited to drop by the Early Stage Investigator and Diversity Member Lounge located in Discovery Hall. Don't miss this opportunity to make new friends and expand your network of colleagues. Stop by the following times for roundtable discussions taking place in the Lounge:

- Saturday, September 29, 11:00AM – 11:45AM: “Mentoring research trainees: strategies, successes, and challenges”
- Saturday, September 29, 12:15PM – 1:00PM: “Dealing with unconscious bias and harassment”
- Sunday, September 30, 11:00AM – 11:45AM: “Job negotiations/finding a faculty position”
- Sunday, September 30, 12:15PM – 1:00PM: “Inclusion activities at ASBMR listening session”

INFORMATION FOR SPEAKERS AND POSTER PRESENTERS

Speaker Ready Room

Speakers must check into the Speaker Ready Room 24 hours in advance of their presentation. At that time, speakers may review their slides. The Speaker Ready Room is located in Room 514A in the Palais des congrès de Montréal. Review of slides must occur at least 24 hours prior to your presentation. The Speaker Ready Room will be open during the following times:

Speaker Ready Room Hours

Thursday, September 27 7:30 am – 5:00 pm
Friday, September 28 7:00 am – 5:00 pm
Saturday, September 29 7:00 am – 5:30 pm
Sunday, September 30..... 7:00 am – 5:30 pm
Monday, October 1..... 7:00 am – 2:30 pm

Poster Sessions

All poster sessions will be held in Discover Hall-Exhibit Hall 220 B-E in the Palais des congrès de Montréal. Authors must be at their posters for the designated poster sessions on Saturday through Monday and must be available to answer questions during this period. Please adhere to the presentation times to maximize interaction with other attendees.

Presenters should mount their posters on the board bearing their assigned numbers, disregarding the letter prefix. ASBMR accepts no liability for posters or poster materials and will not adjudicate disputes between abstract presenters.

Please note that children 12 years of age and under will not be permitted in the poster area or the Discovery Hall at any time.

Presenter Check-in:

Since only poster presenters are allowed in the ASBMR Discovery Hall during the below poster set-up and dismantle hours, please go to the Poster Presenter Check-in Table at the entrance door to Discovery Hall of the Palais des congrès de Montréal to receive a security pass. To speed the check-in process, please have your poster board number ready.

- **NOTE: Posters remaining after Poster Dismantling times will be discarded.**
- **Young Investigator Award Posters remain up through Monday, October 1 at 3:00 pm.**

Please adhere to these scheduled times to maximize interaction for other attendees:

POSTER SESSION PRESENTATION SCHEDULE

Poster Set-Up	Posters Open	Presentation Time	Dismantle Posters
Friday, September 28 Welcome Reception and Plenary Poster Session Palais des congrès de Montréal, Discovery Hall – Room 220 B-E			
3:30 pm – 4:30 pm All Plenary Posters	5:00 pm–7:00 pm	5:00 pm–7:00 pm All Friday Poster Presenters Anyone with a “FRI” poster number	<u>Do not dismantle. All posters remain on the poster boards through 2 pm Monday, October 1</u>
Saturday, September 29 Poster Session I Palais des congrès de Montréal, Discovery Hall – Room 220 B-E			
7:30 am–8:30 am All Posters	9:30 am–4:30 pm	12:30 p.m. – 2:30 p.m. All Saturday Poster Presenters Anyone with a “SAT” poster number	<u>Do not dismantle. All posters remain on the poster boards through 2 pm Monday, October 1</u>
Sunday, September 30 Poster Session II Palais des congrès de Montréal, Discovery Hall – Room 220 B-E			
	9:30 am–4:30 pm	12:30 p.m. – 2:30 p.m. All Sunday Poster Presenters Anyone with a “SUN” poster number	<u>Do not dismantle. All posters remain on the poster boards through 2 pm Monday, October 1</u>
Monday, October 1 Poster Session III Palais des congrès de Montréal, Discovery Hall – Room 220 B-E			
	9:30 am–2:00 pm	12:00 p.m. – 2:00 p.m. All Monday Poster Presenters Anyone with a “MON” poster number	2:00 – 2:30 pm All posters must be removed from the boards at this time

HOW THE PROGRAM WAS SELECTED

The ASBMR Annual Meeting continues to be the leading scientific program in the field of bone, mineral and musculoskeletal research where the best science is presented on a broad range of topics, and where attendees come together to collaborate and network. It is a time to meet with friends and colleagues and to renew the creative spirit. For those of you who are like me and have attended many ASBMR annual meetings (this is my 31st consecutive meeting), welcome back. If this is your first time attending, you are in for a treat.

The program committee and I have worked hard to ensure that the best and most current science is presented. The description of the process for creating the 2018 Annual Meeting program is outlined in the following paragraphs. This description will provide you with a sense of how the speakers were selected and how the scientific presentations were chosen from the many abstract submissions. As in prior years, the meeting will “come alive” because the attendees will be engaged and ask tough questions. We want to have rigorous scientific debate, which is the cornerstone of outstanding science. Honorable people can, and will, disagree, but let us remember that rigorous debate can, and must be, respectful. That said; let me describe how the program was selected.

The Program Co-Chairs

Starting back over a year ago, my first task was to nominate the meeting co-chairs. I was fortunate to have an outstanding group of scientists agree to co-chair the meeting (little did they know how much work they were signing up for). **Dr. Merry Jo Oursler** (basic), **Dr. Marja Hurley** (translational), and **Dr. Douglas Bauer** (clinical) have been an outstanding group to work with and have put together a great meeting. This committee chose the Gerald D. Aurbach and Louis V. Avioli lecturers and chose symposia topics and speakers. We were assisted in putting the meeting together by **Angela Belusik** and **Lauren Anderson**, who did a lot of the heavy lifting to make sure that things went smoothly.

The Program Advisory Committee

In addition to the Program Committee, we enlisted the Program Advisory Committee, who was tasked with brainstorming and advising the program co-chairs and me. We not only used several of their ideas for sessions in the meeting, but also ran several ideas past them, some of which they encouraged us to do (e.g. the new Challenge the Expert Clinical sessions) and pointed out problems with other ideas, which we terminated. Members of the Program Advisory Committee are listed below:

- Tamara Alliston Ph.D., Professor of Orthopaedic Surgery, University of California, San Francisco, USA
- Teresita Bellido Ph.D., Professor, Indiana University School of Medicine, USA

- Daniel Bikle M.D., Ph.D. Professor, Endocrine Research Unit, Division of Endocrinology UCSF and VAMC, USA
- Sarah Dallas Ph.D., Professor, University of Missouri - Kansas City, USA
- Ghada El-Hajj Fuleihan MD, MPH, Professor, American University of Beirut, Lebanon
- Renny Franceschi Ph.D., Professor, University of Michigan, USA
- Seiji Fukumoto M.D., Ph.D., Associate Faculty, University of Tokyo, Japan
- David Goltzman M.D., Professor, McGill University, Canada
- Francesca Gori Ph.D., Assistant Professor of Medicine, Harvard School of Dental Medicine, USA
- Loren Greene M.D., Professor, NYU, USA
- Mark Horowitz Ph.D., Professor & Vice Chair for Research, Yale School of Medicine, USA
- Suzanne Jan De Beur M.D., Associate Professor, Johns Hopkins University, USA
- Melissa Kacena Ph.D., Associate Professor, Indiana University School of Medicine, USA
- Meryl LeBoff M.D., Professor of Medicine, Harvard Medical School, USA
- Joe Lorenzo M.D., Professor of Medicine, UConn Health, USA
- Ken Lyles M.D., Professor of Medicine, Duke, USA
- Meghan McGee Lawrence Ph.D., Assistant Professor, Medical College of Georgia, Augusta University, USA
- Charles O'Brien Ph.D., Professor, Central Arkansas VA Healthcare System, University of Arkansas for Medical Sciences, USA
- Nicola Partridge Ph.D., Professor and Chair, New York University College of Dentistry, USA
- Ian Reid M.D., MBChB, Professor, University of Auckland, New Zealand
- Vicki Rosen Ph.D., Professor and Chair, Harvard School of Dental Medicine, USA
- Joe Shaker M.D., Professor of Medicine, Medical College of Wisconsin, USA
- Elizabeth Shane M.D., Professor of Medicine, Columbia University College of Physicians and Surgeons, USA
- Dolores Shoback M.D., Professor of Medicine, VA Medical Center, USA
- Eileen Shore Ph.D., Professor, University of Pennsylvania, USA
- Natalie Sims Ph.D., Associate Professor, St. Vincent's Institute of Medical Research, Australia
- Anna Teti Ph.D., Professor, University of L'Aquila, Italy
- Andre Uitterlinden Ph.D., Professor Complex Genetics, Head Laboratory, Erasmus University Medical Center, The Netherlands
- Johannes van Leeuwen Ph.D., Professor, Erasmus University Medical Center, The Netherlands

- Megan Weivoda Ph.D., Assistant Professor, Mayo Clinic, USA
- Jennifer Westendorf Ph.D., Professor, Mayo Clinic, USA
- Bart Williams Ph.D., Professor, Van Andel Research Institute, USA

Abstract Reviews:

As in previous years, abstracts submitted for the regular deadline were divided into categories and scored by several reviewers, who were blinded to the authors' names and institutions (see the program book for the list of reviewers). Reviewers were required to recuse themselves from reviewing abstracts from their labs or those of their collaborators. Many thanks to all of the reviewers, who did an incredible job evaluating so many excellent abstracts.

For late breaking abstracts, the program committee reviewed the abstracts with assistance from some members of next year's program committee. Members recused themselves from providing any input on abstracts from their own lab or those of collaborators. Due to my conflict of interest with burosumab, I recused myself from evaluating any of the rare bone disease abstracts. These abstracts were reviewed by the other committee members assisted by Dr. Suzanne Jan De Baer, next year's program committee chair.

Final numbers

Here are the final numbers for our meeting:

1304 Abstract Submissions

118 Late Breaking Submissions

157 Oral Presentations

208 Plenary Poster Presentations

19 Late Breaking Oral Presentations (we had to expand the late breakers into 4 oral sessions because there were so many excellent abstracts submitted).

>1,200 Posters

If I take a step back to look at this year's annual meeting, the combination of the invited speakers, symposia, special sessions, meet the professors, abstracts, etc what I see is a meeting with outstanding science that pushes the musculoskeletal and mineral field forward and will change some of what we do in the lab and in the clinic. I can't wait to see and hear these presentations.

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DAY-AT-A-GLANCE
Time/Event/Location

7:00 am - 5:00 pm	3
Registration Open <i>Viger Hall - Level 2</i>	
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Peer to Peer Networking Breakfast <i>Room 510</i>	
8:00 am - 9:30 am	3
Gerald D. Aurbach Lecture and Presentation of Esteemed Awards: Building Bone by Targeting the Schnurri3 Pathway <i>Room 210 A-F</i>	
9:30 am - 10:00 am	3
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Highlights of the ASBMR 2018 Annual Meeting <i>Room 210 A-F</i>	
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New! Challenge the Experts: Difficult Cases in Osteoporosis <i>Room 517 D</i>	
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Plans to Improve NIH-funded Clinical Trials and Other Research <i>Room 517 A</i>	
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New! Cutting Edge Technologies: Emerging Applications in Single Cell Genomics/Proteomics <i>Room 517 C</i>	
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Meet the Professor Sessions	
12:30 pm - 1:00 pm	6
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Concurrent Orals: Adverse Effects of Treatment <i>Room 210 A-F</i>	
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ASBMR/ECTS Clinical Debate: Is Treatment for Osteoporosis Associated with Improved Mortality?	
<i>Room 210 A-F</i>	
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Welcome Reception and Poster Session	
<i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
5:00 pm - 7:00 pm.....	15
New Investigator Reception	
<i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
7:15 pm - 8:30 pm.....	15
Early Stage Investigator Networking Happy Hour	
<i>Le Westin, Viger Room</i>	
7:15 pm - 9:45 pm.....	15
Muscle and Bone Working Group	
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8:30 pm - 9:30 pm.....	17
Early Stage Investigator after Hours Happy Hour	

FRIDAY, SEPTEMBER 28, 2018

Friday

REGISTRATION OPEN

7:00 am - 5:00 pm

**Palais des congrès de Montréal
Viger Hall - Level 2**

PEER TO PEER CAREER NETWORKING BREAKFAST

Supported in part by Ultragenyx Pharmaceutical.

7:15 am - 8:15 am

**Palais des congrès de Montréal
Room 510**

The Peer to Peer Career Networking Breakfast is a ticketed event that is part Emerging Investigator's Program and requires advance registration. Registration is not available onsite.

**GERALD D. AURBACH LECTURE AND PRESENTATION OF
ESTEEMED AWARDS**

8:00 am - 9:30 am

**Palais des congrès de Montréal
Room 210 A-F**

Join your colleagues to celebrate the ASBMR 2018 Esteemed Award Winners of the Louis V. Avioli Founders Award, Fuller Albright Award, Lawrence G. Raisz Award, Stephen M. Krane Award, and a Special President's Recognition Award.

8:30 am **Building Bone by Targeting the Schnurri3 Pathway**

Laurie Glimcher, MD
Dana-Farber Cancer Institute, United States

Disclosures:

Board of Directors: *GlaxoSmithKline plc and Waters Corporation*
Co-founder and chair of Scientific Committee: *Quentis Therapeutics*
Scientific Advisory Board: *Repare Therapeutics*

NETWORKING BREAK

9:30 am - 10:00 am

**Palais des congrès de Montréal
Viger Hall**

HIGHLIGHTS OF THE ASBMR 2018 ANNUAL MEETING

10:00 am - 11:30 am

**Palais des congrès de Montréal
Room 210 A-F**

This special session is of interest to all health professionals, first time meeting attendees, young investigators, individuals new to the field, nurses, clinical research study coordinators, physical therapists and/or those seeking guidance in navigating through the extensive ASBMR program. The recipients of the Fund for Research and Education Betsy Love McClung, RN, MN Travel Grant will be recognized during this session.

Co-Chairs

Marja Marie Hurley, MD
UCONN Health School of Medicine, United States

Disclosures: None

Douglas Bauer, MD
University of California, San Francisco, United States

Disclosures: None

Merry Jo Oursler, PhD
Mayo Clinic, United States

Disclosures: None

10:00 am **Clinical Science Meeting Overview**
John Bilezikian, MD
Columbia University College of Physicians and Surgeons, United States
Disclosures: Consultant

10:45 am **Basic Science Meeting Overview**
Roland Baron, DDS, PhD
Harvard Medical School and School of Dental Medicine, United States
Disclosures: Shire: None

NEW! CHALLENGE THE EXPERTS: DIFFICULT CASES IN OSTEOPOROSIS

*This activity is supported in part by educational funding donations provided
by Amgen and Radius Health*

11:30 am - 12:30 pm

**Palais des congrès de Montréal
Room 517 D**

Chair:

Nelson Watts, M.D.
Mercy Health Osteoporosis and Bone Health Services, United States

Panelist:

Juliet Compston, MD
University of Cambridge School of Clinical Medicine, United Kingdom
Disclosures: None

Panelist:

E. Michael Lewiecki, MD
New Mexico Clinical Research & Osteoporosis Center, United States
*Disclosures: Consultant: Amgen and Radius
Speakers' Bureau: Radius
Grant/Research Support: Amgen and Radius*

Panelist:

Michael McClung, MD
Oregon Osteoporosis Center, United States
Disclosures: Consultant: Amgen Grant/Research Support: Radius Health, Inc.

PLANS TO IMPROVE NIH-FUNDED CLINICAL TRIALS AND OTHER RESEARCH

11:30 am - 12:30 pm

**Palais des congrès de Montréal
Room 517 A**

11:30 am **Plans to Improve NIH-funded Clinical Trials and Other Research**
Michael Lauer, MD
National Institute of Health, United States
Disclosures: None

NEW! CUTTING EDGE TECHNOLOGIES: EMERGING APPLICATIONS IN SINGLE CELL GENOMICS/PROTEOMICS

Session presented in collaboration with the International Federation of Musculoskeletal
Research Societies (IFMRS)

11:30 am - 12:30 pm

Palais des congrès de Montréal
Room 517 C

Powerful new tools in genomics and proteomics are enabling development of our understanding of musculoskeletal disease. This session will highlight the most recent developments in these two quickly emerging areas and how they are currently being utilized in the field.

- 11:30 am** **An Overview of the Most Popular Single-cell omic Analyses and Workflows Enabled by the C1**
Katy Richards-Hrdlicka Ph.D.
Fluidigm, United States
Disclosures: Employee, Fluidigm
- 11:45 am** **Tools for Performing Single Cell Genomics**
Francesca Meschi PhD
10X Genomics, United States
Disclosures: Employee, 10X Genomics
- 12:00 pm** **Single Cell Genomics**
Matthew Greenblatt, MD, PhD
Weill Cornell Medical College, United States
Disclosures: None
- 12:15 pm** **Single Cell Proteomics**
Ugur Ayturk, PhD
Boston Children's Hospital, United States
Disclosures: None
-

MEET THE PROFESSOR SESSIONS

11:30 am - 12:30 pm

Palais des congrès de Montréal

Meet the Professor: Biology of the Periosteum

Room 518 A

Regis O'Keefe, MD, PhD
Washington University, United States
Disclosures: None

Meet the Professor: The Bone Microenvironment and Cancer Progression

Room 525

Roberta Faccio, PhD
Washington University in St Louis School of Medicine, United States
Disclosures: None

Meet the Professor: Osteomacs

Room 522

Allison Pettit, PhD
The University of Queensland, Australia
Disclosures: None

**Meet the Professor: Mechanisms of Age-related Bone Loss, Osteoporosis, Sarcopenia and Frailty
Room 519 B**

Gustavo Duque, MD, PhD
University of Melbourne, Australia
Disclosures: None

**Meet the Professor: Diabetes and Skeletal Health
Room 518 C**

Ann Schwartz, PhD
University of California, San Francisco, United States
Disclosures: None

**Meet the Professor: Extracellular Matrix and Bone
Room 518 B**

Clarissa Craft, PhD
Washington University in St. Louis, School of Medicine, United States
Disclosures: None

**Meet the Professor: Challenges in Treating Renal Bone Disease
Room 519 A**

Susan Ott, MD
University of Washington Medical Center, United States
Disclosures: None

**Meet the Professor: Factors that Influence Mouse Model Variability
Room 521**

Clifford Rosen, MD
Maine Medical Center, United States
Disclosures: None

NETWORKING BREAK

12:30 pm - 1:00 pm

**Palais des congrès de Montréal
517 Foyer**

**NETWORKING LUNCHEON WITH ASBMR LEADERS, NIH AND
SENIOR INVESTIGATORS**

Supported in part by Ultragenyx Pharmaceutical

12:30 pm - 1:30 pm

**Palais des congrès de Montréal
Room 510**

The Networking Luncheon with ASBMR Leaders, NIH and Senior Investigators is a ticketed event that is part of Emerging Investigator's Program and requires advance registration. Registration is not available onsite.

CONCURRENT ORALS: OSTEOCYTES

1:00 pm - 2:00 pm

Palais des congrès de Montréal
Room 517 B**Moderators**

Stefano Zanotti, PhD

University of Connecticut School of Medicine, Saint Francis Hospital and Medical Center

Bettina Willie, PhD

McGill University, Canada

**1:00 pm
1001****The skeletal actions of irisin are mediated through alpha V integrin receptors on osteocytes.**Bruce Spiegelman^{*1}, Hyeonwoo Kim¹, Christianne Wrann², Roland Baron³, Mary Boussein⁴, Lynda Bonewald⁵, Clifford Rosen⁶. ¹Dana Farber Cancer Center, United States, ²mass general hospital, United States, ³harvard dental school, United States, ⁴beth israel deaconess hospital, United States, ⁵indiana university, United States, ⁶maine medical center, United States*Disclosures:* Bruce Spiegelman, None**1:15 pm
1002****Bone corticalisation requires suppression of glycoprotein 130 signalling in osteocytes, and occurs by region-specific imbalances in bone formation and resorption**Emma Walker^{*}, Kim Truong, Narelle Mcgregor, T John Martin, Natalie A Sims. St. Vincent's Institute of Medical Research, Australia*Disclosures:* Emma Walker, None**1:30 pm
1003****ASBMR 2018 Annual Meeting Young Investigator Award****Ablation of Osteopontin in Osteomalacic Hyp Mice Partially Rescues the Deficient Mineralization without Correcting Hypophosphatemia**Betty Hoac^{*1}, Tchilalo Boukpepsi², Daniel J Buss³, Catherine Chaussain², Monzur Murshed¹, Marc D Mckee¹. ¹Faculty of Dentistry, McGill University, Canada, ²School of Dentistry University Paris Descartes Sorbonne Paris Cité, France, ³Department of Anatomy and Cell Biology, McGill University, Canada*Disclosures:* Betty Hoac, None**1:45 pm
1004****TGFβ regulation of perilacunar/canalicular remodeling is sexually dimorphic**Neha S. Dole ^{*1}, Cristal S. Yee¹, Claire Acevedo², Courtney M. Mazur¹, Tamara Alliston¹. ¹University of California San Francisco, United States, ²University of Utah, United States*Disclosures:* Neha S. Dole, None

CONCURRENT ORALS: ADVERSE EFFECTS OF TREATMENT

1:00 pm - 2:00 pm

Palais des congrès de Montréal
Room 210 A-F**Moderators**

Lorenz Hofbauer, MD

TU Dresden University Medical Center, Germany

Aliya Khan, MD

McMaster University, Canada

- 1:00 pm**
1005 **Do Drug Holidays Reduce Atypical Femur Fracture Risk?: Results from the Southern California Osteoporosis Cohort Study (SOCS)**
Annette L. Adams*¹, Bonnie H. Li¹, Denison S. Ryan¹, Erik J. Geiger², Richard M. Dell¹, Dennis M. Black². ¹Kaiser Permanente Southern California, United States, ²University of California, San Francisco, United States
Disclosures: Annette L. Adams, Merck, Grant/Research Support
- 1:15 pm**
1006 **The Impact of Bisphosphonate Drug Holidays on Fracture Rates**
Jeffrey Curtis*, Rui Chen, Zixu Li, Tarun Arora, Kenneth Saag, Nicole Wright, Shanette Daigle, Meredith Kilgore, Elizabeth Delzell. University of Alabama at Birmingham, United States
Disclosures: Jeffrey Curtis, Amgen, Grant/Research Support, Radius, Consultant, Amgen, Consultant, Radius, Grant/Research Support
- 1:30 pm**
1007 **Bisphosphonate Use and Risk of AFF Varies by Pre-treatment BMD Level: Results from the Southern California Osteoporosis Cohort Study (SOCS)**
Dennis M. Black*¹, Erik J. Geiger¹, Bonnie H. Li², Denison S. Ryan², Richard M. Dell², Annette L. Adams². ¹University of California, San Francisco, United States, ²Kaiser Permanente Southern California, United States
Disclosures: Dennis M. Black, Asahi-Kasei, Consultant, Radius Pharma, Grant/Research Support
- 1:45 pm**
1008 **Clinical features of 35 patients with 172 spontaneous vertebral fractures after denosumab discontinuation: a single center observational study**
Elena Gonzalez-Rodriguez*, Berengere Aubry-Rozier, Delphine Stoll, Didier Hans, Olivier Lamy. Lausanne University Hospital, Switzerland
Disclosures: Elena Gonzalez-Rodriguez, None

CONCURRENT ORALS: BONE MARROW MICROENVIRONMENT AND NICHES

1:00 pm - 2:00 pm

Palais des congrès de Montréal

Room 517 D

Moderators

Rhonda Prisby, PhD
University of Texas at Arlington, United States

Stan Gronthos, PhD
University of Adelaide, Australia

- 1:00 pm**
1009 **ASBMR 2018 Annual Meeting Young Investigator Award**
Targeting skeletal endothelium to ameliorate bone loss
Ren Xu*¹, Alisha Yallowitz¹, Shawon Debnath¹, Jung-Min Kim², Kazuki Inoue³, Baohong Zhao³, Jae-Hyuck Shim², Laurie Glimcher⁴, Matthew Greenblatt¹. ¹Weill Cornell Medical College, United States, ²University of Massachusetts Medical School, United States, ³Hospital for Special Surgery, United States, ⁴Dana-Farber Cancer Institute and Harvard University Medical School, United States
Disclosures: Ren Xu, None
- 1:15 pm**
1010 **Intermittent Parathyroid Hormone does not expand type H cell population but impacts transitional vessels by reducing their Coverage by Leptin Receptor Positive Pericytes and Upregulating their Expression of Collagen Type 18/Endostatin.**
Robin Caire*¹, Bernard Roche¹, Tiphanie Picot², Zhiguo He³, Carmen M Anaei², Mireille Thomas¹, Lydia Campos², Laurence Vico¹, Marie-Hélène Lafage-Proust¹. ¹INSERM 1059, Université de Lyon, France, ²University Hospital Hematology Lab, France, ³BIIGC, Université de Lyon, France
Disclosures: Robin Caire, None

- 1:30 pm**
1011 **Hypoxia/HIF Signaling Contributes to Bone Homeostasis by Preventing Premature Senescence and Apoptosis of Multipotent Mesenchymal Progenitor Cells**
Kassandra Spiller*, Yinshi Ren, Colleen Wu. Duke University, United States
Disclosures: Kassandra Spiller, None
- 1:45 pm**
1012 **Mineralizing Bone Surfaces Drive Blood Vessel Redistribution Through Asymmetric Angiogenesis**
Robert Tower*¹, Chamith Rajapakse¹, Xi Jiang¹, Wei Tong², Nathaniel Dymant¹, Ling Qin¹.
¹University of Pennsylvania, United States, ²Xiehe Hospital, China
Disclosures: Robert Tower, None

CONCURRENT ORALS: GENETIC MODELS OF MUSCULOSKELETAL DISEASES

1:00 pm - 2:00 pm

**Palais des congrès de Montréal
Room 517 A**

Moderators

Michael Collins, MD
National Institutes of Health, United States

Cheryl Ackert-Bicknell, PhD
Center for Musculoskeletal Research University of Rochester, United States

- 1:00 pm**
1013 **The lysosomal protein arylsulfatase B is a key enzyme involved in skeletal turnover**
Gretl Hendrickx*¹, Sandra Pohl², Alexandra Angermann¹, Anke Jeschke¹, Timur A Yorgan¹, Tim Rolvien¹, Michael Amling¹, Thomas Bräulke², Thorsten Schinke¹. ¹Department of Osteology and Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, ²Department of Biochemistry, Children's Hospital, University Medical Center Hamburg-Eppendorf, Germany
Disclosures: Gretl Hendrickx, None
- 1:15 pm**
1014 **ASBMR 2018 Annual Meeting Young Investigator Award
Positive effects of intermittent PTH on growing bone and dystrophic muscle in Mdx mouse model of Duchenne Muscular Dystrophy**
Sung-Hee Seanna Yoon*¹, Marc Grynopas², Jane Mitchell¹. ¹University of Toronto, Canada, ²Lunenfeld-Tanenbaum Research Institute, Canada
Disclosures: Sung-Hee Seanna Yoon, None
- 1:30 pm**
1015 **Deletion of PKA Regulatory Subunit 1A to Increase PKA Activity in Osteoblasts Causes Dramatic Expansion of Trabecular Bone at the Expense of Cortical Bone**
Carole Le Henaff*¹, Florante Ricarte², Joshua Johnson¹, Zhiming He¹, Johanna Warshaw¹, Henry Kronenberg³, Lawrence Kirschner⁴, Nicola Partridge¹. ¹New York University, college of dentistry, United States, ²Molecular Pharmacology Training Program, Sackler Institute of Graduate Biomedical Sciences, New York University School of Medicine, United States, ³Endocrine Unit, Massachusetts General Hospital, Harvard Medical School, United States, ⁴Department of Cancer Biology and Genetics, Internal Medicine, The Ohio State University, Division of Endocrinology, Diabetes, and Metabolism, Department of Internal Medicine, The Ohio State University Wexner Medical Center, United States
Disclosures: Carole Le Henaff, None
- 1:45 pm**
1016 **Low bone mass in mice with conditional Wnt1 deletion and a Wnt1 mutation causing early-onset osteoporosis**
Nele Vollersen¹, Tim Rolvien¹, Felix Schmidt¹, Michael Amling¹, Thorsten Schinke¹, Timur Yorgan¹. Department of Osteology and Biomechanics, University Medical Center Hamburg-Eppendorf, Germany
Disclosures: Timur Yorgan, None

NETWORKING BREAK

2:00 pm - 2:15 pm

Palais des congrès de Montréal
517 Foyer

CONCURRENT ORALS: REGULATION OF PRECURSOR DIFFERENTIATION

2:15 pm - 3:30 pm

Palais des congrès de Montréal
Room 517 D

Moderator

Ivo Kalajzic, MD, PhD

University of Connecticut Health Center, United States

Moderator

Paola Divieti Pajevic MD, PhD

Goldman School of Dental Medicine, Boston University, United States

2:15 pm

1017

ASBMR 2018 Annual Meeting Young Investigator Award

Loss of Hypoxia Inducible Factor-2 Alpha in Mesenchymal Progenitors Increases Bone Mass Accrual and Osteoblastogenesis

Christophe Merceron^{*1}, Kavitha Raganathan², Elizabeth Wang¹, Zachary Tata¹, Laura Mangiavini¹, Mohd Parvez Khan¹, Benjamin Levi², Ernestina Schipani¹. ¹Department of Orthopedic Surgery, School of Medicine, University of Michigan, United States, ²Division of Plastic and Reconstructive Surgery, Department of Surgery, University of Michigan, United States

Disclosures: Christophe Merceron, None

2:30 pm

1018

ASBMR 2018 Annual Meeting Young Investigator Award

Periosteal skeletal stem cells are a functionally and genetically distinct subset of skeletal stem cells necessary for bone healing

Laura Ortinau^{*1}, Hamilton Wang¹, Kevin Lei¹, Yannis Hara¹, Bredan Lee¹, David Scadden², Dongsu Park¹. ¹Baylor College of Medicine, United States, ²Harvard University, United States

Disclosures: Laura Ortinau, None

2:45 pm

1019

ASBMR 2018 Annual Meeting Young Investigator Award

Cfp1 is Essential for the Initiation of Chondrogenesis and Growth Plate Development

Diana Carlone^{*}, Emanuele Pignatti, Lijie Jiang, Manasvi Shah, David Breault. Boston Children's Hospital, United States

Disclosures: Diana Carlone, None

3:00 pm

1020

The Role of GATA4 in Mesenchymal Stem Cell Proliferation and Differentiation

Susan Miranda^{*}, Aysha Khalid, Alexadria Slayden, Jerusha Kumpati, Gustavo Miranda. University of Tennessee, United States

Disclosures: Susan Miranda, None

3:15 pm

1021

The TGF β Receptor ALK5 is an Essential Regulator of BMP Signaling in the Growth Plate

Weiguang Wang^{*}, Hyelim Chun, Karen Lyons. University of California, Los Angeles, United States

Disclosures: Karen Lyons, None

CONCURRENT ORALS: TREATMENT GAP

2:15 pm - 3:30 pm

Palais des congrès de Montréal
Room 210 A-F**Moderators**Robert Adler, MD
McGuire VA Medical Center, United StatesMaria Danila, MD, MPH, MS
University of Alabama at Birmingham, United States

- 2:15 pm
1022** **Post-Fracture Care gap in Canada from 2000-2001 to 2011-2012: A Nationwide Population-based Analysis**
Suzanne N Morin^{*1}, Siobhan O'Donnell², Sonia Jean³, Susan Jaglal⁴, Kerry Siminowski⁵, Alexandra Papaioannou⁶, Jacques Brown⁷, Lisa M Lix⁸, William D Leslie⁸. ¹McGill University, Canada, ²Public Health Agency of Canada, Canada, ³Institut national de santé publique du Québec, Canada, ⁴University of Toronto, Canada, ⁵University of Alberta, Canada, ⁶McMaster University, Canada, ⁷Université Laval, Canada, ⁸University of Manitoba, Canada
Disclosures: Suzanne N Morin, Amgen, Grant/Research Support
- 2:30 pm
1023** **Hip fractures rates and time trends in use of anti-osteoporosis medications in Denmark for the period 2005 to 2015**
Bo Abrahamsen^{*1,2}, Michael K Skjød^{t1}, Peter Vestergaard³. ¹Holbæk Hospital, Dept of Medicine, Denmark, ²Univ of Southern Denmark, OPEN, Denmark, ³Aalborg University and University Hospital, Steno Diabetes Center North Jutland, Denmark
Disclosures: Bo Abrahamsen, UCB, Grant/Research Support, Novartis, Grant/Research Support
- 2:45 pm
1024** **A Comparison of U.S. and Canadian Osteoporosis Screening and Treatment Strategies: What proportions of postmenopausal women are identified for screening and treatment?**
Carolyn Crandall^{*1}, Joseph Larson², Joann Manson³, Jane Cauley⁴, Kristine Ensrud⁵, Andrea Lacroix⁶, Jean Wactawski-Wende⁷, Mrirul Datta⁸, Maryam Sattari⁹, John Schousboe¹⁰, William Leslie¹¹. ¹University of California, Los Angeles, United States, ²Fred Hutchinson Cancer Research Center, United States, ³Harvard Medical School, United States, ⁴University of Pittsburgh, United States, ⁵University of Minnesota, United States, ⁶University of California, San Diego, United States, ⁷the State University of New York, United States, ⁸Purdue University, United States, ⁹University of Florida, United States, ¹⁰Park Nicollet Institute, United States, ¹¹University of Manitoba, Canada
Disclosures: Carolyn Crandall, None
- 3:00 pm
1025** **ASBMR 2018 Annual Meeting Young Investigator Award
Screening of high fracture risk in primary care not effective**
Thomas Merlijn^{*1}, Karin Swart¹, Coen Netelenbos², Petra Elders¹. ¹Department of General Practice and Elderly Care Medicine, VU University Medical Center, Netherlands, ²Department of Internal Medicine, Endocrine Section, VU University Medical Center, Netherlands
Disclosures: Thomas Merlijn, None
- 3:15 pm
1026** **Identification of Prevalent Vertebral Fracture Increases Utilization of Pharmacologic Fracture Prevention Therapy**
John Schousboe^{*1}, Lisa Lix², Suzanne Morin³, Sheldon Derkatch², Mark Bryanton², Mashaël Alhrbi², William Leslie². ¹Park Nicollet Clinic & HealthPartners Institute, United States, ²University of Manitoba, Canada, ³McGill University, Canada
Disclosures: John Schousboe, None

CONCURRENT ORALS: ENERGY METABOLISM, BONE, MUSCLE AND FAT I

2:15 pm - 3:30 pm

Palais des congrès de Montréal
Room 517 A

Moderators

Orhan Oz, MD, PhD

UT Southwestern Medical Center, United States

Katherine Motyl, PhD

Maine Medical Center, United States

2:15 pm
1027

The role of apolipoprotein E in fracture healing and osteoblast differentiation

Xiaohua Zong^{*1}, Puvindran Nadesan², James White³, Phillip White³, Gurpreet Baht⁴.

¹Department of Orthopaedic Surgery, Duke Molecular Physiology Institute, Duke University, United States, ²Department of Orthopaedic Surgery, Duke University, United States, ³Department of Medicine, Duke Molecular Physiology Institute, Duke University, United States, ⁴Department of Orthopaedic Surgery, Department of Pathology, Duke Molecular Physiology Institute, Duke University, United States

Disclosures: Xiaohua Zong, None

2:30 pm
1028

ASBMR 2018 Annual Meeting Young Investigator Award

Osteoblasts Mediate the Adverse Effects of High-fat Diets on Bone and Fat Metabolism Through Glucocorticoid Signalling

Sarah Kim^{*}, Holger Henneicke, Sylvia J. Gasparini, Lee Thai, Markus J. Seibel, Hong Zhou. Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia

Disclosures: Sarah Kim, None

2:45 pm
1029

Bone marrow adipose tissue: white, brown or beige?

Hero Robles^{*1}, Madelyn Lorenz¹, Eric Hilker¹, Kristann Magee¹, Jesse D Procknow¹, Zhaohua Wang¹, Charles A Harris², Clarissa S Craft¹, Erica L Scheller¹. ¹Department of Internal Medicine, Division of Bone and Mineral Diseases, Washington University, United States, ²Department of Internal Medicine, Division of Endocrinology, Metabolism and Lipid Research, Washington University, United States

Disclosures: Hero Robles, None

3:00 pm
1030

Lrp4 expression by adipocytes and osteoblasts modulates endocrine actions of sclerostin

Soohyun Kim^{*1}, Hao Da¹, Priyanka Kushwaha¹, Zhu Li¹, Thomas Clemens², Ryan Riddle².

¹Johns Hopkins University School of Medicine, United States, ²Johns Hopkins University School of Medicine, Baltimore VA Medical Center, United States

Disclosures: Soohyun Kim, None

3:15 pm
1031

Maternal Obesity-Mediated Epigenetic Regulation of Osteoblast Differentiation through SATB2

Jin-Ran Chen^{*}, Haijun Zhao, Oxana P. Lazarenko, Kartik Shankar. Arkansas Children's Nutrition Center and the Department of Pediatrics, University of Arkansas for Medical Sciences, United States

Disclosures: Jin-Ran Chen, None

CONCURRENT ORALS: MUSCULOSKELETAL AGING

2:15 pm - 3:30 pm

Palais des congrès de Montréal
Room 517 B**Moderator**

Dana Gaddy, PhD

College of Veterinary Medicine, Texas A&M University, United States

Moderator

Elizabeth Zimmermann MS, PhD

Shriners Hospital for Children Canada, Canada

2:15 pm**Cellular Senescence in Tendon Aging and Pathology****1032**

Anne Gingery*, Tamara Tchkonja, James C Kirkland, Peter C Amadio. Mayo Clinic, United States

Disclosures: Anne Gingery, None**2:30 pm****ASBMR 2018 Annual Meeting Young Investigator Award****1033****p18 is required and regulated by BMP4 in Muscle-Derived Stem Cell-mediated Osteogenesis and Bone Regeneration during aging**Haizi Cheng*^{1,2}, Xueqin Gao¹, Aiping Lu¹, Johnny Huard¹. ¹The University of Texas Health Science Center at Houston, Houston, TX; Steadman Philippon Research Institute, Vail, CO, United States, ²University of Pittsburgh, Pittsburgh, PA, United States*Disclosures:* Haizi Cheng, None**2:45 pm****Male-Female Spatio-Temporal Differences of Age-Related Bone Loss****1034**Julio Carballido-Gamio*¹, Elisa A Marques², Sigurdur Sigurdsson³, Kristín Siggeirsdóttir³, Alexandria Jensen^{1,4}, Gunnar Sigurdsson^{3,5,6}, Thor Aspelund^{3,7}, Gudny Eiriksdóttir³, Vilmundur Gudnason^{3,5}, Thomas F Lang⁸, Tamara B Harris². ¹Department of Radiology, School of Medicine, University of Colorado Denver, Denver, CO, United States, ²National Institute on Aging, Intramural Research Program, Laboratory of Epidemiology and Population Sciences, Bethesda, MD, United States, ³Icelandic Heart Association Research Institute, Kópavogur, Iceland, ⁴Department of Biostatistics & Informatics, Colorado School of Public Health, Aurora, CO, United States, ⁵University of Iceland, Reykjavik, Iceland, ⁶Landspítalinn University Hospital, Reykjavik, Iceland, ⁷Centre of Public Health Sciences, University of Iceland, Reykjavik, Iceland, ⁸Department of Radiology and Biomedical Imaging, University of California, San Francisco, CA, United States*Disclosures:* Julio Carballido-Gamio, None**3:00 pm****RANKL produced by osteocytes is required for cortical, but not cancellous, bone loss with age****1035**

Jinhu Xiong*, Keisha Cawley, Ryan Macleod, Maria Almeida, Charles Obrien. University of Arkansas for Medical Sciences, United States

Disclosures: Jinhu Xiong, None**3:15 pm****RANKL+ plasmacytic B and TGFβ+ myeloid cells are attracted to bone marrow during aging by a TRAF3-dependent mechanism to increase bone resorption, decrease bone formation and promote osteoporosis****1036**

Jinbo Li*, Akram Ayoub, Zhenqiang Yao, Brendan Boyce. University of Rochester Medical Center, United States

Disclosures: Jinbo Li, None

NETWORKING BREAK

3:30 pm - 4:00 pm

Palais des congrès de Montréal
517 Foyer

BASIC SCIENCE SESSION: MECHANOBIOLOGY MECHANISMS OF BIOMECHANICAL RESPONSES

3:45 pm - 5:00 pm

Palais des congrès de Montréal
Room 517 A

Co-Chairs:

Jenneke Klein-Nulend, PhD

ACTA-University of Amsterdam and Vrije Universiteit Amsterdam, The Netherlands

Disclosures: None

Alexander Robling, PhD

Indiana University, United States

Disclosures: None

3:45 pm

Mechanosensation Mechanisms in Bone

Meghan McGee-Lawrence, PhD

Medical College of Georgia, Augusta University, United States

Disclosures: None

4:10 pm

The Role of Gap Junctions in Coordinating Tissue Response to Mechanical Signals

Henry Donahue, PhD

Virginia Commonwealth University, United States

Disclosures: None

4:35 pm

Multiscale Mechanobiology of TGF-beta in the Skeleton

Tamara Alliston, PhD

University of California, San Francisco, United States

Disclosures: None

ASBMR/ECTS CLINICAL DEBATE: TREATMENT FOR OSTEOPOROSIS IS ASSOCIATED WITH IMPROVED MORTALITY

4:00 pm - 5:00 pm

Palais des congrès de Montréal
Room 210 A-F

Co-Chairs

Jane Cauley, PhD

University of Pittsburgh Graduate School of Public Health, United States

Disclosures: None

Bente Langdahl MD, PhD

Aarhus University Hospital, Denmark

Disclosures: Speakers' Bureau: Amgen, Eli Lilly, UCB, Teva

Grant/Research Support: Amgen, Novo Nordisk

Consultant: Amgen, UCB, Merck, Eli Lilly

For the Motion

Roland Chapurlat, MD, PhD

E. Herriot Hospital, France

Disclosures: None

Against the Motion

Steven Cummings, MD

San Francisco Coordinating Center, United States

Disclosures: Amgen, Consultant, Amgen, Grant/Research Support

WELCOME RECEPTION AND PLENARY POSTER SESSION**5:00 pm - 7:00 pm****Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E**

Attendees and registered guests are invited to celebrate ASBMR's 2018 Annual Meeting during our Welcome Reception and Poster Session in the ASBMR Discovery Hall. Simply display your badge for admission. Guests may purchase a badge for \$50 at the ASBMR Registration Counter for entrance to the Welcome Reception. For the full Plenary Poster listing, please refer to the plenary poster section located in the back of the Onsite Program Book.

NEW INVESTIGATOR RECEPTION**5:00 pm - 7:00 pm****Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E**

EARLY STAGE INVESTIGATOR NETWORKING HAPPY HOUR

Sponsored by the ASBMR Early Stage Investigator Subcommittee and Membership Engagement and Education Committee (Part of the Emerging Investigator Program supported by a donation from Ultragenyx)

7:15 pm - 8:30 pm**Le Westin Hotel
Viger Room**

Early Stage Investigators who wish to continue building connections with peers in a fun and informal setting are invited to attend this event. Participants are encouraged to participate in Networking Bingo and will get a chance to win drink tickets and be entered in a raffle drawing for a free ASBMR In-Training Membership.

MUSCLE AND BONE WORKING GROUP

Supported by educational grants from Novotec Medical and Stratec Medizintechnik

7:15 pm – 9:45 pm**Palais des congrès de Montréal
Room 520 A**

7:30 pm Opening Remarks and Dinner**8:00 pm** **Lifelong skeletal benefits of physical activity when young: an exercise in structure**
Stuart Warden, PhD
Indiana University—Purdue University, United States**8:30 pm** **Whole-body vibration intervention studies for musculoskeletal health: what has been learned and where are we heading?**
Louis-Nicolas Veilleux, Ph.D.
Adjunct Professor of Surgery, McGill University, Canada**9:00 pm** **Physical capability, muscle force and power in older UK Adults - relationships to bone and falls.**
Kat Ward, PhD
Associate Professor, MRC Lifecourse Epidemiology, University of Southampton,
Southampton General Hospital, United Kingdom

ADULT BONE AND MINERAL WORKING GROUP

7:15 pm - 10:00 pm

Palais des congrès de Montréal
Room 520 D

- 7:15 pm** Opening Remarks and Dinner
Introduction of Co-Chairs
Ann Kearns, MD PhD, Mayo Clinic, USA, Suzanne Marie Jan de Beur MD, John's Hopkins, USA, Michael Collins MD, National Institute of Health, USA
- 7:30 pm** **Historical Vignette: hypn' and hoppin' down the rickety road of FGF23**
Michael Collins MD, National Institute of Health, USA
- 8:00 pm** **Successful treatment of osteoporosis with intermittent parathyroid hormone related peptide (Tymlos) injections in patients with Ehlers-Danlos syndrome.**
Julianna Barsony. Georgetown University Medical Center USA
- 8:15 pm** **A Case of Hypoparathyroidism with Unusual Treatment Challenges: Refractory Hyperphosphatemia and Open Epiphyses.**
Wu KC¹, Murphy EJ¹, Kim S¹, Arasu A³, Schafer AL^{1,2}, Shoback DM¹, ¹Division of Endocrinology and Metabolism, Department of Medicine, University of California, San Francisco, ²Endocrine Research Unit, San Francisco Veterans Affairs Health Care System, University of California, San Francisco, CA. ³Division of Endocrinology and Metabolism, Department of Medicine, University of California, Los Angeles
- 8:30 pm** **Effect of prolonged use of rhPTH (1-34) on bone and mineral metabolism in Postsurgical Hypoparathyroidism.**
Neeru Gera, Sudhakar Rao, Ambrish Mithal, Sanjay Kumar Bhadada
- 8:45 pm** **Tumor-induced osteomalacia: a long and winding road for a cure.**
Namki Hong^{1*}, Jooyeon Lee^{1*}, Inho Cha², Byung-mun Kim³, Dong-jun Kim³, Mijin Yun⁴, Jong-in Yook⁵, Yumie Rhee¹, ¹Department of Internal Medicine, Severance Hospital, Endocrine Research Institute, Yonsei University College of Medicine, Seoul 120-752, Korea., ²Department of Oral and Maxillofacial Surgery, Yonsei University College of Dentistry, 50-1 Yonsei-ro, Seodaemun-gu, Seoul, 03722, Korea., ³Department of Radiology, Yonsei University College of Medicine Severance Hospital, 250, ⁴Department of Nuclear Medicine, Yonsei University College of Medicine, Seoul, Korea., ⁵Department of Dental Pathology, Yonsei University College of Medicine, 50 Yonsei-ro, Seodaemun-gu, Seoul, 120-752, Korea.
- 9:00 pm** **Case Report: Double trouble in Pregnancy.**
Bhadada SK, Anshita Aggarwal, Aditya Dutta, Anupam Lal, Anil Bhansali. Post Graduate Institute of Medical Education & Research, Chandigarh. Correspondence Address: Room No. 2, Block- F, 4th Floor, Dept of Endocrinology, Nehru Hospital, PGIMER, Chandigarh
- 9:15 pm** **Possible Osteogenesis Imperfecta in an Elderly Man.**
Cheng Cheng MD, Anna Schafer MD, Dolores Shoback MD1. 1Division of Endocrinology and Metabolism, University of California San Francisco, San Francisco California
- 9:30 pm** **Osteoporosis as a Presenting Manifestation of Cushing's Disease.**
Rebecca Simon, Lena Yassine, Shiri Levy, Sharon Lahiri, Arti Bhan, Sudhaker D. Rao. Division of Endocrinology, Diabetes, and Bone & Mineral Disorders, and Bone & Mineral Research Laboratory, Henry Ford Hospital, Detroit, Michigan
- 9:45 pm** **Presentation of the Boy Frame Award to Dr Michael Collins.**
- 10:00 pm** Adjourn

WOMEN IN BONE AND MINERAL RESEARCH EVENING NETWORKING RECEPTION

Sponsored by the Women in Bone and Mineral Research Committee

Supported in part by donations provided by UCB and Ultragenyx Pharmaceutical

8:00 pm - 9:30 pm

**Le Westin Hotel
Palais Room**

The Women in Bone and Mineral Research Committee invites all colleagues to attend their Networking & Dessert Reception. Moderated by the ASBMR Women's Committee Chair, Roberta Faccio, panelists including Douglas Kiel, MD, Emma Duncan, MBBS, PhD, Johannes van Leeuwen, PhD, and Laurie McCauley, DDS, PhD will discuss this year's topic, "*Bridging the Gender Gap: The Female Academic Experience.*" With time for networking before & after, the panelists discussion will focus around what current department chairs are doing to help make the academic work environment more open and equal for women in science.

EARLY STAGE INVESTIGATOR AFTER HOURS HAPPY HOUR

Sponsored by the ASBMR Early Stage Investigator Subcommittee and Membership Engagement and Education Committee (Part of the Emerging Investigator Program supported by a donation from Ultragenyx Pharmaceutical)

8:30 pm - 9:30 pm

Early Stage Investigators are invited to continue networking at an off-site location in in Old Montreal. Join your peers to continue building a network of career-long contacts in a relaxed and fun environment.

SATURDAY, SEPTEMBER 29, 2018

DAY-AT-A-GLANCE

Time/Event/Location	
7:00 am - 5:00 pm	21
Registration Open <i>Viger Hall - Level 2</i>	
8:00 am - 9:30 am	21
Louis V. Avioli Lecture and Presentation of Esteemed Awards <i>Room 210 A-F</i>	
9:30 am - 9:45 am	21
Networking Break <i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
9:30 am - 4:30 pm	21
Discovery Hall Open <i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
9:30 am - 4:30 pm	21
Posters Open <i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
9:45 am - 11:00 am	21
Plenary Orals: Clinical Highlights <i>Room 210 A-F</i>	
9:45 am - 11:00 am	23
Plenary Orals: Osteoblast and Osteocyte Biology <i>Room 517 D</i>	
9:45 am - 11:00 am	24
Plenary Orals: Translational Highlights I <i>Room 517 A</i>	
11:00 am - 12:00 pm	25
New! Challenge the Experts: Mineral Disorders (Calcium and Phosphate) <i>Room 517 B</i>	
11:00 am - 12:00 pm	25
ASBMR-IOF-FFN Joint Session: Closing the Treatment Gap <i>Room 517 C</i>	
11:00 am - 12:00 pm	26
Meet the Professor Sessions	
11:00 am - 12:15 pm	27
Publications Workshop <i>Room 510</i>	
12:00 pm - 12:30 pm	27
Networking Break <i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
12:30 pm - 2:30 pm	27
Poster Session I and Poster Tours <i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	

12:30 pm - 2:30 pm.....	27
Late-Breaking Posters I	
<i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
2:45 pm - 4:00 pm.....	27
Symposium: Fall Assessment and Prevention	
<i>Room 517 D</i>	
2:45 pm - 4:00 pm.....	28
ASBMR/ECTS Symposium: Speaking from the Gut: Bone and the Microbiome	
<i>Room 517 A</i>	
4:00 pm - 4:30 pm.....	29
Networking Break	
<i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
4:30 pm - 6:00 pm.....	29
Concurrent Orals: Hormonal and Growth Factor Responses	
<i>Room 517 B</i>	
4:30 pm - 6:00 pm.....	30
Concurrent Orals: Osteoporosis Treatment	
<i>Room 517 A</i>	
4:30 pm - 6:00 pm.....	31
Concurrent Orals: Rare Bone Diseases: Translational	
<i>Room 517 D</i>	
6:30 pm - 8:30 pm.....	32
Basic Evening: Epigenetics and Osteoimmunology	
<i>Room 510</i>	
6:30 pm - 8:30 pm.....	33
Clinical Evening: Personalized Medicine vs Evidenced Based Medicine	
<i>Room 210 A-F</i>	
8:30 pm - 11:30 pm.....	33
Networking Event	
<i>Room 710 A</i>	

SATURDAY, SEPTEMBER 29, 2018

REGISTRATION OPEN

7:00 am - 5:00 pm

Palais des congrès de Montréal
Viger Hall - Level 2

LOUIS V. AVIOLI LECTURE AND PRESENTATION OF ESTEEMED AWARDS

8:00 am - 9:30 am

Palais des congrès de Montréal
Room 210 A-F

Join your colleagues to congratulate the ASBMR 2018 Esteemed Award Winners of the new Adele L. Boskey Award, William F. Neuman Award, Frederic C. Bartter Award, Paula Stern Achievement Award, and Gideon A. Rodan Award.

8:30 am **From Rare Skeletal Diseases to Genetic Determinants of Skeletal Homeostasis**

Brendan Lee, MD, PhD
Baylor College of Medicine, United States

Disclosures: None

NETWORKING BREAK

9:30 am - 9:45 am

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

DISCOVERY HALL OPEN

9:30 am - 4:30 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

POSTERS OPEN

9:30 am - 4:30 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

All posters will be displayed in the ASBMR Discovery Hall - Exhibit Hall 220 B-E on Saturday, September 29 - Monday, October 1 during exhibit hall hours. For a full listing of all poster and late-breaking poster presentations, please refer to the poster section located in the back of the Onsite Program Book.

PLENARY ORALS: CLINICAL HIGHLIGHTS

9:45 am - 11:00 am

Palais des congrès de Montréal
Room 210 A-F

Moderator

Suzanne Jan De Beur, MD
Johns Hopkins University, United States

Moderator

Ghada El-Hajj Fuleihan MD

American University of Beirut-Medical Center, Lebanon

9:45 am ASBMR 2018 Annual Meeting Most Outstanding Basic Abstract

1037 Investigating the influence of adult hip shape genetic variants across the life course: findings from a population-based study in adolescents

Monika Frysz*^{1,2}, Denis Baird², Jenny Gregory³, Richard Aspden³, Jonathan Tobias⁴, Lavinia Paternoster (Cox)^{1,2}. ¹Population Health Sciences, Bristol Medical School, University of Bristol, United Kingdom, ²MRC Integrative Epidemiology Unit at the University of Bristol, United Kingdom, ³Institute of Medical Science, School of Medicine, Medical Sciences & Nutrition, Aberdeen, United Kingdom, ⁴Musculoskeletal Research Unit, Bristol Medical School, University of Bristol, United Kingdom

Disclosures: Monika Frysz, None

10:00 am Changes in the Risk of Subsequent Major Osteoporotic Fractures over Time in Men and Women: A Population-Based Observational Study with 25-year Follow Up

1038 Suzanne N Morin*¹, Lin Yan², Lisa M Lix², William D Leslie². ¹McGill University, Canada, ²University of Manitoba, Canada

Disclosures: Suzanne N Morin, None

10:15 am Advanced glycation endproduct content is increased in cortical bone of the femoral neck in men with type 2 diabetes mellitus

1039 Pablo Palomino*¹, Heather Hunt¹, Eric Marty², Rehan Saiyed², Matthew Cohn², Joseph Lane², Robert Ritchie³, Bernd Gludovatz⁴, Eve Donnelly¹. ¹Cornell University, United States, ²Hospital for Special Surgery, United States, ³University of California, Berkeley, United States, ⁴UNSW, Australia

Disclosures: Pablo Palomino, None

10:30 am Definitions of sarcopenia as predictors of fracture risk independent of FRAX, falls and BMD: A meta-analysis of the Osteoporotic Fractures in Men (MrOS) Study

1040 Nicholas Harvey*¹, Anders Oden², Eric Orwoll³, Timothy Kwok⁴, Magnus Karlsson⁵, Bjorn Rosengren⁶, Eva Ribom⁶, Peggy Cawthon⁷, Kristine Ensrud⁸, Cyrus Cooper¹, John Kanis⁹, Claes Ohlsson², Dan Mellstrom², Helena Johansson², Eugene McCloskey⁹. ¹MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton SO16 6YD, United Kingdom, ²Centre for Bone and Arthritis Research (CBAR), Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden, ³Oregon Health & Science University, Portland, OR, United States, ⁴Department of Medicine & Therapeutics and School of Public Health, The Chinese University of Hong Kong, HK, Hong Kong, ⁵Clinical and Molecular Osteoporosis Research Unit, Department of Clinical Sciences Malmo, Lund University and Department of Orthopedics, Skane University Hospital, Malmo, Sweden, ⁶Department of Surgical Sciences, University of Uppsala, Uppsala, Sweden, ⁷Research Institute, California Pacific Medical Center, San Francisco, CA, United States, ⁸Medicine and Epidemiology & Community Health, University of Minnesota, MN, United States, ⁹Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, United Kingdom

Disclosures: Nicholas Harvey, None

10:45 am Muscle mass assessed by D3Cr dilution and incident fractures in older men

1041 Peggy Cawthon*¹, Katherine Peters¹, Steven Cummings¹, Eric Orwoll², Andrew Hoffman³, Kristine Ensrud⁴, Jane Cauley⁵, William Evans⁶. ¹California Pacific Medical Center, United States, ²OHSU, United States, ³Stanford, United States, ⁴University of Minnesota, United States, ⁵University of Pittsburgh, United States, ⁶University of California, Berkeley, United States

Disclosures: Peggy Cawthon, None

PLENARY ORALS: OSTEOBLAST AND OSTEOCYTE BIOLOGY

9:45 am - 11:00 am

Palais des congrès de Montréal
Room 517 D

Moderators

Jean Vacher, PhD

Institut De Recherches Cliniques De Montréal, Canada

Lilian Plotkin, PhD

Indiana University School of Medicine, United States

9:45 am
1042

ASBMR 2018 Annual Meeting Most Outstanding Basic Abstract Award
Osteoblast-derived NOTUM Reduces Cortical Bone Mass in Mice and the NOTUM Locus is Associated with Bone Mineral Density in Humans

Karin Nilsson*¹, Sofia Movérare-Skrtic¹, Petra Henning¹, Thomas Funck-Brentano¹, Maria Nethander¹, Fernando Rivadeneira², Antti Koskela³, Juha Tuukkanen³, Jan Tuckermann⁴, Christine Perret⁵, Ulf Lerner¹, Claes Ohlsson¹. ¹Centre for Bone and Arthritis Research at the Sahlgrenska Academy, 41345 Gothenburg, Sweden, ²Department of Internal Medicine, Erasmus University Rotterdam, Rotterdam, The Netherlands, Netherlands, ³Institute of Cancer Research and Translational Medicine, Department of Anatomy and Cell Biology, Faculty of Medicine, University of Oulu, Finland, ⁴Institute of General Zoology and Endocrinology, University of Ulm, Germany, ⁵Inserm, Institut Cochin, Paris, France
Disclosures: Karin Nilsson, None

10:00 am
1043

ASBMR 2018 Annual Meeting President's Award
Role of Osterix (SP7) in Regulating Osteocyte Biology and Dendrite Formation

Fatemeh Mirzamohammadi *¹, Hironori Hojo², Tetsuya Enishi¹, Nicolas Govea¹, Henry M. Kronenberg¹, Marc N. Wein¹. ¹Center for Skeletal Research, Endocrine Unit, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, 50 Blossom Street, Boston, Massachusetts 02114, United States, ²Center for Disease Biology and Integrative Medicine, The University of Tokyo Graduate School of Medicine, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656, Japan
Disclosures: Fatemeh Mirzamohammadi, None

10:15 am
1044

Hypermineralization of bones by Col2a1-expressing osteoblasts

Yukiko Kuroda*, Koichi Matsuo. Laboratory of Cell and Tissue Biology, Keio University School of Medicine, Japan
Disclosures: Yukiko Kuroda, None

10:30 am
1045

In vivo cell fates of CXCL12+ perisinusoidal bone marrow mesenchymal stromal stem cells

Yuki Matsushita*, Noriaki Ono. University of Michigan School of Dentistry, United States
Disclosures: Yuki Matsushita, None

10:45 am
1046

Osteocyte-Specific CXCL12 Expression Is Critical for Load-Induced Bone Formation in Adult Mice

Pamela Cabahug-Zuckerman*, Chao Liu, Emily Fang, Alesha Castillo. New York University, United States
Disclosures: Pamela Cabahug-Zuckerman, None

PLENARY ORALS: TRANSLATIONAL HIGHLIGHTS I

9:45 am - 11:00 am

Palais des congrès de Montréal
Room 517 A

Moderator

Allison Pettit, PhD
The University of Queensland, Australia

Moderator

Genevieve Mailhot, PhD
Research Center, Sainte-Justine University Hospital University of Montreal, Canada

9:45 am

ASBMR 2018 Annual Meeting Young Investigator Award

1047

Cyclic and Alternating Parathyroid Hormone (PTH) and Alendronate Treatment Regimens Further Improve Bone Microarchitecture and Strength Beyond Daily and Cyclic PTH Regimens

Wei-Ju Tseng, Hongbo Zhao, Tien-Jung Lee, Wonsae Lee, Yihan Li, Chantal de Bakker, X. Sherry Liu. ¹University of Pennsylvania, United States, ²National Central University, Taiwan
Disclosures: Hongbo Zhao, None

10:00 am

Somatic Activating Mutations in MAP2K1 Cause Melorheostosis

1048

Heeseog Kang^{*1}, Smita Jha², Zuoming Deng³, Nadja Fratzl-Zelman⁴, Wayne A. Cabral⁵, Aleksandra Iovic⁶, Françoise Meylan⁶, Eric P. Hanson⁷, Eileen Lange⁸, James Katz⁹, Paul Roschger⁴, Klaus Klaushofer⁴, Edward W. Cowen¹⁰, Richard M. Siegel¹¹, Timothy Bhattacharyya¹², Joan C. Marini¹. ¹Section on Heritable Disorders of Bone and Extracellular Matrix, NICHD, NIH, United States, ²Clinical and Investigative Orthopedics Surgery Unit, NIAMS, NIH, United States, ³Biodata Mining and Discovery Section, Office of Science and Technology, NIAMS, NIH, United States, ⁴Ludwig Boltzmann Institute of Osteology, Austria, ⁵Molecular Genetics Section, NHGRI, NIH, United States, ⁶Immunoregulation Section, NIAMS, NIH, United States, ⁷Autoimmunity Branch, NIAMS, NIH, United States, ⁸Clinical Research, NIAMS, NIH, United States, ⁹Rheumatology Branch, NIAMS, NIH, United States, ¹⁰Dermatology Branch, NIAMS, NIH, United States, ¹¹Office of Clinical Director, NIAMS, NIH, United States, ¹²Clinical Trials & Outcomes Branch, NIAMS, NIH, United States
Disclosures: Heeseog Kang, None

10:15 am

ASBMR 2018 Annual Meeting Most Outstanding Translational Abstract

1049

Osteocalcin Function On Energy Metabolism Is Conserved In Humans: Results of a 5 Year Prospective Cohort of Diabetes Onset

Cyrille Confavreux^{*1}, Pawel Szulc², Matthieu Wargny³, Marie Christine Carlier², Elisabeth Sornay-Rendu², Matthieu Pichelin³, Bertrand Cariou³. ¹INSERM UMR1033 - University of Lyon - Department of Rheumatology, Hospices Civils de Lyon, France, ²INSERM UMR1033 - University of Lyon, France, ³INSERM UMR 1087/CNRS UMR 6291 - Department of Endocrinology, University Hospital of Nantes, France
Disclosures: Cyrille Confavreux, None

10:30 am

RANK Ligand inhibitors improve muscle function and glucose homeostasis

1050

Nicolas Bonnet^{*}, Lucie Bourgoin, Emmanuel Biver, Thierry Chevalley, Melany Hars, Andrea Trombetti, Serge Ferrari. Service of Bone Diseases, Faculty of Medicine (UNIGE), Switzerland
Disclosures: Nicolas Bonnet, None

10:45 am

Sympathetic Outflow Regulates Bone Metabolism in Humans: Evidence from Cellular, Epidemiological, and Direct Interventional Studies

1051

Sundeep Khosla^{*1}, Matthew Drake¹, Tammie Volkman¹, Brianne Thicke¹, Sara Achenbach¹, Elizabeth Atkinson¹, Michael Joyner¹, Clifford Rosen², David Monroe¹, Joshua Farr¹. ¹Mayo Clinic, United States, ²Maine Medical Center Research Institute, United States
Disclosures: Sundeep Khosla, None

NEW! CHALLENGE THE EXPERTS: MINERAL DISORDERS (CALCIUM AND PHOSPHATE)

Supported by Ultragenyx Pharmaceutical

11:00 am - 12:00 pm

Palais des congrès de Montréal
Room 517 B

Chair:

Ghada El-Hajj Fuleihan MD
American University of Beirut-Medical Center, Lebanon

Disclosures: None

Panelist:

Erik Imel, MD, MS
Indiana University School of Medicine, United States

Disclosures: Consultant: Ultragenyx Pharmaceutical Inc.
Grant/Research Support: Ultragenyx Pharmaceutical Inc.
Other Financial or Material Support: Ultragenyx Pharmaceutical Inc.

Panelist:

Thomas Carpenter, MD
Yale University School of Medicine, United States

Disclosures: Grant/Research Support: Ultragenyx Pharmaceutical Inc.
Consultant: Ultragenyx Pharmaceutical Inc.
Other Financial or Material Support: Ultragenyx Pharmaceutical Inc.

Panelist:

Suzanne Jan De Beur, MD
Johns Hopkins University, United States

Disclosures: Grant/Research Support: Mereo BioPharma Group Ltd, Shire plc, Ultragenyx Pharmaceutical Inc.
Consultant: Ultragenyx Pharmaceutical Inc.

ASBMR-IOF-FFN JOINT SESSION: CLOSING THE TREATMENT GAP

11:00 am - 12:00 pm

Palais des congrès de Montréal
Room 517 C

Co-Chairs

Sundeep Khosla, MD
Mayo Clinic College of Medicine, United States

Disclosures: None

Nicholas Harvey, PhD
MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom

Disclosures: None

Paolo Falaschi, MD
Sapienza Università di Roma, Italy

Disclosures: None

11:00 am

ASBMR Secondary Fracture Prevention Initiative

Douglas Kiel, MD
Institute for Aging Research Hebrew SeniorLife, United States

Disclosures: None

11:20 am Closing the Treatment Gap Worldwide: An IOF Perspective

Cyrus Cooper, PhD
University of Southampton, United Kingdom

Disclosures: None

11:40 am Global Call to Action to Improve the Care of People with Fragility Fractures

Paul Mitchell, MS
University of Notre Dame Australia, New Zealand

Disclosures: None

MEET THE PROFESSOR SESSIONS

11:00 am - 12:00 pm

Palais des congrès de Montréal

Meet the Professor: AFF, Drug Holiday

Room 521

Bo Abrahamsen, MD, PhD
University of Southern Denmark, Denmark
Disclosures: Grant/Research Support: UCB and Novartis

Meet the Professor: Mechanosensitive Osteocytes: Insights into How the Osteocytes Control the Bone Response to Bone Loading and Unloading

Room 518 A

Jean Jiang, PhD
University of Texas Health Science Center at San Antonio, United States
Disclosures: None

Meet the Professor: Bone Muscle Interactions

Room 522

Lynda Bonewald, PhD
Indiana University School of Medicine, United States
Disclosures: None

Meet the Professor: Effects of Cancer on the Skeleton

Room 518 C

Matthew Drake, MD, PhD
College of Medicine, Mayo Clinic, United States
Disclosures: None

Meet the Professor: Nutrition and Fragility

Room 519 B

Shivani Sahni, PhD
Harvard Medical School, United States
Disclosures: None

Marian Hannan, PhD
HSL Institute for Aging Research and Harvard Medical School, United States
Disclosures: None

Meet the Professor: Function of Extracellular Vesicles and Exosomes in Cell-Cell Communication in Bone Cells

Room 518 B

Sarah Dallas, PhD
University of Missouri - Kansas City, United States
Disclosures: None

Meet the Professor: Reversal Phase in Bone Remodeling

Room 519 A

Jean-Marie Delaisse, PhD
 Vejle/Lillebælt Hospital, IRS, University of Southern Denmark, Denmark
Disclosures: None

Meet the Professor: miRNAs and Bone

Room 525

Anne Delaney, PhD
 UConn Health, United States
Disclosures: None

PUBLICATIONS WORKSHOP

11:00 am - 12:15 pm

**Palais des congrès de Montréal
 Room 510**

New this year! The 2018 Publications Workshop will feature new interactive roundtable sessions with the JBMR® and JBMR® Plus Editors. Meet with JBMR® Editor-in-Chief Dr. Roberto Civitelli, M.D. and JBMR® Plus Editor-in-Chief Dr. Peter Ebeling, AO, as well as Deputy and Associate Editors from both journals to discuss topics such as title optimization, figure preparation, improving manuscript quality, getting selected as a new reviewer, and many other subjects. All of the roundtable discussions will be fully collaborative, so make sure to bring your questions on navigating the submission process, maximizing visibility for your paper, and the latest technologies in scholarly publishing, or anything else you want to know!

NETWORKING BREAK

12:00 pm - 12:30 pm

**Palais des congrès de Montréal
 ASBMR Discovery Hall - Exhibit Hall 220 B-E**

POSTER SESSION I AND POSTER TOURS

12:30 pm - 2:30 pm

**Palais des congrès de Montréal
 ASBMR Discovery Hall - Exhibit Hall 220 B-E**

All posters will be displayed in the ASBMR Discovery Hall - Exhibit Hall 220 B-E on Saturday, September 29 - Monday, October 1 during exhibit hall hours. For a full listing of all poster and late-breaking poster presentations, please refer to the poster section located in the back of the Onsite Program Book.

SYMPOSIUM: FALL ASSESSMENT AND PREVENTION

2:45 pm - 4:00 pm

**Palais des congrès de Montréal
 Room 517 D**

Co-Chairs

Stephen Robinovitch, PhD
 Simon Fraser University, Canada
Disclosures: None

Elsa Strotmeyer MPH, PhD
 University of Pittsburgh, United States
Disclosures: None

2:45 pm **Fall Risk Factors and Assessment**
Nathalie van der Velde, MD, PhD
University of Amsterdam, The Netherlands

Disclosures: None

3:10 pm **Sarcopenia and Falls**
Peggy Cawthon, PhD, MPH
San Francisco Coordinating Center, United States

Disclosures: None

3:35 pm **Falls Prevention**
David Reuben, MD
UCLA Medical Center, United States

Disclosures: None

ASBMR/ECTS SYMPOSIUM: SPEAKING FROM THE GUT: BONE AND THE MICROBIOME

2:45 pm - 4:00 pm

**Palais des congrès de Montréal
Room 517 A**

Co-Chairs

Laura McCabe, PhD
Michigan State University, United States

Disclosures: None

Roberto Pacifici, MD
Emory University School of Medicine, United States

Disclosures: None

2:45 pm **Microbiome, IGF-1 and Bone Formation**
Julia Charles, MD, PhD
Brigham and Women's Hospital and Harvard School of Medicine, United States

Disclosures: None

3:10 pm **Bone Strength and the Microbiome**
Christopher Hernandez, PhD
Cornell University, United States

Disclosures: None

3:35 pm **Osteomicrobiology**
Andre Uitterlinden, PhD
Rm Ee 575, Genetic Laboratory, Netherlands

Disclosures: None

NETWORKING BREAK

4:00 pm - 4:30 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

CONCURRENT ORALS: HORMONAL AND GROWTH FACTOR RESPONSES

4:30 pm - 6:00 pm

Palais des congrès de Montréal
Room 517 B

Moderators

David Monroe, PhD
Mayo Foundation, United States

Ling Qin, PhD
University of Pennsylvania, United States

4:30 pm
1052

ASBMR 2018 Annual Meeting Young Investigator Award
DMP1 overexpression prevents bone alterations, FGF23 elevations and cardiac hypertrophy in mice with chronic kidney disease

Corey Dussold*¹, Claire Gerber¹, Samantha White¹, Xueyan Wang¹, Connor Francis¹, Lixin Qi¹, Ying Liu², Chaoyuan Li², Jian Q Feng², Myles Wolf³, Valentin David¹, Aline Martin¹.
¹Division of Nephrology and Hypertension, and Center for Translational Metabolism and Health, Northwestern University Feinberg School of Medicine, Chicago, IL, United States, ²Department of Biomedical Sciences, Baylor College of Dentistry, Texas A&M University, Dallas, TX, United States, ³Division of Nephrology, Duke University, Durham, NC, United States

Disclosures: Corey Dussold, None

4:45 pm
1053

Overexpression of PTHrP in Transgenic Mammary Tumors Causes Hypercalcemia and Rapid Fat Wasting but does not Increase Energy Expenditure.

Pamela Dann*¹, Farzin Takyar¹, Kellen Bean², Rachel Perry¹, Gerald Shulman¹, John Wysolmerski¹. ¹Yale University, United States, ²Yale College, United States

Disclosures: Pamela Dann, None

5:00 pm
1054

A novel regulatory network mediated by the miR182-PKR-IFN- β axis plays a key role in osteoclastogenesis and osteoprotection

Kazuki Inoue*¹, Zhonghao Deng², Yufan Chen³, Gregory Vitone², Eugenia Giannopoulou⁴, Ren Xu⁵, Shiaoqing Gong⁶, David G. Kirsch⁷, Matthew Greenblatt⁵, Anil K. Sood⁸, Liang Zhao³, Baohong Zhao¹. ¹Hospital for Special Surgery, Weill Cornell Medical College, United States, ²Hospital for Special Surgery, United States, ³Nanfang Hospital, Southern Medical University, China, ⁴New York City College of Technology, City University of New York, United States, ⁵Weill Cornell Medical College, United States, ⁶Department of Molecular Biology, The Rockefeller University, United States, ⁷Duke University Medical Center, United States, ⁸The University of Texas MD Anderson Cancer Center, United States

Disclosures: Kazuki Inoue, None

5:15 pm
1055

Transcriptional Co-factor Jab1 is Vital for Mouse Chondrocyte Differentiation

Murali Mamidi*, William Samsa, Ricky Chan, Guang Zhou. Case Western Reserve University, United States

Disclosures: Murali Mamidi, None

5:30 pm **ASBMR 2018 Annual Meeting Young Investigator Award**
1056 Targeting the Hedgehog Signaling Pathway to Ameliorate Metachondromatosis
Jiahui Huang*, Douglas Moore, Michael Ehrlich, Wentian Yang. Department of Orthopaedics, Brown University Alpert Medical School and Rhode Island Hospital, United States
Disclosures: Jiahui Huang, None

5:45 pm **Teasing Apart Endocrine and Inflammatory Control of Cyp27b1 Expression Reveals Vital Relationships of Vitamin D3 Metabolites and Enzyme Levels to Skeletal Health**
1057 Mark Meyer*¹, Nancy Benkuskyl¹, Seong Min Lee¹, Melda Onal¹, Martin Kaufmann², Glenville Jones², J. Wesley Pike¹. ¹University of Wisconsin - Madison, United States, ²Queen's University, Canada
Disclosures: Mark Meyer, None

CONCURRENT ORALS: OSTEOPOROSIS TREATMENT

4:30 pm - 6:00 pm

Palais des congrès de Montréal
Room 517 A

Moderators

Amna Khan, MD, MBBS
University of Pennsylvania and Philadelphia VA medical center, United States

Jan Bruder, MD
University of Texas Health Science Center at San Antonio, United States

4:30 pm **Change in Bone Turnover as a Surrogate for Fracture Outcomes: A Novel Individual-level Analysis of Pooled Anti-resorptive Trials from the FNIH Bone Quality Study**
1058 Douglas Bauer*¹, Eric Vittinghoff¹, Dennis Black¹, Mary Bouxsein², Li-Yung Lui³, Jane Cauley⁴, Anne De Papp⁵, Andreas Grauer⁶, Sundeep Khosla⁷, Bruce Mitlak⁸, Charles McCulloch¹, Richard Eastell⁹. ¹University of California, San Francisco, United States, ²Harvard Medical School, United States, ³California Pacific Medical Center, United States, ⁴University of Pittsburgh, United States, ⁵Merck & Co., Inc., United States, ⁶Amgen Inc., United States, ⁷Mayo Clinic College of Medicine, United States, ⁸Radius Health, United States, ⁹University of Sheffield, United Kingdom
Disclosures: Douglas Bauer, None

4:45 pm **Effect of Denosumab and High-Dose Teriparatide on Peripheral Bone Mineral Density and Microarchitecture**
1059 Joy Tsai*¹, Amy Yuan¹, Natalie David¹, Hang Lee¹, Mary Bouxsein², Benjamin Leder¹. ¹Massachusetts General Hospital, United States, ²Beth Israel Deaconess Medical Center, United States
Disclosures: Joy Tsai, None

5:00 pm **Effect of Dual-Task Functional Power and Mobility Training on Falls and Physical Function in Older People Living in Retirement Villages: A Cluster Randomised Controlled Trial**
1060 Robin Daly*¹, Rachel Duckham¹, Jamie Tait¹, Timo Rantalainen², Caryl Nowson¹, Dennis Taaffe³, Keith Hill⁴, Lucy Busija⁵, Kerrie Sanders⁶. ¹Institute for Physical Activity and Nutrition, Deakin University, Australia, ²Gerontology Research Centre, University of Jyväskylä, Australia, ³School of Medical and Health Sciences, Edith Cowan University, Australia, ⁴School of Physiotherapy and Exercise Science, Curtin University, Australia, ⁵Mary MacKillop Institute for Health Research, Australian Catholic University, Australia, ⁶Department of Medicine, University of Melbourne, Australia
Disclosures: Robin Daly, None

- 5:15 pm
1061** **Skeletal Benefit/risk of Long-term Denosumab Therapy: A Virtual Twin Analysis of Fractures Prevented To Skeletal Safety Events Observed**
Serge Ferrari*¹, E Michael Lewiecki², Peter W Butler³, David L Kendler⁴, Nicola Napoli⁵, Shuang Huang³, D Barry Crittenden³, Nicola Pannacciulli³, Ethel Siris⁶, Neil Binkley⁷.
¹Geneva University Hospital, Switzerland, ²New Mexico Clinical Research & Osteoporosis Center, United States, ³Amgen Inc., United States, ⁴University of British Columbia, Canada, ⁵Università Campus Bio-Medico di Roma, Italy, ⁶Columbia University Medical Center, United States, ⁷University of Wisconsin-Madison, United States
Disclosures: Serge Ferrari, AMGEN, UCB, LABatec, Agnovos, Consultant, UCB, MSD, Grant/Research Support
- 5:30 pm
1062** **The Calgary Vitamin D Study: Bone Microarchitecture Effects of Three-Year Supplementation With 400, 4000 or 10000 IU Daily**
Lauren A Burt*¹, Marianne S Rose², Emma O Billington¹, Duncan A Raymond¹, David A Hanley¹, Steven K Boyd¹. ¹McCaig Institute for Bone and Joint Health, Cumming School of Medicine, University of Calgary, Canada, ²Research Facilitation, Alberta Health Services, Canada
Disclosures: Lauren A Burt, None
- 5:45 pm
1063** **Physiotherapy Rehabilitation for Osteoporotic Vertebral Fracture - A randomised controlled trial and economic evaluation (PROVE trial): ISRCTN 49117867**
Karen Barker*¹, Meredith Newman², Nigel Stallard³, Jose Leal¹, Catherine Minns Lowe², Muhammad Javaid¹, Angela Noufaily³, Anish Adhikari¹, David Smith¹, Varsha Gandhi¹, Cyrus Cooper¹, Sarah Lamb¹. ¹University of Oxford, United Kingdom, ²Oxford University Hospitals Foundation Trust, United Kingdom, ³University of Warwick, United Kingdom
Disclosures: Karen Barker, None

CONCURRENT ORALS: RARE BONE DISEASES: TRANSLATIONAL

4:30 pm - 6:00 pm

Palais des congrès de Montréal

Room 517 D

Moderators

Joan Marini, MD, PhD

National Institute of Child Health and Human Development, United States

Francis Glorieux, MD, PhD

Shriners Hospital for Children and McGill University, Canada

- 4:30 pm
1064** **Impaired Dendritic Cell Function and Bacterial Load Increase in the Oral Microenvironment as Contributing Factors to the Induction of MRONJ**
Ranya Elsayed*¹, Esteban Celis², Hussein Sultan², Christopher Cutler¹, Mahmoud Elashiry¹, Mohamed Meghil¹, Zoya Kurago¹, Mohamed Awad¹, Mohey Eldin El- Shikh³, Mohammed Elsalanty¹, Riham El Sayed³. ¹Department of Oral Biology, Dental College of Georgia, Augusta University, United States, ²Biochemistry and Molecular Biology, Georgia Cancer Center, Medical College of Georgia, Augusta University, United States, ³Queen Mary, University of London, United Kingdom
Disclosures: Ranya Elsayed, None
- 4:45 pm
1065** **ASBMR 2018 Annual Meeting Young Investigator Award
Gnas inactivation alters adipose tissue properties during progression to heterotopic ossification**
Niambi Brewer*¹, John T Fong², Deyu Zhang², Frederick S Kaplan², Robert J Pignolo³, Eileen M Shore¹. ¹Departments of Orthopaedic Surgery and Genetics, Perelman School of Medicine, University of Pennsylvania, United States, ²Department of Orthopaedic Surgery, Perelman School of Medicine, University of Pennsylvania, United States, ³Division of Geriatric Medicine and Gerontology, Mayo Clinic College of Medicine, United States
Disclosures: Niambi Brewer, None

- 5:00 pm
1066** **Prevention of Zoledronate-Induced MRONJ with Indocyanine Green (ICG) Labeled Bisphosphonates**
Shuting Sun*¹, Akishige Hokugo², Frank H. (Hal) Ebetino¹, Keivan Sadrerafi¹, Philip Cherian¹, Charles E. McKenna³, Ichiro Nishimura². ¹Biovinc, United States, ²UCLA School of Dentistry, United States, ³Chemistry Department, University of Southern California, United States
Disclosures: Shuting Sun, BioVinc, Major Stock Shareholder
- 5:15 pm
1067** **The Effect of Androgens on Renal Calcium and Phosphate Handling, Independent of Bone and in Circumstances of Low Dietary Calcium**
Rougin Khalil*¹, Na Ri Kim¹, Ferran Jordi¹, Frank Claessens², Dirk Vanderschueren¹, Brigitte Decallonne¹. ¹KU Leuven, Department of Chronic Diseases, Metabolism & Ageing (CHROMETA), Clinical and Experimental Endocrinology, Leuven, Belgium, ²KU Leuven, Department of Cellular and Molecular Medicine, Molecular Endocrinology, Leuven, Belgium
Disclosures: Rougin Khalil, None
- 5:30 pm
1068** **PPAR γ in cells of the mesenchymal lineage is dispensable for the age-dependent decline of bone mass and hematopoietic changes in the appendicular skeleton**
Maria Almeida*, Michela Palmieri, Ha-Neui Kim, Li Han, Xin Zhang, Wen Li, Yonghan He, Robert Weinstein, Daohong Zhou, Stavros Manolagas, Robert Jilka. UAMS, United States
Disclosures: Maria Almeida, None
- 5:45 pm
1069** **An Antibody against Oxidized Phospholipids Promotes Bone Anabolism by Preventing their Binding to the Scavenger Receptor ScrB1 and thereby their Pro-Apoptotic Effect on Osteoblasts**
Elena Ambrogini*¹, Michela Palmieri¹, Li Han¹, Xuchu Que², Sotirios Tsimikas², Joseph L Witzum², Stavros C Manolagas³, Robert L Jilka³. ¹Center for Osteoporosis and Metabolic Bone Diseases, University of Arkansas for Medical Sciences and the Central Arkansas Veterans Healthcare System, United States, ²Department of Medicine, University of California San Diego, United States, ³Center for Osteoporosis and Metabolic Bone Diseases, Center for Osteoporosis and Metabolic Bone Diseases, University of Arkansas for Medical Sciences and the Central Arkansas Veterans Healthcare System, United States
Disclosures: Elena Ambrogini, None

BASIC EVENING: EPIGENETICS AND OSTEOIMMUNOLOGY

6:30 pm - 8:30 pm

Palais des congrès de Montréal

Room 510

Space is limited and available on a first-come, first-served basis. Attendees must be registered for the ASBMR 2018 Annual Meeting.

Co-Chairs

Mark Horowitz, PhD
Yale School of Medicine, United States

Disclosures: None

Joseph Lorenzo, MD
University of Connecticut Health Center, United States

Disclosures: None

6:30pm Dinner

7:00 pm Epigenetic Regulation of Myeloid Cells

Lionel Ivashkiv, MD
Weill Cornell Medicine, United States

Disclosures: None

7:30 pm **Regulation of Chromatin Landscape During RANKL-induced Osteoclastogenesis**
 Sakae Tanaka, MD, PhD
 The University of Tokyo, Japan
Disclosures: Consultant: Amgen Astellas, MSD, AbbVie, Daiichi Sankyo, Eli Lilly, Ono, Asahi Kasei Pharma, Teijin Pharma

8:00 pm **Role of Histone Deacetylases in Bone Development and Skeletal Disorders**
 Jennifer Westendorf, PhD
 Mayo Clinic, United States
Disclosures: None

**CLINICAL EVENING: PERSONALIZED MEDICINE VS EVIDENCED
 BASED MEDICINE**

6:30 pm - 8:30 pm **Palais des congrès de Montréal
 Room 210 A-F**

Space is limited and available on a first-come, first-served basis. Attendees must be registered for the ASBMR 2018 Annual Meeting.

Co-Chairs

Johannes Van Leeuwen, PhD
 Erasmus University Medical Center, Netherlands
Disclosures: None

Emma Duncan FRACP, MBBS, PhD
 Royal Brisbane and Women s Hospital, Australia
Disclosures: None

6:30 pm **Dinner**

7:00 pm **Challenges in Implementation of Personalized Therapeutics**
 Mark Ratain, MD
 The University of Chicago, United States
Disclosures: None

7:30 pm **Evidence-based Medicine: Will the Pyramid Fall Down?**
 Carolyn Crandall, MD, MS
 University of California, Los Angeles, United States
Disclosures: None

8:00 pm **Vitamin D: Impact of Genetic Variations on Circulating Levels, Tissue Access, and Physiologic Response**
 Daniel Bikle, MD, PhD
 Endocrine Research Unit, Division of Endocrinology UCSF and VAMC, United States
Disclosures: None

NETWORKING EVENT

8:30 pm - 11:30 pm **Palais des congrès de Montréal
 Room 710 A**

Join us for an evening of food, drinks and dancing at the ASBMR Networking Event! Connect with colleagues, both old and new, and help us celebrate the American Society for Bone and Mineral Research! Admission is included with Annual Meeting registration.

SUNDAY, SEPTEMBER 30, 2018

DAY-AT-A-GLANCE

Sunday

Time/Event/Location

6:00 am - 7:45 am	37
The PROMIS® of Improved Bone Health in Older Adults <i>Room 510</i>	
7:00 am - 5:00 pm	39
Registration Open <i>Viger Hall - Level 2</i>	
8:00 am - 9:15 am	39
Symposium: FGF Signaling in Bone Growth, Chondrodysplasia Syndromes, and Osteoarthritis: Basic Mechanisms and Therapeutic Approaches <i>Room 210 A-F</i>	
8:00 am - 9:15 am	39
Symposium: The Athlete's Skeleton: Going the Distance <i>Room 517 A</i>	
9:15 am - 9:45 am	40
Networking Break <i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
9:30 am - 4:30 pm	40
Posters Open <i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
9:30 am - 4:30 pm	40
Discovery Hall Open <i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
9:45 am - 11:00 am	40
Plenary Orals: John H. Carstens Memorial Session: Osteoporosis Treatment <i>Room 210 A-F</i>	
9:45 am - 11:00 am	42
Plenary Orals: Translational Highlights II <i>Room 517 A</i>	
11:00 am - 12:00 pm	43
Hands-On Workshop: Histomorphometry: An Interactive Introduction <i>Room 520 BE</i>	
11:00 am - 12:00 pm	43
New! Cutting Edge Technologies: Using 3-D Cell Culture for In vitro/Ex Vivo Approaches to Study Communication Among Bone/Bone Marrow Cells <i>Room 510</i>	
11:00 am - 12:00 pm	43
New! Challenge the Experts: Other Rare Bone Diseases <i>Room 517 B</i>	
11:00 am - 12:00 pm	44
Genomics for Clinicians <i>517 C</i>	
11:00 am - 12:00 pm	44
Meet the Professor Sessions	

12:00 pm - 12:30 pm.....	45
Networking Break <i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
12:30 pm - 2:30 pm.....	45
Poster Session II and Poster Tours <i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
12:30 pm - 2:30 pm.....	45
Late-Breaking Posters II <i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
2:30 pm - 4:00 pm.....	45
Concurrent Orals: Pediatrics <i>Room 210 A-F</i>	
2:30 pm - 4:00 pm.....	47
Concurrent Orals: Osteoblasts <i>Room 517 D</i>	
2:30 pm - 4:00 pm.....	48
Concurrent Orals: Osteocytes and Bone Development <i>Room 517 B</i>	
2:30 pm - 4:00 pm.....	49
Concurrent Orals: Preclinical Models: Nutrition and Pharmacology <i>Room 517 A</i>	
4:00 pm - 4:30 pm.....	50
Networking Break <i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
4:30 pm - 5:45 pm.....	50
Concurrent Orals: Regulation of Bone Formation and Mineralization <i>Room 517 B</i>	
4:30 pm - 5:45 pm.....	51
Concurrent Orals: Bone Imaging <i>Room 517 D</i>	
4:30 pm - 5:45 pm.....	52
Concurrent Orals: Epidemiology <i>Room 517 C</i>	
4:30 pm - 5:45 pm.....	54
Concurrent Orals: Energy Metabolism, Bone, Muscle and Fat II <i>Room 517 A</i>	
6:00 pm - 7:00 pm.....	55
ASBMR Town Hall Meeting <i>Room 510</i>	
7:00 pm - 8:30 pm.....	55
Diversity in Bone and Mineral Research Networking Reception <i>Le Westin, Palais</i>	
7:15 pm - 9:15 pm.....	55
Bone Turnover Markers Working Group <i>Room 520 C</i>	
7:15 pm - 9:30 pm.....	56
Working Group on Aging <i>Room 520 F</i>	
7:15 pm - 9:30 pm.....	56
Pediatric Bone and Mineral Working Group <i>520 B-E</i>	

SUNDAY, SEPTEMBER 30, 2018

INDUSTRY SUPPORTED SYMPOSIUM: THE PROMIS® OF IMPROVED BONE HEALTH IN OLDER ADULTS

Sponsoring/Organizing Company: CME Outfitters, LLC

Supporting Company: Pfizer Inc.

6:00 am - 7:45 am

Palais des congrès de Montréal
Room 510

Agenda

- Changing the “Who” in How We Think About Individuals At-Risk for Osteoporosis
 - **Objective:** Recognize the prevalence and impact of osteoporosis in older men and initiate an assessment of bone health.
 - Risk among men for fractures related to osteoporosis
 - Individual and global burden
 - TUG: Assessing all older adults for osteoporosis
- Calcium and Vitamin D Supplementation to Improve Bone Health and Decrease Fracture Risk: What are the Data?
 - **Objective:** Assess the safety and efficacy data for calcium and vitamin D supplementation in reducing fracture risk.
 - Present safety and efficacy data for supplementation in patients who do not meet dietary needs
 - What is the controversy?
 - Making informed treatment decisions about supplementation
- Integrating Patient-Reported Outcomes into Clinical Workflow
 - **Objective:** Implement PROs into clinical workflow to measure change in function and quality of life in patients with osteoporosis.
 - PROMIS measure
 - OPAQ-PH
 - Tips and tricks for integrating PROs into practice and engaging patients in their recognition and care
- SMART Goals/Conclusions/Q&A

Accreditation Statements:

CME Outfitters, LLC, is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

CME Outfitters, LLC, designates this live activity for a maximum of 1.25 *AMA PRA Category 1 Credit(s)*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 1.25 MOC points in the American Board of Internal Medicine’s (ABIM) Maintenance of Certification (MOC) program. Participants will earn MOC points equivalent to the amount of CME credits claimed for the activity. It is the CME activity provider’s responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

MIPS Improvement Activity: This activity counts towards MIPS Improvement Activity requirements under the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA). Clinicians should submit their improvement activities by attestation via the CMS Quality Payment Program website.

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Live: 0376-0000-18-019-L01-P

Enduring: 0376-0000-18-019-H01-P

Provider approved by the California Board of Registered Nursing, Provider Number CEP 15510, for 1.25 contact hours

Note to Nurse Practitioners and Clinical Nurse Specialists: the content of this activity pertains to pharmacology. Earn up to 1.25 contact hours of pharmacotherapeutic contact hours.

Note to Nurse Practitioners: Nurse practitioners can apply for *AMA PRA Category 1 Credit™* through the American Academy of Nurse Practitioners (AANP). AANP will accept *AMA PRA Category 1 Credit™* from organizations accredited by the Accreditation Council for Continuing Medical Education. Nurse practitioners can also apply for credit through their state boards.

Note to Physician Assistants: AAPA accepts certificates of participation for educational activities certified for *AMA PRA Category 1 Credit™* from organizations accredited by the Accreditation Council for Continuing Medical Education.

Faculty:

Joseph M. Lane, MD-moderator

Professor, Orthopaedic Surgery
Assistant Dean, Medical Students (HSS)
Weill Cornell Medical College
Chief, Metabolic Bone Disease Service
Hospital for Special Surgery
New York, NY

Disclosures:

Grants: *National Institutes of Health (NIH) - subcontract with Helen Hayes Hospital*

Research Support: *Novartis – Clinical Trial Hip Fracture Study*

Consultant: *ON Foundation; CollPlant Inc.*

Richard S. Bockman, MD, PhD

Chief, Endocrine Service
Attending Physician
Senior Scientist
Hospital for Special Surgery
Professor of Medicine, Endocrine Division
Weill Cornell Medical College
New York, NY

Emily Margaret Stein, MD, MS

Associate Attending Physician
Associate Research Scientist
Internal Medicine, Endocrinology, Metabolic Bone
Hospital for Special Surgery
New York, NY

Kirsten Grueter, RN

Fracture Liaison Nurse
Office of Joseph Lane, MD
Hospital for Special Surgery
New York, NY

REGISTRATION OPEN

7:00 am - 5:00 pm

Palais des congrès de Montréal
Viger Hall - Level 2

SYMPOSIUM: FGF SIGNALING IN BONE GROWTH, CHONDRODYSPLASIA SYNDROMES, AND OSTEOARTHRITIS: BASIC MECHANISMS AND THERAPEUTIC APPROACHES

8:00 am - 9:15 am

Palais des congrès de Montréal
Room 210 A-F

Co-Chairs

Kenneth White, PhD

Indiana University School of Medicine, United States

Disclosures: Other Financial or Material Support: Kyowa Hakko Kirin Co. Ltd

Liping Xiao, PhD

UConn Health, United States

Disclosures: None

8:00 am

FGFs Bone Homeostasis

David Ornitz, MD, PhD

Washington University, United States

Disclosures: None

8:25 am

Therapeutic Approaches for Achondroplasia and Hypochondroplasia

Laurence Legeai-Mallet, PhD

INSERM U1163 - Imagine Institute-Paris Descartes university, France

Disclosures: None

8:50 am

FGF-18 in Osteoarthritis

Jeffrey Kraines, MD

EMD Serono Research and Development Institute, United States

Disclosures: None

SYMPOSIUM: THE ATHLETE'S SKELETON: GOING THE DISTANCE

8:00 am - 9:15 am

Palais des congrès de Montréal
Room 517 A

Co-Chairs

Laura Tosi, MD

Children's National Medical Center, United States

Disclosures: None

Mary Leonard, MD

Stanford School of Medicine, United States

Disclosures: None

8:00 am

Stress Fractures in Athletes

Stuart Warden, PhD

Indiana University School of Health and Rehabilitation Sciences, United States

Disclosures: None

8:25 am **Female Athlete Triad**
Catherine Gordon, MD
Cincinnati Children's Hospital, United States
Disclosures: None

8:50 am **Limiting Activity in Patients with Metabolic Bone Disorders**
Frank Rauch, MD
Shriners Hospital for Children, Montreal, Canada
Disclosures: Other Financial or Material Support: Ultragenyx Pharmaceutical Inc.

NETWORKING BREAK

9:15 am - 9:45 am **Palais des congrès de Montréal**
ASBMR Discovery Hall - Exhibit Hall 220 B-E

POSTERS OPEN

9:30 am - 4:30 pm **Palais des congrès de Montréal**
ASBMR Discovery Hall - Exhibit Hall 220 B-E

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DISCOVERY HALL OPEN

9:30 am - 4:30 pm **Palais des congrès de Montréal**
ASBMR Discovery Hall - Exhibit Hall 220 B-E

PLENARY ORALS: JOHN H. CARSTENS MEMORIAL SESSION: OSTEOPOROSIS TREATMENT

9:45 am - 11:00 am **Palais des congrès de Montréal**
Room 210 A-F

Moderators

Juliet Compston, MD
University of Cambridge School of Clinical Medicine, United Kingdom

Michael McClung, MD
Oregon Osteoporosis Center, United States

9:45 am
1070

Change in BMD as a Surrogate for Fracture Risk Reduction in Osteoporosis Trials: Results from Pooled, Individual-level Patient Data from the FNIH Bone Quality Project

Dennis Black*¹, Eric Vittinghoff², Richard Eastell², Douglas Bauer¹, Li-Yung Lui³, Lisa Palermo¹, Charles McCulloch¹, Jane Cauley⁴, Sundeep Khosla⁵, Fernando Marin⁶, Anne De Papp⁷, Andreas Grauer⁸, Mary Bouxsein⁹. ¹University of California, San Francisco, United States, ²University of Sheffield, United Kingdom, ³California Pacific Medical Center, United States, ⁴University of Pittsburgh, United States, ⁵Mayo Clinic, United States, ⁶Eli Lilly and Company, Switzerland, ⁷Merck & Co., Inc., United States, ⁸Amgen, Inc., United States, ⁹Harvard Medical School, United States

Disclosures: Dennis Black, Radius Pharmaceutical, Consultant, Asahi-Kasei, Consultant, Roche Diagnostics, Speakers' Bureau

10:00 am
1071

Probiotic Treatment Using a Mix of Three Lactobacillus Strains Protects Against Lumbar Spine Bone Loss in Healthy Early Postmenopausal Women

Claes Ohlsson*¹, Dan Curia², Klara Sjögren¹, Per-Anders Jansson³. ¹Centre for Bone and Arthritis Research, Institute of Medicine, the Sahlgrenska Academy at University of Gothenburg, Sweden, ²CTC, Gothia Forum, Sahlgrenska University Hospital, Sweden, ³Department of Molecular and Clinical Medicine, the Sahlgrenska Academy, University of Gothenburg, Sweden

Disclosures: Claes Ohlsson, None

10:15 am
1072

ASBMR 2018 Annual Meeting Most Outstanding Clinical Abstract VK5211, a Novel Selective Androgen Receptor Modulator (SARM), Significantly Improves Lean Body Mass in Hip Fracture Patients: Results of a 12 Week Phase 2 Trial

Branko Ristic*¹, Vladimir Harhaji², Paul Dan Sirbu³, Moises Irizarry-Roman⁴, Gabor Bucs⁵, Istvan Sztanyi⁵, Neil Binkley⁶, Denise Orwig⁷, Joel Neutel⁸, Ken Homer⁸, Marianne Mancini⁹, Hiroko Masamune⁹, Geoff Barker⁹, Brian Lian⁹. ¹Clinical Center Kragujevac, Clinic for Orthopedics and Traumatology, Serbia, ²Clinical Center of Vojvodina, Clinic for Orthopedic Surgery and Traumatology, Serbia, ³County Hospital for Emergency Sfantul Spiridon Iasi, Clinical Section of Orthopedics and Traumatology, Romania, ⁴Infinite Clinical Research, United States, ⁵PTE ÁK Traumatology and Clinical Surgery, Hungary, ⁶University of Wisconsin School of Medicine and Public Health, United States, ⁷Department of Epidemiology and Public Health, University of Maryland School of Medicine, United States, ⁸Integrium Clinical Research, United States, ⁹Viking Therapeutics, Inc., United States

Disclosures: Branko Ristic, None

10:30 am
1073

Rapid and Large BMD Increases in Postmenopausal Women Treated With Combined High-Dose Teriparatide and Denosumab: The DATA-HD Randomized Controlled Trial

Benjamin Leder*¹, Hang Lee², Natalie David², Richard Eastell³, Tsai Joy². ¹Harvard Medical School, Massachusetts General Hospital, United States, ²Massachusetts General Hospital, United States, ³Mellanby Centre for Bone Research, United Kingdom

Disclosures: Benjamin Leder, Amgen, Grant/Research Support, Lilly, Grant/Research Support, Amgen, Consultant

10:45 am
1074

T-score as an Indicator of Fracture Risk on Therapy: Evidence From Romosozumab vs Alendronate Treatment in the ARCH Trial

Felicia Cosman*¹, E. Michael Lewiecki², Peter R. Ebeling³, Eric Hesse⁴, Nicola Napoli⁵, Daria B. Crittenden⁶, Maria Rojeski⁶, Wenjing Yang⁶, Cesar Libanati⁷, Serge Ferrari⁸. ¹Columbia University, United States, ²New Mexico Clinical Research & Osteoporosis Center, United States, ³Monash University, Australia, ⁴University Medical Center Hamburg-Eppendorf, Germany, ⁵Campus Bio-Medico University of Rome, Italy, ⁶Amgen Inc., United States, ⁷UCB Pharma, Belgium, ⁸Geneva University Hospital, Switzerland

Disclosures: Felicia Cosman, Amgen, Eli Lilly, Grant/Research Support, Amgen, Eli Lilly, Speakers' Bureau, Advisory Boards Amgen, Eli Lilly, Merck, and Radius, Other Financial or Material Support, Merck, Radius, Tarsa, Consultant

PLENARY ORALS: TRANSLATIONAL HIGHLIGHTS II

9:45 am - 11:00 am

Palais des congrès de Montréal
Room 517 A

Moderators

Jean Jiang, PhD

University of Texas Health Science Center at San Antonio, United States

Hiroshi Kawaguchi, MD

Japan Community Health Care Organization (JCHO) Tokyo Shinjuku Medical Center, Japan

- 9:45 am** **ASBMR 2018 Annual Meeting Young Investigator Award**
1075 **Breast Cancer Bone Metastases are Attenuated in a Tgfr1-deficient Bone Microenvironment**
Marie-Therese Haider*, Hiroaki Saito, Eric Hesse, Hanna Taipaleenmäki. Molecular Skeletal Biology Laboratory, Department of Trauma, Hand and Reconstructive Surgery, University Medical Center Hamburg-Eppendorf, Hamburg, Germany
Disclosures: Marie-Therese Haider, None
- 10:00 am** **TGF-beta inhibition restores the responsiveness to osteoanabolic PTH treatment in the Crtap-/- model of recessive Osteogenesis Imperfecta**
1076 Ingo Grafe*, Jennifer Zieba, Elda Munivez, Yuqing Chen, Ming-Ming Jiang, Brian Dawson, Carrie Jiang, Alexis Castellon, Joseph Slietka, Sandesh Nagamani, Brendan Lee. Department of Molecular and Human Genetics, Baylor College of Medicine, United States
Disclosures: Ingo Grafe, None
- 10:15 am** **Osteocyte Senescence Underlies the Increase in RANKL in Aged Mice via a GATA4 Mediated Mechanism**
1077 Ha-Neui Kim,*¹, Srividhya Iyer², Jianhui Chang², Li Han¹, Aaron Warren¹, Stavros Manolagas¹, Charles O'Brien¹, Daohong Zhou², Maria Almeida¹. ¹University of Arkansas for Medical Sciences and Central Arkansas Veterans Healthcare System, United States, ²University of Arkansas for Medical Sciences, United States
Disclosures: Ha-Neui Kim., None
- 10:30 am** **BLU-782; a highly selective ALK2 inhibitor, designed specifically to target the cause of fibrodysplasia ossificans progressiva**
1078 Alison Davis*¹, Brian Hodous², Timothy Labranche¹, Michael Sheets¹, Natasja Brooijmans¹, Joseph Kim¹, Brett Williams¹, Sean Kim¹, Lan Xu³, John Vassiliadis¹, Julia Zhu¹, Ruduan Wang¹, Rachel Stewart⁴, Paul Fleming⁵, Chris Graul⁴, Elliot Greenblatt⁴, Keith Bouchard⁶, Vivek Kadambi¹, Timothy Guzi¹, Jeffrey Hunter⁶, Christoph Lengauer¹, Marion Dorsch¹, Andrew Garner¹. ¹Blueprint Medicines, United States, ²Accent Therapeutics, United States, ³Foghorn Therapeutics, United States, ⁴Invivo, United States, ⁵Akebia Therapeutics, United States, ⁶Alexion Pharmaceuticals, United States
Disclosures: Alison Davis, Blueprint Medicines, Major Stock Shareholder
- 10:45 am** **Estrogen Deficiency and Cellular Senescence Represent Independent Mechanisms in the Pathogenesis of Osteoporosis: Evidence from Studies in Mice and Humans**
1079 Joshua Farr*, David Monroe, Daniel Fraser, Brittany Negley, Brianne Thicke, Jennifer Onken, Robert Pignolo, Tamar Tchkonja, James Kirkland, Sundeep Khosla. Mayo Clinic, United States
Disclosures: Joshua Farr, None

HANDS-ON WORKSHOP: HISTOMORPHOMETRY: AN INTERACTIVE INTRODUCTION

11:00 am - 12:00 pm

Palais des congrès de Montréal
Room 520 BE

Hands-on Workshops are ticketed events and require advance registration. Registration is not available onsite.

NEW! CUTTING EDGE TECHNOLOGIES: USING 3-D CELL CULTURE FOR IN VITRO/EX VIVO APPROACHES TO STUDY COMMUNICATION AMONG BONE/BONE MARROW CELLS

11:00 am - 12:00 pm

Palais des congrès de Montréal
Room 510

Co-Chairs

Teresita Bellido, PhD
Indiana University School of Medicine, United States
Disclosures: None

Liyun Wang PhD, University of Delaware, United States
Disclosures: None

11:00 am **In vitro 3D Cultures to Reproduce the Bone Marrow Niche**

Michaela Reagan, PhD
Maine Medical Center Research Institute, United States
Disclosures: None

11:20 am **Ex vivo Bone Organ Cultures to Maintain the 3D Osteocyte Network**

Jesus Delgado-Calle, PhD
Indiana University School of Medicine, United States
Disclosures: None

11:40 am **3D Ex Vivo Bone Models and Extracellular Vesicles Release**

X Guo PhD, Columbia University, United States
Disclosures: None

NEW! CHALLENGE THE EXPERTS: OTHER RARE BONE DISEASES

11:00 am - 12:00 pm

Palais des congrès de Montréal
Room 517 B

Co-Chairs

Dolores Shoback MD
VA Medical Center, United States
Consultant: Shire

Janet Lee, MD, MPH
University of California, San Francisco, United States
Disclosures: None

Panelist:

Michael Whyte, MD
Shriners Hospital for Children, United States
*Disclosures: Grant/Research Support: Ultragenyx Pharmaceutical Inc.
Consultant: Ultragenyx Pharmaceutical Inc.*

Panelist:

Leanne Ward, MD
Children's Hospital of Eastern Ontario, Canada
Disclosures: Grant/Research Support: Ultragenyx Pharmaceutical Inc.

Panelist:

Rachel Gafni, MD
National Institutes of Health, United States
Disclosures: None

GENOMICS FOR CLINICIANS

Session presented in collaboration with the International Federation of Musculoskeletal Research Societies (IFMRS)

11:00 am - 12:00 pm

**Palais des congrès de Montréal
Room 517 C**

The session will give clinicians a basic idea of how genomics and knowing their patient's genome and potential mutations can assist in their diagnosis and treatment.

Co-Chairs

Lynda Bonewald, PhD
Indiana University School of Medicine, United States
Disclosures: None

Fernando Rivadeneira MD, PhD
Erasmus University Medical Center, the Netherlands
Disclosures: None

11:00 am Next Generation Sequencing: Moving Beyond the Exome

Emily Farrow, PhD
Children's Mercy Hospital, United States
Disclosures: None

11:30 am Genomics for Clinicians

Emma Duncan, PhD, MBBS
Royal Brisbane and Women's Hospital, Australia
Disclosures: None

MEET THE PROFESSOR SESSIONS

11:00 am - 12:00 pm

Palais des congrès de Montréal

Meet the Professor: The Spectrum of Fundamental Basic Discoveries Contributing to Organismal Aging

Room 518 B

Joshua Farr PhD
Mayo Clinic, United States
Disclosures: None

Maria Jose Almeida PhD
Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, United States
Disclosures: None

Meet the Professor: Intravital Imaging of Osteoclast Dynamics

Room 518 A

Michelle McDonald, PhD
 The Garvan Institute of Medical Research, Australia
Disclosures: None

Meet the Professor: Skeletal Regeneration: Stem Cell Therapy

Room 519 B

Pamela Robey, PhD
 National Institute of Dental and Craniofacial Research, United States
Disclosures: None

Meet the Professor: Osteocyte Perilacunar-Canalicular Remodeling

Room 519 A

Anna Teti
 University of L Aquila, Italy
Disclosures: None

Meet the Professor: Mineral Balance and Tracer Methodologies in Clinical Research on Nutrition in Bone Health

Room 518 C

Kathleen Hill Gallant, PhD
 Purdue University, United States
Disclosures: Grant/Research Support: Chugai Pharmaceutical

Meet the Professor: Risk Prediction Models

Room 525

John Schousboe, MD, PhD
 Park Nicollet ClinicHealthPartners InstituteUniversity of Minnesota, United States
Disclosures: None

NETWORKING BREAK

12:00 pm - 12:30 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

POSTER SESSION II AND POSTER TOURS

12:30 pm - 2:30 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

All posters will be displayed in the ASBMR Discovery Hall - Exhibit Hall 220 B-E on Saturday, September 29 - Monday, October 1 during exhibit hall hours. For a full listing of all poster and late-breaking poster presentations, please refer to the poster section located in the back of the Onsite Program Book.

CONCURRENT ORALS: PEDIATRICS

2:30 pm - 4:00 pm

Palais des congrès de Montréal
Room 210 A-F

Moderators

Craig Langman, MD
 Ann & Robert H Lurie Childrens Hospital of Chicago, United States

Janet Crane, MD
 Johns Hopkins University, United States

2:30 pm
1080

ASBMR 2018 Annual Meeting Young Investigator Award

Lower CYP27B1 expression impairs osteoblasts activity in adolescent idiopathic scoliosis – a new insight to improve bone quality by vitamin D supplementation

Jia Jun Zhang^{*1,2}, Yujia Wang^{1,2}, Carol Cheng^{1,2}, Tsz Ping Lam^{1,2}, Bobby Kin-Wah Ng^{1,2}, Jack Chun-Yiu Cheng^{1,2}, Wayne Yuk-Wai Lee^{1,2}. ¹Department of Orthopaedics and Traumatology, SH Ho Scoliosis Research Laboratory, The Chinese University of Hong Kong, Hong Kong, ²Joint Scoliosis Research Center of the Chinese University of Hong Kong and Nanjing University, The Chinese University of Hong Kong, Hong Kong
Disclosures: Jia Jun Zhang, None

2:45 pm
1081

Age at Peak Fracture Rate Depends on Fracture Type and Trabecular/Cortical Dominance of Fracture Site – Expanding Explanations of Peak Fracture Rate beyond Lag in Mineralization

Bjorn Rosengren*, Daniel Jerrhag, Magnus Karlsson. Clinical and Molecular Osteoporosis Research Unit, Departments of Orthopedics and Clinical Sciences, Skane University Hospital and Lund University, Sweden
Disclosures: Bjorn Rosengren, None

3:00 pm
1082

ASBMR 2018 Annual Meeting Young Investigator Award
The COL1A1 Sp1 Variant and Bone Accrual in Childhood

Diana Cousminer^{*1}, Shana McCormack¹, Jonathan Mitchell¹, Alessandra Chesi¹, Joan Lappe², Heidi Kalkwar³, Sharon Oberfield⁴, Vicente Gilsanz⁵, John Shepherd⁶, Andrea Kelly¹, Benjamin Voight⁷, Babette Zemel¹, Struan Grant¹. ¹Children’s Hospital of Philadelphia, United States, ²Creighton University, United States, ³Cincinnati Children’s Hospital, United States, ⁴Columbia University, United States, ⁵Children’s Hospital of Los Angeles, United States, ⁶University of Hawaii, United States, ⁷University of Pennsylvania, United States
Disclosures: Diana Cousminer, None

3:15 pm
1083

ASBMR 2018 Fund for Research and Education Young Investigator Award
Reliability of annual changes and monitoring time intervals for bone strength, size, density and micro-architectural development at the distal radius and tibia in children: A 1-year HR-pQCT follow-up

Amy Bunyamin^{*1}, Kelsey Björkman², Chantal Kawalilak¹, Seyedmahdi Hosseinatababaei³, Adrian Teare¹, James Johnston¹, Saija Kontulainen². ¹Department of Mechanical Engineering, College of Engineering, University of Saskatchewan, Canada, ²College of Kinesiology, University of Saskatchewan, Canada, ³Division of Biomedical Engineering, College of Engineering, University of Saskatchewan, Canada
Disclosures: Amy Bunyamin, None

3:30 pm
1084

Glycemic Control Influences Trabecular Microarchitecture in Youth with Type 1 Diabetes

Deborah Mitchell^{*1}, Signe Caksa², Amy Yuan², Mary Bouxsein², Madhusmita Misra¹. ¹Pediatric Endocrine Unit, Massachusetts General Hospital, United States, ²Endocrine Unit, Massachusetts General Hospital, United States
Disclosures: Deborah Mitchell, None

3:45 pm
1085

A common SNP in the CYP2R1 promoter decreases transcriptional activity and is associated with low serum 25(OH)D levels and reduced responsiveness to vitamin D supplementation.

Jeffrey Roizen^{*1}, Alex Casella², Caela Long¹, Zahra Tara¹, Meizan Lai¹, Hakon Hakonarson¹, Michael Levine¹. ¹The Children’s Hospital of Philadelphia, United States, ²University of Maryland, United States
Disclosures: Jeffrey Roizen, None

CONCURRENT ORALS: OSTEOBLASTS

2:30 pm - 4:00 pm

Palais des congrès de Montréal
Room 517 D

Moderator

Francesca Gori, PhD
Harvard School of Dental Medicine, United States

Moderator

Fayaz Safadi, PhD
Northeast Ohio Medical University, United States

- 2:30 pm**
1086 **YAP and TAZ deletion in mature osteoblasts reduce bone formation and increase marrow adipocyte accumulation**
Mengrui Wu*¹, Joshua Chou², Dorothy Hu¹, Kenichi Nagano¹, Daniel Brooks³, Mary Boussein³, Francesca Gori¹, Roland Baron¹. ¹Harvard School of Dental medicine, United States, ²University of Technology Sydney, Austria, ³Beth Israel Deaconess Medical Center, United States
Disclosures: Mengrui Wu, None
- 2:45 pm**
1087 **ASBMR 2018 Annual Meeting Young Investigator Award**
The Wnt Agonist R-spondin 3: An Unexpected Negative Regulator of Bone Formation
Kenichi Nagano*², Kei Yamana², Hiroaki Saito², Virginia Parkman², Jun Guo¹, Henry Kronenberg¹, Francesca Gori², Roland Baron². ¹Endocrine Unit, Massachusetts General Hospital, United States, ²Division of Bone and mineral Research, Harvard Medical School and Harvard School of Dental Medicine., United States
Disclosures: Kenichi Nagano, None
- 3:00 pm**
1088 **EZH2 is Regulated by the MiR-23a Cluster to Maintain Bone Mass In Vivo**
Benjamin Wildman*, Tanner Godfrey, Mohammad Rehan, Yuechuan Chen, Quamarul Hassan. University of Alabama at Birmingham, Institute of Oral Health Research, United States
Disclosures: Benjamin Wildman, None
- 3:15 pm**
1089 **Versatile Transcriptional Co-Factor Jab1 is Required for Osteoblast Differentiation and Postnatal Bone Growth**
William Samsa*, Murali Mamidi, Lindsay Bashur, David Danielpour, Guang Zhou. Case Western Reserve University, United States
Disclosures: William Samsa, None
- 3:30 pm**
1090 **Transcription Factor 7 like 2 (TCF7L2) is a Novel Regulator of Osteoblast Functions and Peak Bone Mass in Mice**
Chandrasekhar Kesavan*¹, Nagraj Puppali², Nikita Bajwa², Subburaman Mohan¹. ¹VA Loma Linda Healthcare System, Loma Linda University, United States, ²VA Loma Linda Healthcare System, United States
Disclosures: Chandrasekhar Kesavan, None
- 3:45 pm**
1091 **Osteoblast-intrinsic IRE1a/XBP1s Signaling Regulates Bone Development and Bone Marrow Homeostasis**
Hongjiao Ouyang*¹, Shankar Revu², Kai Liu², Yuqiao Zhou², Qi Han¹, Faisal Alshalawy¹, Yuji Mishina³, Alejandro Almaraz², Donna Stolz², Konstantinos Verdelis², Randal Kaufman⁴. ¹Texas A&M University, United States, ²University of Pittsburgh, United States, ³University of Michigan, United States, ⁴Sanford-Burnham-Prebys Medical Discovery Institute, United States
Disclosures: Hongjiao Ouyang, None

Sunday

CONCURRENT ORALS: OSTEOCYTES AND BONE DEVELOPMENT

2:30 pm - 4:00 pm

Palais des congrès de Montréal

Room 517 B

Moderators

Angela Bruzzaniti, PhD

Indiana University School of Dentistry, United States

Daniel Perrien, PhD

Vanderbilt University Medical Center, United States

2:30 pm **Osteocyte Notch3 is Responsible for the Osteopenia of Lateral Meningocele Syndrome (LMS)**
1092

Ernesto Canalis*, Jungeun Yu, Lauren Schilling, Stefano Zanotti. UConn Health, United States

Disclosures: Ernesto Canalis, None

2:45 pm **Tgfr1-mediated Repression of PAK3 Supports Osteocyte Spreading**
1093

Simona Bolamperti*¹, Hiroaki Saito¹, Antonio Virgilio Failla², Hanna Taipaleenmäki¹, Eric Hesse¹. ¹Molecular Skeletal Biology Laboratory, Department of Trauma, Hand and Reconstructive Surgery, University Medical Center Hamburg-Eppendorf, Germany, ²Microscopy Imaging Facility, University Medical Center Hamburg-Eppendorf, Germany

Disclosures: Simona Bolamperti, None

3:00 pm **Osteocytic Kindlin-2 regulates bone mass accrual and maintenance and mediates skeletal response to mechanical loading and PTH anabolism**
1094

Huiling Cao*¹, Qinnan Yan¹, Dong Wang², Yumei Lai², Simin Lin¹, Yimin Lei¹, Liting Ma¹, Yuxi Guo¹, Yishu Wang¹, Yilin Wang¹, Huanqing Gao¹, Xiaochun Bai³, Chuanju Liu⁴, Jian Q. Feng³, Chuanyue Wu¹, Di Chen², Guozhi Xiao¹. ¹Department of Biology and Guangdong Provincial Key Laboratory of Cell Microenvironment and Disease Research, Southern University of Science and Technology, China, ²Department of Orthopedic Surgery, Rush University Medical Center, United States, ³Department of Cell Biology, School of Basic Medical Sciences, Southern Medical University, China, ⁴Department of Orthopedic Surgery, New York University School of Medicine, United States, ⁵Department of Biomedical Sciences, Texas A&M University College of Dentistry, United States

Disclosures: Huiling Cao, None

3:15 pm **ASBMR 2018 Annual Meeting Young Investigator Award**
1095 **Specific Gut Bacterium Alters Commensal Microbiota Immunomodulatory Actions Regulating Skeletal Development**

Jessica Hathaway-Schrader*, Nicole Poulides, Sakamuri Reddy, Caroline Westwater, Chad Novince. Medical University of South Carolina, United States

Disclosures: Jessica Hathaway-Schrader, None

3:30 pm **ASBMR 2018 Annual Meeting Young Investigator Award**
1096 **Haploid Embryonic Stem Cell-Mediated Targeted Genetic Screening In Vivo Identifies Novel Factors for Bone Development**

Yujiao Han*, Weiguo Zou. Shanghai Institute of Biochemistry and Cell Biology, China

Disclosures: Yujiao Han, None

3:45 pm **A Novel In Vitro Fluidic Approach to Measuring the Apoptotic Bystander Effect in Osteocyte Networks**
1097

Sean Mccutcheon*¹, Robert Majeska², David Spray¹, Maribel Vazquez², Mitchell Schaffler². ¹Albert Einstein College of Medicine, United States, ²The City College of New York, United States

Disclosures: Sean Mccutcheon, None

CONCURRENT ORALS: PRECLINICAL MODELS: NUTRITION AND PHARMACOLOGY

2:30 pm - 4:00 pm

Palais des congrès de Montréal
Room 517 A

Moderator

Jesus Delgado-Calle, PhD
Indiana University School of Medicine, United States

Moderator

Mary Boussein PhD
Beth Israel Deaconess Medical Center, Harvard Medical School, United States

- 2:30 pm** **ASBMR 2018 Annual Meeting Young Investigator Award**
1098 **Fracture targeted PTHR1 agonists for accelerated bone repair**
Stewart Low*¹, Jeffery Nielsen², Philip Low². ¹Purdue, United States, ²Purdue University, United States
Disclosures: Stewart Low, None
- 2:45 pm** **Mechanical stimulation prevents the decline in anabolic response to prolonged**
1099 **Sclerostin-neutralizing antibodies exposure**
Maude Gerbaix*, Serge Ferrari. Division of Bone Diseases, Geneva University Hospitals and Faculty of Medicine, Switzerland
Disclosures: Maude Gerbaix, None
- 3:00 pm** **ASBMR 2018 Annual Meeting Young Investigator Award**
1100 **An Anti-Angiogenic Agent Induced Osteonecrosis of the Jaw-Like Lesions in Rice Rats (Oryzomys palustris)**
Jonathan Messer*, Jessica Jiron, Abel Abraham, Evelyn Castillo, Josh Yarrow, Don Kimmel, J Ignacio Aguirre. University of Florida, United States
Disclosures: Jonathan Messer, None
- 3:15 pm** **Spinal loading regulates bone remodeling and angiogenesis in a mouse model of**
1101 **postmenopausal osteoporosis**
Xinle Li*¹, Jie Li¹, Daquan Liu¹, Hiroki Yokota², Ping Zhang¹. ¹Department of Anatomy and Histology, School of Basic Medical Sciences, Tianjin Medical University, Tianjin 300070, China, ²Department of Biomedical Engineering, Indiana University-Purdue University Indianapolis, IN 46202, United States
Disclosures: Xinle Li, None
- 3:30 pm** **ASBMR 2018 Annual Meeting Young Investigator Award**
1102 **Low Affinity Bisphosphonate Exerts a Strong Anabolic Effect on Trabecular Bone**
Abigail Coffman*¹, Robert J. Majeska¹, Jelena Basta-Pljakic¹, Mark W. Lundy², Frank H. Ebetino³, Mitchell B. Schaffler¹. ¹City College of New York, United States, ²Indiana University School of Medicine, United States, ³University of Rochester, United States
Disclosures: Abigail Coffman, None
- 3:45 pm** **Siglec-15-Targeting Therapy Increases Bone Mass in Rats and Is a Potential**
1103 **Therapeutic Strategy for Juvenile Osteoporosis**
Dai Sato*¹, Masahiko Takahata¹, Masahiro Ota¹, Chie Fukuda², Eisuke Tsuda², Tomohiro Shimizu¹, Hiroki Hamano¹, Sigeto Hiratsuka¹, Akiko Okada², Ryo Fujita¹, Norio Amizuka³, Tomoka Hasegawa³, Nrimasa Iwasaki¹. ¹Department of Orthopaedic Surgery, Faculty of Medicine and Graduate School of Medicine, Hokkaido University, Japan, ²Rare Disease Laboratories, Daiichi Sankyo Co., Ltd., Japan, ³Hokkaido University, Department of Developmental Biology of Hard Tissue, Graduate School of Dental Medicine, Japan
Disclosures: Dai Sato, Daiichi Sankyo Co., Ltd, Other Financial or Material Support

Sunday

NETWORKING BREAK

4:00 pm - 4:30 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

CONCURRENT ORALS: REGULATION OF BONE FORMATION AND MINERALIZATION

4:30 pm - 5:45 pm

Palais des congrès de Montréal
Room 517 B

Moderator

Richard Kremer, MD, PhD
McGill University Health Center, Royal Victoria Hospital, Canada

Moderator

Kurt Hankenson DVM, PhD
University of Michigan, United States

4:30 pm 1104 Peri-Lacunar/Canalicular (PLC) Remodeling Enhances Mechano-Sensitivity in Rat Maternal Bone when Subjected to Estrogen Deficiency

Yihan Li^{*1}, Chantal De Bakker¹, Wei-Ju Tseng¹, Hongbo Zhao¹, Ashutosh Parajuli², Liyun Wang², X. Sherry Liu¹. ¹University of Pennsylvania, United States, ²University of Delaware, United States

Disclosures: Yihan Li, None

4:45 pm 1105 Deletion of Prostaglandin E2 (PGE2) Receptor EP4 in Myeloid Lineage Cells Restores the Anabolic Effects of Continuous PTH in Mice

Shilpa Choudhary^{*}, Joseph Lorenzo, Carol Pilbeam. Musculoskeletal Institute & Department of Medicine, UConn Health, United States

Disclosures: Shilpa Choudhary, None

5:00 pm 1106 The Gut Microbiota Is Required For The Anabolic And Catabolic Effects Of PTH In Bone

Jau-Yi Li^{*}, Mingcan Yu, Abdul Malik Tyagi, Chiara Vaccaro, Jonathan Adams, Rheinallt M. Jones, Roberto Pacifici. School of Medicine, Emory University, United States

Disclosures: Jau-Yi Li, None

5:15 pm 1107 Impaired 1,25 dihydroxyvitamin D action underlies the development of enthesopathy in the Hyp mouse model of XLH

Eva Liu^{*1}, Janaina Martins², Marie Demay². ¹Brigham and Women's Hospital, MGH, and Harvard Medical School, United States, ²Massachusetts General Hospital and Harvard Medical School, United States

Disclosures: Eva Liu, None

5:30 pm 1108 ASBMR 2018 Annual Meeting Young Investigator Award Irisin Deficiency Disturbs Bone Metabolism

Zoe (Xiaofang) Zhu^{*1,2}, Jake (Jinkun) Chen^{3,4}, Guofang Shen⁵, Qisheng Tu¹. ¹Tufts University School of Dental Medicine, United States, ²Shanghai Jiaotong Univ., China, ³Division of Oral Biology Tufts University School of Dental Medicine, United States, ⁴Department of Developmental, Molecular and Chemical Biology Sackler School of Graduate Biomedical Sciences Tufts University School of Medicine, United States, ⁵Shanghai Jiaotong Univ., China

Disclosures: Zoe (Xiaofang) Zhu, None

CONCURRENT ORALS: BONE IMAGING

4:30 pm - 5:45 pm

Palais des congrès de Montréal
Room 517 D

Moderators

Didier Hans, PhD

Lausanne University Hospital, Switzerland

Andrew Burghardt

University of California, San Francisco, United States

4:30 pm
1109

Deficits in cortical and trabecular bone microarchitecture increase short-term risk of fracture independently of DXA BMD and FRAX: The Bone Microarchitecture International Consortium (BoMIC)

Elizabeth Samelson*¹, Serkalem Demissie², Jonathan Adachi³, Shreyasee Amin⁴, Elizabeth Atkinson⁴, Claudie Berger⁵, Emmanuel Biver⁶, Steven Boyd⁷, Lauren Burt⁷, Roland Chapurlat⁸, Thierry Chevalley⁶, Serge Ferrari⁶, David Goltzman⁹, David Hanley⁷, Ching-Ti Liu¹⁰, Marian Hannan¹, Sundeep Khosla⁴, Mattias Lorentzon¹¹, Dan Mellstrom¹², Blandine Merle¹³, Maria Nethander^{14,15}, Claes Ohlsson¹⁵, René Rizzoli⁶, Elisabeth Sornay-Rendu¹³, Daniel Sundh¹¹, Pawel Szulc¹⁶, Bert Van Rietbergen¹⁷, Andy Wong¹⁸, Hanfei Xu², Laiji Yang¹⁹, Mary Bouxsein²⁰, Douglas Kiel¹. ¹Institute for Aging Research, Hebrew SeniorLife, Harvard Medical School, United States, ²Department of Biostatistics, Boston University School of Public Health, United States, ³Department of Medicine, Michael G. DeGroot School of Medicine, St Joseph's Healthcare - McMaster University, Canada, ⁴Mayo Clinic College of Medicine, United States, ⁵Research Institute of the McGill University Health Centre, Canada, ⁶Division of Bone Diseases, Geneva University Hospitals and Faculty of Medicine, Switzerland, ⁷McCaig Institute for Bone and Joint Health, Canada, ⁸INSERM UMR 1033, Université de Lyon, Hospices Civils de Lyon, Lyon, France, ⁹Departments of Medicine, McGill University and McGill University Health Centre, Canada, ¹⁰Boston University School of Public Health, United States, ¹¹Geriatric Medicine, Centre for Bone and Arthritis Research, Institute of Medicine, University of Gothenburg, Sweden, ¹²Geriatric Medicine, Centre for Bone and Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, ¹³INSERM UMR 1033, Pavillon F, Hôpital E Herriot, France, ¹⁴Bioinformatics Core Facility, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden, ¹⁵Centre for Bone and Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden, ¹⁶INSERM UMR1033, University of Lyon, Hôpital Edouard Herriot, France, ¹⁷Department of Biomedical Engineering, Eindhoven University of Technology, Netherlands, ¹⁸Toronto General Hospital, Canada, ¹⁹Institute for Aging Research, Hebrew SeniorLife, United States, ²⁰Dept of Orthopedic Surgery, Harvard Medical School, Center for Advanced Orthopedic Studies, BIDMC, United States

Disclosures: Elizabeth Samelson, None

Sunday

4:45 pm

1110

Prediction of Incident Hip Fracture: Can we do Better than Femoral Neck aBMD? A Comprehensive Image-Based Assessment in Men and Women

Julio Carballido-Gamio*¹, Sigurdur Sigurdsson², Kristín Siggeirsdottir², Alexandria Jensen^{1,3}, Gunnar Sigurdsson^{2,4,5}, Thor Aspelund^{2,6}, Gudny Eiriksdottir², Vilmondur Gudnason^{2,4}, Thomas F Lang⁷, Tamara B Harris⁸. ¹Department of Radiology, School of Medicine, University of Colorado Denver, Denver, CO, United States, ²Icelandic Heart Association Research Institute, Kópavogur, Iceland, ³Department of Biostatistics & Informatics, Colorado School of Public Health, Aurora, CO, United States, ⁴University of Iceland, Reykjavik, Iceland, ⁵Landspítalinn University Hospital, Reykjavik, Iceland, ⁶Centre of Public Health Sciences, University of Iceland, Reykjavik, Iceland, ⁷Department of Radiology and Biomedical Imaging, University of California, San Francisco, CA, United States, ⁸National Institute on Aging, Intramural Research Program, Laboratory of Epidemiology and Population Sciences, Bethesda, MD, United States

Disclosures: Julio Carballido-Gamio, None

5:00 pm

1111

Deterioration of Bone Microstructure Identifies Women at Imminent Risk of Fragility Fractures

Roland Chapurlat*¹, Elisabeth Sornay-Rendu¹, Roger Zebaze², Minh Bui², Eric Lespessailles³, Ego Seeman². ¹INSERM UMR 1033, France, ²University of Melbourne, Australia, ³IPROS, France

Disclosures: Roland Chapurlat, None

5:15 pm

1112

Prevalent Vertebral Fracture Identified on Densitometric Images Predict Incident Fractures in Routine Clinical Practice

John Schousboe*¹, Lisa Lix², Suzanne Morin³, Sheldon Derkach², Mark Bryanton², Mashael Alhrbi², William Leslie². ¹Park Nicollet Clinic and HealthPartners Institute, United States, ²University of Manitoba, Canada, ³McGill University, Canada

Disclosures: John Schousboe, None

5:30 pm

1113

ASBMR 2018 Annual Meeting Young Investigator Award

Screening for Incomplete Atypical Femur Fractures in Bone Density Laboratories

Sameh Melk*, Robert Bleakney, Lianne Tile, Rowena Ridout, Heather McDonald-Blumer, Angela Cheung, Moira Kapral., Judite Scher., Alice Demaras. UHN, Canada

Disclosures: Sameh Melk, None

CONCURRENT ORALS: EPIDEMIOLOGY

4:30 pm - 5:45 pm

Palais des congrès de Montréal

Room 517 C

Moderators

Sarah Berry, MD, MPH

Hebrew SeniorLife/Beth Israel Deaconess Medical Center, United States

Roger Bouillon, MD, PhD

Katholieke Universiteit Leuven, Belgium

- 4:30 pm
1114** **Genomic Prediction of Osteoporosis Using 426,000 Individuals from UK Biobank**
 Vincenzo Forgetta^{*1}, Julyan Keller-Baruch², Marie Forest¹, Audrey Durand³, Sahir Bhatnagar⁴, John Kemp⁵, John Morris¹, John Kanis^{6,7}, Douglas Kiel⁸, Eugene McCloskey⁹, Helena Johannson^{6,7}, Nicholas Harvey¹⁰, Dave Evans⁵, Joelle Pineau³, William Leslie¹¹, Celia M T Greenwood², J Brent Richards². ¹Centre for Clinical Epidemiology, Lady Davis Institute, Jewish General Hospital, McGill University, Canada, ²Department of Human Genetics, McGill University, Canada, ³School of Computer Science, McGill University, Canada, ⁴Centre for Clinical Epidemiology, Lady Davis Institute, Jewish General Hospital, Canada, ⁵University of Queensland Diamantina Institute, Translational Research Institute, MRC Integrative Epidemiology Unit, University of Bristol, Australia, ⁶Centre for Metabolic Bone Diseases, University of Sheffield, United Kingdom, ⁷Australian Catholic University, United Kingdom, ⁸Institute for Aging Research, Hebrew SeniorLife, Harvard Medical School, Broad Institute of MIT & Harvard, United States, ⁹Mellanby Centre for Bone Research, Centre for Integrated Research in Musculoskeletal Ageing, University of Sheffield, United Kingdom, ¹⁰Medical Research Council Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ¹¹Department of Medicine (Endocrinology), Department of Radiology (Nuclear Medicine), University of Manitoba, Canada
Disclosures: Vincenzo Forgetta, None
- 4:45 pm
1115** **Excess intra-abdominal adipose tissue accumulation increases the risk of fragility fracture: A Mendelian randomization study with Genome-wide association meta-analysis on fracture**
 Yi-Hsiang Hsu^{*1}, Chia-Yen Chen², Ching-Ti Li³, Douglas Kiel⁴. ¹Harvard Medical School and Broad Institute of MIT and Harvard, United States, ²Analytic and Translational Genetics Unit, Massachusetts General Hospital, United States, ³Dept. Biostatistics, School of Public Health, Boston Univ., United States, ⁴Hebrew SeniorLife and Harvard Medical School, United States
Disclosures: Yi-Hsiang Hsu, None
- 5:00 pm
1116** **ASBMR 2018 Annual Meeting Young Investigator Award
Serum 25-Hydroxyvitamin D Values and Risk of Incident Cardiovascular Disease: A Population-Based Retrospective Cohort Study**
 Daniel Dudenkov^{*}, Kristin Mara, Tanya Petterson, Julie Maxson, Tom Thacher. Mayo Clinic, United States
Disclosures: Daniel Dudenkov, None
- 5:15 pm
1117** **ASBMR 2018 Annual Meeting Young Investigator Award
Estradiol and Follicle Stimulating Hormone as Predictors of Onset of Menopause Transition- related Bone Loss in Pre- and Perimenopausal Women**
 Albert Shieh^{*1}, Gail Greendale¹, Jane Cauley², Carrie Karvonen-Gutierrez³, Carolyn Crandall¹, Arun Karlamangla¹. ¹University of California, Los Angeles, United States, ²University of Pittsburgh, United States, ³University of Michigan, United States
Disclosures: Albert Shieh, None
- 5:30 pm
1118** **The Association between Objectively Measured Physical Activity and Bone Strength and Microarchitecture Among Older Men**
 Lisa Langsetmo^{*1}, Andrew Burghard², John Schousboe¹, Peggy Cawthon², Jane Cauley³, Nancy Lane⁴, Kristine Ensrud⁵, Eric Orwoll⁶. ¹University of Minnesota, United States, ²University of California, San Francisco, United States, ³University of Pittsburgh, United States, ⁴University of California, Davis, United States, ⁵University of Minnesota, Minneapolis VA Health Care System, United States, ⁶Oregon Health and Science University, United States
Disclosures: Lisa Langsetmo, None

CONCURRENT ORALS: ENERGY METABOLISM, BONE, MUSCLE AND FAT II

4:30 pm - 5:45 pm

Palais des congrès de Montréal
Room 517 A

Moderators

Elaine Yu, MD

Massachusetts General Hospital, United States

Yousef Abu-Amer, PhD

Washington University in St. Louis School of Medicine, United States

4:30 pm
1119

Lower Insulin Sensitivity in Patients With High Bone Mass due to a LRP5/2531 mutation

Jens-Jacob Lindegaard Lauterlein*, Anne Pernille Hermann, Moustapha Kassem, Kurt Højlund, Morten Frost. Department of Endocrinology and Metabolism, Odense University Hospital, Odense, Denmark

Disclosures: Jens-Jacob Lindegaard Lauterlein, None

4:45 pm
1120

Genetic and epigenetic defects at the GNAS locus lead to distinct patterns of skeletal growth but similar early-onset obesity

Patrick Hanna*¹, Harald Jüppner², Guiomar Perez De Nanclares³, Giovanna Mantovani⁴, Alessia Usardi⁵, Susanne Thiele⁶, Agnès Linglart⁷. ¹INSERM U1169 and Paris Sud Paris-Saclay university, Bicêtre Paris Sud hospital, France, ²Endocrine Unit and Pediatric Nephrology Unit, Massachusetts General Hospital and Harvard Medical School, United States, ³Molecular (Epi)Genetics Laboratory BioAraba National Health Institute, OSI Araba University Hospital, Spain, ⁴Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico Endocrinology and Diabetology Unit, Department of Clinical Sciences and Community Health, University of Milan, Italy, ⁵APHP, Reference Center for rare disorders of the calcium and phosphate metabolism, filière OSCAR and Plateforme d'Expertise Maladies Rares Paris-Sud, Bicêtre Paris Sud hospital, France, ⁶Division of Experimental Pediatric Endocrinology and Diabetes Department of Pediatrics, Center of brain, behavior and metabolism, University of Lübeck, Germany, ⁷APHP, Endocrinology and diabetes for children, Bicêtre Paris Sud hospital, France

Disclosures: Patrick Hanna, None

5:00 pm
1121

Sclerostin Resistance Protects Bone Mass and Improves Insulin Sensitivity in a Mouse Model of Type 1 Diabetes

Giulia Leanza*^{1,2}, Francesca Fontana², Rocky Strollo¹, Paolo Pozzilli¹, Nicola Napoli^{1,2}, Roberto Civitelli². ¹Campus Bio-Medico University, Italy, ²Washington University in St Louis, United States

Disclosures: Giulia Leanza, None

5:15 pm
1122

AdipoRon, an Adiponectin Receptor Agonist, Ameliorates Diabetic Bone Disorders by Inhibiting Osteoclastogenesis and Promoting Bone Formation

Xingwen Wu*^{1,2}, Maxwell Tu¹, Wei Qiu¹, Junxiang Lian¹, Youcheng Yu², Jake Chen^{1,3}.

¹Division of Oral Biology, Tufts University School of Dental Medicine, United States,

²Department of dentistry, Zhongshan hospital, Fudan University, China, ³Department of Developmental, Molecular and Chemical Biology Sackler School of Graduate Biomedical Sciences Tufts University School of Medicine, United States

Disclosures: Xingwen Wu, None

5:30 pm **Selective Deletion of Marrow Adipocytes Leads to Increased Mesenchymal Precursors, a Shift in Lineage Allocation, and Increased Bone Mass with Improved Bone Biomechanics**
1123
 Steven Tommasini*¹, Tracy Nelson¹, Chad Faulkner-Filosa¹, Matthew Rodeheffer¹, Clifford Rosen², Dieter Lindskog¹, Mark Horowitz¹. ¹Yale University School of Medicine, United States, ²Maine Medical Center Research Institute, United States
Disclosures: Steven Tommasini, None

ASBMR TOWN HALL MEETING AND RECEPTION

6:00 pm - 7:00 pm **Palais des congrès de Montréal**
Room 510

You are invited to attend the ASBMR Town Hall Meeting and Reception at which you will learn about the Society, including the year in review, planned activities, strategic directions and leadership opportunities. Come learn more about ASBMR, meet with ASBMR leadership, ask questions during an “open-mic” time and enjoy a wine and cheese reception.

DIVERSITY IN BONE AND MINERAL RESEARCH NETWORKING RECEPTION

Sponsored by the ASBMR Diversity Subcommittee and Membership Engagement and Education Committee

7:00 pm - 8:30 pm **Le Westin Hotel**
Palais Room

This reception provides attendees the opportunity to meet other attendees and ASBMR leadership, including the ASBMR Diversity in Bone and Mineral Research Subcommittee, in an interactive environment. Come to network, celebrate diverse members of ASBMR, and learn how the Diversity in Bone and Mineral Research Subcommittee is working to promote inclusiveness and participation of the Society’s diverse members, particularly focusing on individuals from underrepresented racial and ethnic groups and individuals with disabilities. This year’s event will also feature a short presentation, “*How Diversity Became My Strong Power,*” by Patricia Juárez Camacho, Ph.D. Assistant Professor at the Center for Scientific Research and Higher Education in Ensenada, México, and 2016 ASBMR Rising Star Award recipient.

BONE TURNOVER MARKERS WORKING GROUP

7:15 pm - 9:15 pm **Palais des congrès de Montréal**
Room 520 C

Debate on advances in bone markers.
 This year the Working Group Meeting will address the development of potential bone markers such as microRNAs as well as the current advances in harmonization of methods of different assays for the measurement of PINP and CTX. Also, the clinical utility of bone turnover markers will be discussed. A lively debate on these topics is expected.

- 7:15 pm** **Welcome and Introduction**
 Richard Eastell, MD. Mellanby Centre for Bone Research, University of Sheffield, UK.,
 Núria Guañabens, MD., Hospital Clínic, University of Barcelona, Spain.
- 7:20 pm** **Non-coding RNAs as prediction tools in osteoporosis.**
 Matthias Hackl, PhD., TAmiRNA, Vienna, Austria.
- 7:50 pm** **Progress with the harmonization of CTX and PINP assays by IOF/IFCC**
 Etienne Cavalier, PhD., Department of Clinical Chemistry, University of Liège, Belgium.

- 8:20 pm** **Clinical utility of bone turnover markers: update on NBHA initiatives**
Stuart Silverman, MD., Cedars-Sinai Medical Center and UCLA School of Medicine,
CA, USA.
- 9:00 pm** **Closing Remarks**
-

2018 WORKING GROUP ON AGING

- 7:15 pm - 9:30 pm** **Palais des congrès de Montréal**
Room 520 F
-

Moderated by: Lynda Bonewald, Ph.D. and Sundeep Khosla, M.D.

- 7:15 pm** Sit down Dinner and informal discussions
- 7:30 pm** **Novel Biomarkers for Aging**
Eric Orwoll, Oregon Health Sciences University, USA
- 8:00 pm** **Age-Related Frailty and Muscle Dysfunction**
Nathan LeBresseur, Mayo Clinic, USA
- 8:30 pm** **Effects of Aging on the Osteocyte Lacunocanalicular Network**
Sarah Dallas, University of Missouri, USA
- 9:00 pm** Open Discussion
-

PEDIATRIC BONE AND MINERAL WORKING GROUP

Supported by educational grants from Biomarin and Ultragenyx

- 7:15 pm - 9:30 pm** **Palais des congrès de Montréal**
Room 520 B-E
-

- 7:15 pm** Opening Remarks and Dinner
- 7:20 pm** **Tribute to Professor Judith Adams**
Kate Ward PhD, BSc(Hons) Associate Professor MRC Lifecourse Epidemiology Unit,
University of Southampton
- 7:25 pm** **“The Natural History of Achondroplasia: The largest multicenter registry to date and its insights into growth and surgical burden.”**
Michael B. Bober, M.D., PhD. Director, Skeletal Dysplasia Program A.I. DuPont
Hospital for Children Professor of Pediatrics Stanley Kimmel Medical College of
Thomas Jefferson University
- 8:05 pm** **“Differentiating abusive from accidental trauma in children with suspected bone fragility”**
Mary Clyde Pierce, MD Professor of Pediatrics Feinberg School of Medicine-
Northwestern University Ann & Robert H. Lurie Children’s Hospital of Chicago
- 8:45 pm** **Oral Scientific Abstracts Presentation**
- 9:25 pm** Closing Remarks

MONDAY, OCTOBER 1, 2018

DAY-AT-A-GLANCE

Time/Event/Location

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Industry Supported Symposium: X-Linked Hypophosphatemia: Integrating New Evidence to Optimize Diagnosis and Treatment	
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Registration Open	
<i>Viger Hall - Level 2</i>	
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Concurrent Orals: Musculoskeletal Development	
<i>Room 517 C</i>	
8:00 am - 9:30 am	61
Concurrent Orals: Osteoclasts and Osteoblasts	
<i>Room 517 B</i>	
8:00 am - 9:30 am	62
Concurrent Orals: Greg Mundy Memorial Session - Bone Tumors and Metastasis	
<i>Room 517 D</i>	
8:00 am - 9:30 am	63
Concurrent Orals: Secondary Causes of Skeletal Fragility	
<i>Room 517 A</i>	
9:30 am - 9:45 am	64
Networking Break	
<i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
9:30 am - 2:00 pm	64
Posters Open	
<i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
9:30 am - 2:30 pm	65
Discovery Hall Open	
<i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
9:45 am - 11:00 am	65
Plenary Orals: Mesenchymal Stem Cell Development and Pathogenesis	
<i>Room 517 D</i>	
9:45 am - 11:00 am	66
Plenary Orals: Rare Bone Diseases	
<i>Room 517 A</i>	
11:00 am - 11:15 am	67
Networking Break	
<i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
11:15 am - 12:00 pm	67
Late-Breaking Concurrent Orals: Basic	
<i>Room 517 C</i>	
11:15 am - 12:00 pm	68
Late-Breaking Concurrent Orals: Clinical	
<i>Room 517 A</i>	

11:15 am - 12:00 pm	69
Late-Breaking Concurrent Orals: Clinical Rare Bone Diseases	
<i>Room 517 D</i>	
11:15 am - 12:00 pm	71
Late-Breaking Concurrent Orals: Translational	
<i>Room 517 B</i>	
12:00 pm - 2:00 pm.....	71
Poster Session III	
<i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
12:00 pm - 2:00 pm.....	71
Late-Breaking Posters III	
<i>ASBMR Discovery Hall - Exhibit Hall 220 B-E</i>	
2:00 pm - 3:15 pm.....	72
Symposium: Senescence and Aging Bone	
<i>Room 517 D</i>	
2:00 pm - 3:15 pm.....	72
Symposium: Multimorbidity and Its Impact on Clinical Management	
<i>Room 517 A</i>	
3:15 pm - 4:00 pm.....	72
Closing Reception	
<i>Foyer 510-511</i>	

MONDAY, OCTOBER 1, 2018

INDUSTRY SUPPORTED SYMPOSIUM: X-LINKED HYPOPHOSPHATEMIA: INTEGRATING NEW EVIDENCE TO OPTIMIZE DIAGNOSIS AND TREATMENT

Sponsoring/Organizing Company: AKH, Inc., Advancing Knowledge in Healthcare
Supporting Company: Ultragenyx

6:00 am - 7:45 am

Palais des congrès de Montréal
Room 510

6:00 am Breakfast and Registration

6:15 am Introduction and Overview

Karl L. Insogna, MD

Ensign Professor of Medicine (Endocrinology) at the Yale School of Medicine; Director, Yale Bone Center; Associate Director, Yale Center for X-Linked Hypophosphatemia

6:25 am Pathophysiology Key Clinical Manifestations

Anthony A. Portale, MD

Director, Pediatric Dialysis Program, UCSF Medical Center Mount Zion, UCSF Medical Center Parnassus

6:50 am Pediatric Diagnostic Evaluation and Management

Thomas O. Carpenter, MD

Professor of Pediatrics (Endocrinology) and of Orthopaedics and Rehabilitation; Director, Yale Center for X-Linked Hypophosphatemia

7:15 am Adult Diagnostic considerations and Management

Karl L. Insogna, MD

Ensign Professor of Medicine (Endocrinology) at the Yale School of Medicine; Director, Yale Bone Center; Associate Director, Yale Center for X-Linked Hypophosphatemia

7:25 am Case Study

Karl L. Insogna, MD

Ensign Professor of Medicine (Endocrinology) at the Yale School of Medicine; Director, Yale Bone Center; Associate Director, Yale Center for X-Linked Hypophosphatemia

7:35 am Conclusions and Q&A

Anthony A. Portale, MD

Director, Pediatric Dialysis Program, UCSF Medical Center Mount Zion, UCSF Medical Center Parnassus

Activity Overview

X-linked hypophosphatemia (XLH) is a rare hereditary form of non-nutritional rickets that does not respond to vitamin D ingestion or ultraviolet radiation treatment. Recognizing, diagnosing, and managing XLH. Greater understanding of the underlying pathophysiology of XLH, including involvement of PHEX and FGF-23, has led to the development and FDA approval of the first agent specifically developed for XLH - burosumab. Early treatment may lead to positive clinical outcomes, including improved bone mineralization and improved rickets in children, and improved healing of fractures in adults. This symposium will provide current information about the genetics, diagnosis, consequences, and treatment of XLH in children and adults.

LEARNING OBJECTIVES

Upon completion of the educational activity, participants should be able to:

- Discuss the epidemiology, clinical presentation, and signs and symptoms of XLH
- Describe renal phosphate wasting and the role of fibroblast growth factor 23 (FGF23) in XLH
- Describe the diagnostic evaluation of XLH
- Identify treatment options and strategies for XLH across the age span

Featured Faculty

Thomas O. Carpenter, MD

Professor of Pediatrics (Endocrinology) and of Orthopaedics and Rehabilitation; Director, Yale Center for X-Linked Hypophosphatemia

Karl L. Insogna, MD

Ensign Professor of Medicine (Endocrinology) at the Yale School of Medicine; Director, Yale Bone Center; Associate Director, Yale Center for X-Linked Hypophosphatemia

Anthony A. Portale, MD

Director, Pediatric Dialysis Program, UCSF Medical Center Mount Zion, UCSF Medical Center Parnassus

Accreditation

AKH Inc., Advancing Knowledge in Healthcare is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

AKH Inc., Advancing Knowledge in Healthcare designates this live activity for a maximum of 1.5 *AMA PRA Category 1 Credit*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.



Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 1.5 MOC points and 0 patient safety MOC credit in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. Participants will earn MOC points equivalent to the amount of CME credits claimed for the activity. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.



Successful completion of this CME activity, which includes participation in the activity, with individual assessments of the participant and feedback to the participant, enables the participant to earn 1.5 MOC points in the American Board of Pediatrics' (ABP) Maintenance of Certification (MOC) program. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABP MOC credit.

REGISTRATION OPEN

7:30 am - 2:00 pm

Palais des congrès de Montréal
Viger Hall - Level 2

CONCURRENT ORALS: MUSCULOSKELETAL DEVELOPMENT

8:00 am - 9:30 am

Palais des congrès de Montréal
Room 517 C

Moderators

Jonathan Lowery, PhD

Marian University College of Osteopathic Medicine, United States

Eileen Shore, PhD

University of Pennsylvania, United States

**8:00 am
1124** **A novel crosstalk between TGF- β /BMP and Wnt families through Smad4 in endochondral ossification**
Sho Tsukamoto^{*1}, Mai Kuratani¹, Noriko Sekine¹, Misato Okubo¹, Yutaka Nakachi¹, Shinya Tanaka², Eijiro Jimi³, Hiromi Oda², Takenobu Katagiri¹. ¹Division of Pathophysiology, Research Center for Genomic Medicine, Saitama Medical University, Japan, ²Department of Orthopedic Surgery, Saitama Medical University, Japan, ³Faculty of Dental Science, Oral health • Brain health • Total health Research Center, Kyushu University, Japan
Disclosures: Sho Tsukamoto, None

**8:15 am
1125** **GDF11 Locally Controls Axial Skeletal Patterning and Systemically Improves Bone Formation As Opposed to Myostatin**
Joonho Suh^{*1}, Je-Hyun Eom¹, Na-Kyung Kim¹, Joo-Cheol Park², Kyung-Mi Woo¹, Jeong-Hwa Baek¹, Hyun-Mo Ryoo¹, Se-Jin Lee³, Yun-Sil Lee¹. ¹Department of Molecular Genetics & Dental Pharmacology, School of Dentistry and Dental Research Institute, Seoul National University, Republic of Korea, ²Department of Oral Histology-Developmental Biology, School of Dentistry and Dental Research Institute, Seoul National University, Republic of Korea, ³Department of Genetics and Genome Sciences, University of Connecticut School of Medicine, United States
Disclosures: Joonho Suh, None

**8:30 am
1126** **Conditional Disruption of the Osterix (Osx) Gene in Chondrocytes During Early Postnatal Growth Impairs Secondary Ossification in the Mouse Tibial Epiphysis.**
Weirong Xing^{*1}, Catrina Godwin², Sheila Pourteymoor², Subburaman Mohan¹. ¹VA Loma Linda Healthcare System, Loma Linda University, United States, ²VA Loma Linda Healthcare System, United States
Disclosures: Weirong Xing, None

**8:45 am
1127** **ASBMR 2018 Annual Meeting Young Investigator Award
Mechanical Signals Preserve Bone and Muscle While Suppressing Adiposity in a Murine Model of Complete Estrogen Deprivation**
Gabriel M. Pagnotti^{*1}, Ryan Pattyn², Laura E. Wright², Sutha K. John², Sreemala Murthy², Trupti Trivedi², Yun She², Clinton T. Rubin³, William R. Thompson², Khalid S. Mohammad², Theresa A. Guise². ¹IUPUI, United States, ²Indiana University, United States, ³Stony Brook University, United States
Disclosures: Gabriel M. Pagnotti, None

**9:00 am
1128** **Alpha-Ketoglutarate Ameliorated the Age-related Osteoporosis via Regulating Histone Methylations of Mesenchymal Stem Cells**
Yuan Wang^{*}, Liang Xie, Jing Xie, Yuchen Guo, Yuting Liu, Yunshu Wu, Rixin Zheng, Hongke Luo, Xiaofei Zheng, Quan Yuan. State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, China
Disclosures: Yuan Wang, None

**9:15 am
1129** **Improving Mitochondrial Function via CypD Deletion is Effective in Stimulating Bone Formation**
Brianna Shares^{*}, Roman Eliseev. University of Rochester, United States
Disclosures: Brianna Shares, None

CONCURRENT ORALS: OSTEOCLASTS AND OSTEOBLASTS

8:00 am - 9:30 am **Palais des congrès de Montréal
Room 517 B**

Moderator
Kent Soe, PhD, MS
Dept. of Clinical Cell Biology, Vejle Hospital, University of Southern Denmark, Denmark

Moderator
Laetitia Michou MD, PhD
Université Laval, Canada

- 8:00 am**
1130 **TRAP as a Novel Regulator of Bone Formation in Osteoblasts at Sites of Bone Remodeling**
Diana Metz-Estrella*, Tzong-Jen Sheu, J Edward Puzas. University of Rochester, United States
Disclosures: Diana Metz-Estrella, None
- 8:15 am**
1131 **Osteoclast-derived autotaxin is a characteristic factor controlling bone degradation upon inflammation.**
Olivier P^{*1}, Sacha Flammier¹, Fanny Bouguillaut¹, François Duboeuf¹, Gabor Tigyí², Fabienne Coury¹, Irma Machuca-Gayet¹. ¹INSERM U1033, France, ²University of Memphis, United States
Disclosures: Olivier P, None
- 8:30 am**
1132 **Protease-activated receptor 1 (PAR1) deletion causes enhanced osteoclastogenesis in response to inflammatory signals through a Notch 2-dependent mechanism**
Judy Kalinowski^{*1}, Sandra Jastrzebski¹, Hicham Drissi², Archana Sanjay¹, Sun-Kyeong Lee¹, Ernesto Canalis¹, Joseph Lorenzo¹. ¹UConn Health, United States, ²Emory University School of Medicine, United States
Disclosures: Judy Kalinowski, None
- 8:45 am**
1133 **Examining the influence of senescent cells on PTH/PTHrP signaling in bone**
Joseph Gardinier*, Chunbin Zhang. Henry Ford Hospital, United States
Disclosures: Joseph Gardinier, None
- 9:00 am**
1134 **Argininosuccinate lyase deficiency as a model to study nitric oxide function in Bone**
Zixue Jin^{*1}, Jordan Kho¹, Brian Dawson¹, Monica Grover², Ming-Ming Jiang¹, Yuqing Chen¹, Brendan Lee¹. ¹Baylor College of Medicine, United States, ²Stanford University, United States
Disclosures: Zixue Jin, None
- 9:15 am**
1135 **Activin type 1 receptor ALK4 regulates postnatal bone mass**
Shek Man Chim*, David Maridas, Laura Gamer, Vicki Rosen. Harvard School of Dental Medicine, United States
Disclosures: Shek Man Chim, None

CONCURRENT ORALS: GREG MUNDY MEMORIAL SESSION - BONE TUMORS AND METASTASIS

8:00 am - 9:30 am **Palais des congrès de Montréal**
Room 517 D

Moderators

Larry Suva, PhD
Texas Veterinary Medical Center, United States

Rachelle Johnson, PhD
Vanderbilt University, United States

- 8:00 am**
1136 **ASBMR 2018 Annual Meeting Young Investigator Award**
A Novel Osteolineage-Derived Cancer Associated Fibroblast Population In Primary Tumors Expresses Dkk1 And Enhances Tumor Growth
Biancamaria Ricci*, Francesca Fontana, Sahil Mahajan, Roberto Civitelli, Roberta Faccio. Washington University in St Louis, United States
Disclosures: Biancamaria Ricci, None

- 8:15 am**
1137 **Notch2 is a new marker of breast cancer stem cell and is involved in bone marrow cellular dormancy**
Mattia Capulli*¹, Dayana Hristova², Zoe Valbret¹, Kashmala Carys¹, Ronak Arjan¹, Antonio Maurizi¹, Francesco Masedu¹, Nadia Rucci¹, Anna Teti¹. ¹University of L'Aquila, Italy, ²University of Cambridge, United Kingdom
Disclosures: Mattia Capulli, None
- 8:30 am**
1138 **Circulating osteoprogenitor cells provide a novel diagnostic biomarker for bone metastasis**
Hyun Jin Sun*¹, Kyung-Hun Lee¹, Kyoung Jin Lee², Serk In Park², Young Joo Park¹, Seock-Ah Lim¹, Sun Wook Cho¹. ¹Seoul National University Hospital, Republic of Korea, ²Korea University College of Medicine, Republic of Korea
Disclosures: Hyun Jin Sun, None
- 8:45 am**
1139 **An IAP Antagonist Inhibits Breast Cancer Metastasis to Bone by Killing Cancer Cells, Inhibiting Osteoclast and Enhancing Osteoblast Differentiation**
Wei Lei*, Rong Duan, Brendan Boyce, Zhenqiang Yao. University of Rochester Medical Center, United States
Disclosures: Wei Lei, None
- 9:00 am**
1140 **Bone-targeting Bortezomib significantly increases its efficacy in the treatment of human multiple myeloma in vitro and in vivo in mice**
Jianguo Tao*, Venkatesan Srinivasan, Xichao Zhou, Frank Ebetino, Robert Boeckman, Brendan Boyce, Lianping Xing. University of Rochester, United States
Disclosures: Jianguo Tao, None
- 9:15 am**
1141 **FGFR and mTOR Signaling Cooperate in Osteosarcoma Pathogenesis and Metastasis**
Arshiya Banu*¹, Sorrel Bunting¹, Carolina Zanduetta², Susana Martinez-Canarias², Haritz Moreno², Beatriz Moreno², Fernando Lecanda², Agamemnon Grigoriadis¹. ¹King's College London, United Kingdom, ²CIMA Pamplona, Spain
Disclosures: Arshiya Banu, None

CONCURRENT ORALS: SECONDARY CAUSES OF SKELETAL FRAGILITY

8:00 am - 9:30 am

Palais des congrès de Montréal
Room 517 A

Moderator

Susan Ott, MD
University of Washington Medical Center, United States

Moderator:

Annegreet Veldhuis-Vlug MD, PhD
Academic Medical Center Amsterdam, Netherlands

- 8:00 am**
1142 **Off-treatment Bone Mineral Density Changes in Postmenopausal Women after 5 Years of Anastrozole**
Ivana Sestak*¹, Jack Cuzick¹, Glen Blake², Rajesh Patel³, Robert Coleman⁵, Richard Eastell⁴. ¹Centre for Cancer Prevention, Queen Mary University London, United Kingdom, ²Division of Imaging Sciences, King's College London, United Kingdom, ³Imperial College London, United Kingdom, ⁴Academic Unit of Bone Metabolism, Metabolic Bone Centre, Northern General Hospital, United Kingdom, ⁵Academic Unit of Clinical Oncology, Weston Park Hospital, United Kingdom
Disclosures: Ivana Sestak, None

- 8:15 am
1143** **Patients with prostate cancer and androgen deprivation therapy have increased risk of fractures – a study from the Fractures and fall injuries in the elderly cohort (FRAILCO)**
Marit Wallander*¹, Kristian F Axelsson², Dan Lundh³, Mattias Lorentzon⁴. ¹Department of Medicine Huddinge, Karolinska Institute, Sweden, ²Department of Orthopaedic Surgery, Skaraborg Hospital, Sweden, ³School of Health and Education, University of Skovde, Sweden, ⁴Geriatric Medicine, Department of Internal Medicine and Clinical Nutrition, Center for Bone Research at the Sahlgrenska Academy, Sweden
Disclosures: Marit Wallander, None
- 8:30 am
1144** **Low Parathyroid Hormone Levels are Associated with Increased Hazards of Fracture and Death in Stage 3 and 4 Chronic Kidney Disease**
Karen Hansen*¹, Sinong Geng², Zhaobin Kuang², Peggy Peissig³. ¹University of Wisconsin School of Medicine & Public Health, United States, ²University of Wisconsin, United States, ³Marshfield Clinic, United States
Disclosures: Karen Hansen, None
- 8:45 am
1145** **ASBMR 2018 Annual Meeting Young Investigator Award
Prevalence and risk of vertebral fractures in primary hyperparathyroidism: A nested case-control study**
Henriette Ejlsmark-Svensson*^{1,2}, Lise Sofie Bislev^{1,2}, Siv Lajlev², Torben Harsløf², Lars Rolighed³, Tanja Sikjær², Lars Rejnmark^{1,2}. ¹Department of Clinical Medicine, Aarhus University, Denmark, ²Department of Endocrinology and Internal Medicine, Aarhus University Hospital, Denmark, ³Department of Otorhinolaryngology, Head and Neck Surgery, Aarhus University Hospital, Denmark
Disclosures: Henriette Ejlsmark-Svensson, None
- 9:00 am
1146** **Fracture Risk Assessment in Women with Breast Cancer Initiating Aromatase Inhibitor Therapy: A Registry-Based Cohort Study**
William Leslie*¹, Suzanne Morin², Lisa Lix¹, Eugene McCloskey³, Helena Johansson³, Nicholas Harvey⁴, John Kanis³. ¹University of Manitoba, Canada, ²McGill University, Canada, ³Centre for Metabolic Bone Diseases, United Kingdom, ⁴MRC Lifecourse Epidemiology Unit, United Kingdom
Disclosures: William Leslie, None
- 9:15 am
1147** **Towards a physiologically-based definition of hypogonadism: Dose-response relationships between testosterone and bone density in older men**
Elaine Yu*, Benjamin Leder, Hang Lee, Laura Krivicich, Emily Gentile, Sarah Hirsch, Karin Darakananda, David Lin, Joel Finkelstein. Massachusetts General Hospital, United States
Disclosures: Elaine Yu, None

NETWORKING BREAK

9:30 am - 9:45 am

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

POSTERS OPEN

9:30 am - 2:00 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

All posters will be displayed in the ASBMR Discovery Hall - Exhibit Hall 220 B-E on Saturday, September 29 - Monday, October 1 during exhibit hall hours. For a full listing of all poster and late-breaking poster presentations, please refer to the poster section located in the back of the Onsite Program Book.

DISCOVERY HALL OPEN

9:30 am - 2:30 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

PLENARY ORALS: MESENCHYMAL STEM CELL DEVELOPMENT AND PATHOGENESIS

9:45 am - 11:00 am

Palais des congrès de Montréal
Room 517 D

Moderators

Louis Gerstenfeld, PhD
Boston University School of Medicine, United States

Christa Maes, PhD
KU Leuven, Belgium

9:45 am **ASBMR 2018 Annual Meeting Felix Bronner Award**
1148 **Mettl3-mediated m6A regulates the fate of bone marrow mesenchymal stem cells and osteoporosis**

Yunshu Wu^{*1}, Liang Xie¹, Mengyuan Wang¹, Yuchen Guo¹, Rui Sheng¹, Jing Li¹, Peng Deng¹, Rixin Zheng¹, Qiuchan Xiong¹, Yizhou Jiang², Ling Ye¹, Xuedong Zhou¹, Shuibin Lin³, Quan Yuan¹. ¹State Key Laboratory of Oral Diseases & National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, Sichuan University, China, ²Institute for Advanced Study, Shenzhen University, China, ³Center for Translational Medicine, The First Affiliated Hospital, Sun Yat-sen University, China
Disclosures: Yunshu Wu, None

10:00 am **ASBMR 2018 Annual Meeting Young Investigator Award**
1149 **Fat Regulates Inflammatory Arthritis**

Yongjia Li^{*1}, Wei Zou¹, Jonathan Brestoff¹, Nidhi Rohatgi¹, Xiaobo Wu², John Atkinson², Charles Harris³, Steven Teitelbaum^{1,4}. ¹Department of Pathology and Immunology, Washington University School of Medicine, St. Louis, United States, ²Division of Rheumatology, Department of Medicine, Washington University School of Medicine, St. Louis, United States, ³Division of Endocrinology, Metabolism and Lipid Research, Department of Medicine, Washington University School of Medicine, St. Louis, United States, ⁴Division of Bone and Mineral Diseases, Department of Medicine, Washington University School of Medicine, St. Louis, United States
Disclosures: Yongjia Li, None

10:15 am **Deletion of Ror2 Promotes Bone Formation by Attenuating IL-6 Signaling**
1150

Hiroaki Saito^{*1}, Jonathan Gordon², Josech R. Boyd², Michiru Nishita³, Yasuhiro Minami³, Jane Lian², Gary Stein², Hanna Taipaleenmäki¹, Eric Hesse¹. ¹Molecular Skeletal Biology Laboratory, Department of Trauma, Hand and Reconstructive Surgery, University Medical Center Hamburg-Eppendorf, Germany, ²Department of Biochemistry, College of Medicine, University of Vermont, United States, ³Department of Physiology and Cell Biology Kobe University Graduate School of Medicine, Japan
Disclosures: Hiroaki Saito, None

10:30 am **ASBMR 2018 Annual Meeting Young Investigator Award**
1151 **BMP2-CXCL12 Axis Regulates Prx1 Expression During Fracture Repair**

Alessandra Esposito^{*}, Lai Wang, Tieshi Li, Jie Jiang, Xin Jin, Anna Spagnoli. Rush University Medical Center, United States
Disclosures: Alessandra Esposito, None

Monday

10:45 am **Methylation Of 4-aminobutyrate Aminotransferase (Abat) by Dnmt3b Regulates**
1152 **Chondrocyte Metabolism and the Development of OA**
Jie Shen*, Cuiwei Wang, Daofeng Li, Ting Wang, Audrey Mcalinden, Regis O'Keefe.
Washington University in St Louis, United States
Disclosures: Jie Shen, None

PLENARY ORALS: RARE BONE DISEASES

9:45 am - 11:00 am

Palais des congrès de Montréal

Room 517 A

Moderator

Alison Boyce, MD
National Institutes of Health, United States

Moderator

Elisabeth Eekhoff MD, PhD
VU University Medical Center, Amsterdam, The Netherlands

9:45 am **Burosumab Improved Serum Phosphorus, Osteomalacia, Mobility, and Fatigue in the**
1153 **48-Week, Phase 2 Study in Adults with Tumor-induced Osteomalacia Syndrome**
Suzanne Jan De Beur*¹, Paul D. Miller², Thomas J. Weber³, Munro Peacock⁴, Karl L.
Insogna⁵, Rajiv Kumar⁶, Frank Rauch⁷, Diana Luca⁸, Christina Theodore-Oklota⁸, Kathy
Lamp⁸, Javier San Martin⁸, Thomas O. Carpenter⁵. ¹Johns Hopkins University School
of Medicine, United States, ²Colorado Center for Bone Research, United States, ³Duke
University, United States, ⁴Indiana University School of Medicine, United States, ⁵Yale
University School of Medicine, United States, ⁶Mayo Clinic College of Medicine, United
States, ⁷McGill University, Canada, ⁸Ultragenyx Pharmaceutical Inc., United States
Disclosures: Suzanne Jan De Beur, Ultragenyx Pharmaceutical Inc., Consultant, Ultragenyx
Pharmaceutical Inc., Grant/Research Support, Shire plc, Grant/Research Support, Mereo BioPharma
Group Ltd, Grant/Research Support

10:00 am **Efficacy and Safety of Burosumab, a Fully Human Anti-FGF23 Monoclonal Antibody,**
1154 **for Children 1-4 Years Old with X-linked Hypophosphatemia (XLH)**
Michael P. Whyte*¹, Erik Imel², Gary S. Gottesman¹, Meng Mao³, Alison Skrinar³, Javier
San Martin³, Thomas O. Carpenter⁴. ¹Shriners Hospitals for Children, United States, ²Indiana
University School of Medicine, United States, ³Ultragenyx Pharmaceutical Inc., United
States, ⁴Yale University School of Medicine, United States
Disclosures: Michael P. Whyte, Ultragenyx Pharmaceutical Inc., Consultant, Ultragenyx Pharmaceutical
Inc., Grant/Research Support

10:15 am **Incidence of Malignancies in Fibrous Dysplasia: Data from a National Pathology**
1155 **Cohort**
Marlous Rotman*, Neveen Hamdy, Bas Majoor, Michiel Van De Sande, Judith Bovee,
Sander Dijkstra, Olaf Dekkers, Natasha Appelman-Dijkstra. LUMC, Netherlands
Disclosures: Marlous Rotman, None

10:30 am **ASBMR 2018 Annual Meeting Young Investigator Award**
1156 **Abnormal Monocyte Responses in Fibrodysplasia Ossificans Progressiva**
Emilie Barruet*¹, Blanca M Morales¹, Tania Moody¹, Corey J Cain¹, Kelly Wentworth¹,
Tea V Chan¹, Amy Ton¹, Tom Hm Ottenhoff², Mariëlle C. Haks², Judith Hellman¹, Mary
Nakamura³, Edward C Hsiao¹. ¹UCSF, United States, ²Leiden University Medical Center,
Netherlands, ³UCSF/VAMC, United States
Disclosures: Emilie Barruet, None

10:45 am **Albright Hereditary Osteodystrophy (AHO): autosomal dominant shortening of**
1157 **metacarpals and -tarsals caused by a novel splice-site mutation in PTHLH**
Monica Reyes^{*1}, Bert Bravenboer², Harald Jüppner¹. ¹Endocrine Unit, Massachusetts
General Hospital, United States, ²Department of Endocrinology, Universitair Ziekenhuis
Brussel, Belgium
Disclosures: Monica Reyes, None

NETWORKING BREAK

11:00 am - 11:15 am

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

LATE-BREAKING CONCURRENT ORALS: BASIC

11:15 am - 12:00 pm

Palais des congrès de Montréal
Room 517 C

Moderator

Lidan You, PhD
University of Toronto, Canada

Moderator

Thomas Levin Andersen, PhD
Vejle Hospital - Lillebaelt Hospital, IRS, University of Southern Denmark, Denmark

11:15 am **Bone marrow-derived CXCL12 is indispensable for the loss of cortical bone mass**
LB-1158 **caused by estrogen deficiency**
Filipa Ponte^{*}, Aaron Warren, Ha-Neui Kim, Iyer Srividhya, Li Han, Maria Almeida, Stavros
Manolagas. UAMS, United States
Disclosures: Filipa Ponte, None

11:24 am **Marrow adiposity and vascular morphology are regulated by EBF1 in adult bone**
LB-1159 **Seham Alruwaili^{*1}, Steven Tommasini², Ben-Hua Sun², Jackie Fretz². ¹Quinnipiac**
University, United States, ²Yale School of Medicine, United States
Disclosures: Seham Alruwaili, None

11:33 am **Conditional ablation of Prx1 expressing cells impairs endochondral ossification in**
LB-1160 **postnatal bone repair**
Lai Wang^{*1}, Alessandra Esposito¹, Joseph Temple¹, Tieshi Li¹, Jie Jiang¹, Xin Jin^{1,2}, Anna
Spagnoli¹. ¹Department of Pediatrics, Rush University Medical Center, Chicago, United
States, ²Department of Orthopaedics, Union Hospital, Tongji Medical College, Huazhong
University of Science and Technology, Wuhan, 430022, P.R. China
Disclosures: Lai Wang, None

LB-1161 **WITHDRAWN**

11:42 am **LRP5-deficiency in OsxCreERT2 mice recapitulates intervertebral disc degeneration**
LB-1162 **from aging and mechanical compression**
Jiannong Dai^{*1}, Matthew Silva², Nilsson Holguin¹. ¹IUPUI, United States, ²Washington
University in St. Louis, United States
Disclosures: Jiannong Dai, None

Monday

LATE-BREAKING CONCURRENT ORALS: CLINICAL

11:15 am - 12:00 pm

Palais des congrès de Montréal
Room 517 A

Moderator

Julie Paik, MD

Brigham and Women's Hospital, Harvard Medical School, United States

Moderator

Kristina Akesson, MD, PhD

Skane University Hospital, Malmo, Lund University, Sweden

11:15 am **Childhood Obesity and Fracture Risk: A Region-wide Longitudinal Cohort Study of**
LB-1163 **466,000 Children and up to 11 Years of Follow-up**

Daniel Prieto-Alhambra*¹, Katherine Butler², Jose Poveda^{3,4}, Daniel Martinez-Laguna^{3,4}, Carlen Reyes^{3,4}, Jennifer Lane¹, Jeroen De Bont^{3,4}, M Kassim Javaid¹, Cyrus Cooper^{1,5}, Jennifer Logue⁶, Talita Duarte-Salles^{3,4}, Dominic Furniss¹. ¹NDORMS, University of Oxford, United Kingdom, ²Stoke Mandeville Hospital, United Kingdom, ³Institut Universitari d'Investigació en Atenció Primària Jordi Gol (IDIAP Jordi Gol), Spain, ⁴CIBERFes, Universitat Autònoma de Barcelona and Instituto de Salud Carlos III, Spain, ⁵MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ⁶University of Glasgow, United Kingdom

Disclosures: Daniel Prieto-Alhambra, UCB, Consultant, Amgen, Speakers' Bureau, Servier, Grant/Research Support, Amgen, Grant/Research Support, UCB, Grant/Research Support

11:24 am **Does Cortical Porosity Predict Incident Fractures in Postmenopausal Women?**
LB-1164

Camilla Andreassen*¹, Åshild Bjørnerem². ¹Department of Clinical Medicine, UiT The Arctic University of Norway, Tromsø, Norway, Department of Orthopaedic Surgery, University Hospital of North Norway, Tromsø, Norway, ²Department of Clinical Medicine, UiT The Arctic University of Norway, Tromsø, Norway, Department of Obstetrics and Gynecology, University Hospital of North Norway, Tromsø, Norway

Disclosures: Camilla Andreassen, None

11:33 am **Nursing Home Trends in Hip Fracture Rates Follow the Plateau Observed in U.S.**
LB-1165 **Women**

Sarah Berry*¹, Lori Daiello², Andrew Zullo², Kevin Mcconeghy², Tingting Zhang², Yoojin Lee², Jeffrey Curtis³, Nicole Wright³, Vincent Mor², Douglas Kiel¹. ¹Hebrew SeniorLife, Institute for Aging Research, United States, ²Brown University School of Public Health, United States, ³University of Alabama at Birmingham, School of Public Health, United States

Disclosures: Sarah Berry, Walters Kluwer, Other Financial or Material Support

11:42 am **Fracture Prevention in Osteopenic Postmenopausal Women with Zoledronic Acid**
LB-1166 **Every 18 Months, a Randomized Controlled Trial**

Ian Reid*, Anne Horne, Borislav Mihov, Mark Bolland, Sonja Bastin, Greg Gamble. University of Auckland, New Zealand

Disclosures: Ian Reid, Novartis, Other Financial or Material Support

11:51 am
LB-1167

Fracture Risk after Stopping Adjuvant Denosumab in Hormone Receptor Positive Breast Cancer Patients on Aromatase Inhibitor Therapy – an Analysis of 3,425 Postmenopausal Patients in the Phase III ABCSG-18 trial

Georg Pfeiler*¹, Guenther G. Steger², Daniel Egle³, Richard Greil⁴, Florian Fitzal⁵, Viktor Wette⁶, Marija Balic⁷, Ferdinand Haslbauer⁸, Elisabeth Melbinger-Zeinitzer⁹, Vesna Bjelic-Radisic¹⁰, Jonas Bergh¹¹, Raimund Jakesz⁵, Christian Marth³, Paul Sevelde¹², Brigitte Mlineritsch¹³, Ruth Exner⁵, Christian Fesl¹⁴, Sophie Frantal¹⁴, Christian F Singer¹, Michael Gnant⁵. ¹Medical University of Vienna/ Department of Obstetrics and Gynecology and Comprehensive Cancer Center, Austria, ²Medical University of Vienna/ Department of Internal Medicine I/Oncology, Austria, ³Medical University Innsbruck/ Department of Gynecology, Austria, ⁴Paracelsus Medical University Salzburg/ Department of Internal Medicine III and Salzburg Cancer Research Institute, Austria, ⁵Medical University of Vienna/ Department of Surgery and Comprehensive Cancer Center, Austria, ⁶Breast Center St. Veit/ Glan/ Doctor's Office Wette, Austria, ⁷Medical University Graz/ Department of Oncology, Austria, ⁸Hospital Vöcklabruck/Department of Internal Medicine, Austria, ⁹Hospital Wolfsberg/ Department of Surgery, Austria, ¹⁰Medical University Graz/ Department of Gynecology, Austria, ¹¹Department of Oncology-Pathology, Karolinska Institutet and Cancer Theme, Karolinska University Hospital, 17176-Stockholm, Sweden, ¹²Karl Landsteiner Institute for Gynecologic Oncology and Senology, Austria, ¹³Paracelsus Medical University Salzburg/ Department of Internal Medicine III, Austria, ¹⁴Austrian Breast & Colorectal Cancer Study Group/ Statistic Department, Austria
Disclosures: Georg Pfeiler, Novartis, Grant/Research Support, Pfizer, Grant/Research Support, AstraZeneca, Grant/Research Support, Amgen, Consultant

LATE-BREAKING CONCURRENT ORALS: CLINICAL RARE BONE DISEASES

11:15 am - 12:00 pm

Palais des congrès de Montréal
Room 517 D

Moderator:

Natasha Appelman-Dijkstra, MD
LUMC Centre for Bone Quality Deptment of Endocrinology, The Netherlands

Moderator

Diala El-Maouche, MD, MS
National Institute of Health, United States

11:15 am
LB-1168

Burosumab Improved Rickets, Phosphate Metabolism, and Clinical Outcomes Compared to Conventional Therapy in Children with XLH

Erik Imel*¹, Michael P. Whyte², Craig Munns³, Anthony A. Portale⁴, Leanne Ward⁵, Ola Nilsson⁶, Jill H. Simmons⁷, Raja Padidela⁸, Noriyuki Namba⁹, Hae I. Cheong¹⁰, Meng Mao¹¹, Chao-Yin Chen¹¹, Alison Skrinar¹¹, Javier San Martin¹¹, Francis Glorieux¹². ¹Indiana University School of Medicine, United States, ²Shriners Hospitals for Children, United States, ³The Children's Hospital at Westmead, Australia, ⁴University of California, San Francisco, United States, ⁵University of Ottawa, Canada, ⁶Karolinska Institutet, Sweden, ⁷Vanderbilt University School of Medicine, United States, ⁸Royal Manchester Children's Hospital, United Kingdom, ⁹Osaka Hospital, Japan Community, Healthcare Organization; Osaka University Graduate School of Medicine, Japan, ¹⁰Seoul National University Children's Hospital, Republic of Korea, ¹¹Ultragenyx Pharmaceutical Inc., United States, ¹²Shriners Hospital for Children-Canada, McGill University, Canada
Disclosures: Erik Imel, Ultragenyx Pharmaceutical Inc., Other Financial or Material Support, Ultragenyx Pharmaceutical Inc., Grant/Research Support, Ultragenyx Pharmaceutical Inc., Consultant

11:24 am
LB-1169

Continued Improvement in Clinical Outcomes in the Phase 3 Randomized, Double-Blind, Placebo-Controlled Study of Burosumab, an Anti-FGF23 Antibody, in Adults with X-Linked Hypophosphatemia (XLH)

Anthony A. Portale*¹, Karl L. Insogna², Karine Briot³, Erik Imel⁴, Peter Kamenický⁵, Thomas Weber⁶, Pisit Pitukcheewanont⁷, Hae I. Cheong⁸, Suzanne Jan De Beur⁹, Yasuo Imanishi¹⁰, Nobuaki Ito¹¹, Robin Lachmann¹², Hiroyuki Tanaka¹³, Farzana Perwad¹⁴, Lin Zhang¹⁵, Christina Theodore-Oklota¹⁵, Matt Mealiffe¹⁵, Javier San Martin¹⁵, Thomas O. Carpenter¹⁶. ¹University of California, San Francisco, United States, ²Yale School of Medicine, United States, ³Centre d'Evaluation des Maladies Osseuses, Hôpital Cochin, France, ⁴Indiana University School of Medicine, United States, ⁵Université Paris-Sud, France, ⁶Duke University Medical Center, United States, ⁷Children's Hospital Los Angeles, University of Southern California Keck School of Medicine, United States, ⁸Seoul National University Children's Hospital, Republic of Korea, ⁹Johns Hopkins University, United States, ¹⁰Osaka City University Graduate School of Medicine, Japan, ¹¹Tokyo University Hospital, Japan, ¹²University College London Hospitals, United Kingdom, ¹³Okayama Saiseikai General Hospital, Japan, ¹⁴University of California, San Francisco, United States, ¹⁵Ultragenyx Pharmaceutical Inc., United States, ¹⁶Yale University School of Medicine, United States

Disclosures: Anthony A. Portale, Ultragenyx Pharmaceutical Inc., Other Financial or Material Support, Ultragenyx Pharmaceutical Inc., Consultant, Ultragenyx Pharmaceutical Inc., Grant/Research Support

11:33 am
LB-1170

Oral Iron Therapy Normalizes Fibroblast Growth Factor 23 (FGF23) in Patients with Autosomal Dominant Hypophosphatemic Rickets

Erik Imel*¹, Ziyue Liu², Melissa Coffman¹, Dena Acton¹, Michael Econs¹. ¹Indiana University School of Medicine, United States, ²Indiana University School of Public Health, United States

Disclosures: Erik Imel, None

11:42 am
LB-1171

Digenic Inheritance of Heterozygous SLC34A3 and SLC34A1 Mutations in Hereditary Hypophosphatemic Rickets with Hypercalciuria

Rebecca Gordon*¹, Daniel Doyle², Joshua Zaritsky², Michael Levine¹. ¹The Children's Hospital of Philadelphia, United States, ²Alfred I. duPont Hospital for Children, United States

Disclosures: Rebecca Gordon, None

11:51 am
LB-1172

LRP6 Mutation: A New Cause of Autosomal Dominant High Bone Mass

Michael P. Whyte*^{1,2}, Gary S. Gottesman¹, Elizabeth L. Lin^{1,2}, William H. Mcalister³, Angela Nenninger¹, Vinieth N. Bijanki¹, Margaret Huskey², Shenghui Duan², Steven Mumm^{1,2}. ¹Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States, ²Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine at Barnes-Jewish Hospital, United States, ³Mallinckrodt Institute of Radiology, Washington University School of Medicine at St. Louis Children's Hospital, United States

Disclosures: Michael P. Whyte, None

LATE-BREAKING CONCURRENT ORALS: TRANSLATIONAL

11:15 am - 12:00 pm

Palais des congrès de Montréal
Room 517 B

Moderator

Joel Boerckel, PhD
University of Pennsylvania, United States

Moderator

Paula Stern, PhD
Northwestern University Feinberg School of Medicine, Department of Molecular Phar, United States

11:15 am **Short-Term Intermittent PTH (1-34) Administration, Angiogenesis, and Matrix**
LB-1173 **Metalloproteinase-9 in Femora of Mature and Middle-Aged C57BL/6 Mice**
Seungyong Lee*, Rhonda Prisby. The University of Texas at Arlington, United States
Disclosures: Seungyong Lee, None

11:24 am **Cathepsin K (Ctsk) restrains the periostin (Postn)-mediated increase in cortical size**
LB-1174 **induced by RANKL**
Nicolas Bonnet*¹, Eleni Douni², Serge Ferrari³. ¹University Geneva Hospital (HUG), Switzerland, ²Biomedical Sciences Research Center "Alexander Fleming", ²Department of Biotechnology, Agricultural University of Athens, Greece, ³University Geneva Hospital (HUG), Switzerland
Disclosures: Nicolas Bonnet, None

11:33 am **Multi-omics approach reveals novel pathogenic indicators of DISH**
LB-1175 Matthew Veras*¹, Neil Tenn¹, Miljan Kuljanin², Gilles Lajoie², James Hammond³, S. Jeffrey Dixon¹, Cheryle Séguin¹. ¹Bone & Joint Institute, The University of Western Ontario, Canada, ²The University of Western Ontario, Canada, ³University of Alberta, Canada
Disclosures: Matthew Veras, None

11:42 am **Identification of a Novel Selective Small-Molecule Inhibitor of the BMP Type I**
LB-1176 **Receptor Kinase ACVR1/ALK2 with Disease-Modifying Potential for On-Target**
Therapy of Fibrodysplasia Ossificans Progressiva (FOP)
Ina Kramer*¹, Luca Arista², Victoria Head³, Michaela Kneissel¹, Thomas Ullrich², Sabine Guth-Gundel¹. ¹Musculoskeletal Disease Area, Novartis Institutes for BioMedical Research, Switzerland, ²Global Discovery Chemistry, Novartis Institutes for BioMedical Research, Switzerland, ³Translational Medicine, Novartis Institutes for BioMedical Research, Switzerland
Disclosures: Ina Kramer, Novartis Pharma AG, Other Financial or Material Support

11:51 am **Actin A (ActA) Expression by Fibroadipoprogenitors (FAPs), But Not Myeloid**
LB-1177 **Cells, Is Necessary for Endochondral Heterotopic Ossification (HO) in Fibrodysplasia**
Ossificans Progressiva (FOP) Mice
Cody M. Elkins*, Chuanmin Cheng, Heather Durai, Nikash Hari, Daniel S. Perrien. Vanderbilt Center for Bone Biology, Division of Clinical Pharmacology, Department of Medicine, Vanderbilt University Medical Center, United States
Disclosures: Cody M. Elkins, None

POSTER SESSION III AND POSTER TOURS

12:00 pm - 2:00 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

All posters will be displayed in the ASBMR Discovery Hall - Exhibit Hall 220 B-E on Saturday, September 29 - Monday, October 1 during exhibit hall hours. For a full listing of all poster and late-breaking poster presentations, please refer to the poster section located in the back of the Onsite Program Book.

SYMPOSIUM: SENESCENCE AND AGING BONE

2:00 pm - 3:15 pm

Palais des congrès de Montréal
Room 517 D

Co-Chairs

Joshua Farr, PhD
Mayo Clinic, United States

Disclosures: None

2:00 pm Senescence-Associated Intrinsic Mechanisms of Osteoblast Dysfunctions

Moustapha Kassem, MD, PhD
Odense University Hospital, Denmark

Disclosures: None

2:25 pm Age-related Stromal Changes Drive Increased Bone Metastasis

Sheila Stewart, PhD
Washington University School of Medicine, United States

Disclosures: None

2:50 pm Therapeutic Opportunities to Target Senescence to Prevent Age-related Bone Loss

Megan Weivoda, PhD
University of Michigan, United States

Disclosures: None

SYMPOSIUM: MULTIMORBIDITY AND ITS IMPACT ON CLINICAL MANAGEMENT

2:00 pm - 3:15 pm

Palais des congrès de Montréal
Room 517 A

Co-Chairs

Tamara Harris MD, MS
Intramural Research Program, National Institute on Aging, United States

Disclosures: None

Marian Hannan PhD
HSL Institute for Aging Research and Harvard Medical School, United States

Disclosures: None

2:00 pm Complexities of Managing Osteoporosis in Older Adults with Multimorbidity

Sarah Berry, MD, MPH
Hebrew SeniorLife/Beth Israel Deaconess Medical Center, United States

Disclosures: Other Financial or Material Support: Walters Kluwer

2:25 pm Multimorbidity and Hip Fracture Prediction-Impact of Competing Mortality Risk

Kristine Ensrud, MD, MPH
University of Minnesota and Minneapolis VA Health Care System, United States

Disclosures: None

2:50 pm Management and Guidelines

Cynthia Boyd, MD
Johns Hopkins Center on Aging and Health, United States

Disclosures: None

CLOSING RECEPTION

3:15 pm - 4:00 pm

Palais des congrès de Montréal
Foyer 510-511

WELCOME RECEPTION AND POSTER SESSION

5:00 pm - 7:00 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

Attendees and registered guests are invited to celebrate ASBMR's 2018 Annual Meeting during our Welcome Reception and Poster Session in the ASBMR Discovery Hall. Simply display your badge for admission. Guests may purchase a badge for \$50 at the ASBMR Registration Counter for entrance to the Welcome Reception.

ADULT METABOLIC BONE DISORDERS

- FRI-0001 Acute Kidney Injury in Primary Hyperparathyroidism**
Cristiana Cipriani*¹, Jessica Pepe¹, Federica Biamonte¹, Valeria Fassino¹, Luciano Colangelo¹, Valentina Piazzolla¹, Carolina Clementelli¹, Luciano Nieddu², Salvatore Minisola¹. ¹Sapienza University of Rome, Italy, ²UNINT University, Italy
Disclosures: Cristiana Cipriani, None
- FRI-0002 Changes in Skeletal Microstructure Through Four Years of rhPTH(1-84) Therapy in Hypoparathyroidism**
Natalie Cusano*¹, Mishaela Rubin², John Williams², Sanchita Agarwal², Gaia Tabacco², Yu-Kwang Donovan Tay², Rukshana Majeed², Beatriz Omeragic², John Bilezikian². ¹Lenox Hill Hospital, United States, ²Columbia University Medical Center, United States
Disclosures: Natalie Cusano, Shire, Speakers' Bureau, Shire, Grant/Research Support
- FRI-0003 Greater Visceral Adipose Tissue is Associated with Impairment of Bone Strength Assessed with HR-pQCT : the OFELY Study**
Francois Duboeuf*, Elisabeth Sornay-Rendu, Roland Chapurlat. INSERM UMR 1033, Université de Lyon, France
Disclosures: Francois Duboeuf, None
- FRI-0004 Effects of parathyroidectomy on the biology of bone tissue in patients with chronic kidney disease and secondary hyperparathyroidism**
Geovanna O. Pires*^{1,2}, Itamar O. Vieira¹, Fabiana R. Hernandez³, Andre L. Teixeira¹, Ivone B. Oliveira¹, Wagner V. Dominguez¹, Luciene M. Dos Reis¹, Fabio M. Montenegro⁴, Rosa M. Moyses^{1,5}, Aluizio B. Carvalho³, Vanda Jorgetti^{1,2}. ¹Laboratório de Investigação Médica 16, Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, Brazil, ²Hospital Samaritano Américas Serviços Médicos, Brazil, ³Nephrology Division, Federal University of São Paulo, Brazil, ⁴Disciplina de Cabeça e Pescoço, Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, Brazil, ⁵Pos-Graduate Medicine Program, UNINOVE, Brazil
Disclosures: Geovanna O. Pires, None
- FRI-0005 Overweight and Underweight Are Risk Factors for Vertebral Fractures in Patients with Type 2 Diabetes Mellitus**
Ipei Kanazawa*, Masakazu Notsu, Ken-Ichiro Tanaka, Toshitsugu Sugimoto. Shimane University Faculty of Medicine, Japan
Disclosures: Ipei Kanazawa, None
- FRI-0006 Cinacalcet restores bone quality in CKD-MBD mice by modulating Wnt10b and klotho signaling in bone cells**
Jia-Fwu Shyu*¹, Tzu-Hui Chu¹, Yi-Jun Lin¹, Lo-Wei Chen², Cheng-Yuan Hsiao¹, Wen-Chih Liu⁴. ¹Department of Biology and Anatomy, National Defense Medical Center, Taiwan, ²Department of Biology and Anatomy, National Defense Medical Center, United Republic of Tanzania, ⁴Graduate Institute of Clinical Medicine, College of Medicine, Taipei Medical University, Taiwan
Disclosures: Jia-Fwu Shyu, None

FRI-0007 **Bone Material Strength Index as Measured by Impact Microindentation in Patients with Primary Hyperparathyroidism and Hypoparathyroidism**
Jessica Starr*¹, Gaia Tabacco², Rukshana Majeed¹, Beatriz Omeragic¹, Maximo Gomez¹, Leonardo Bandeira³, Mishaela Rubin¹. ¹COLUMBIA UNIVERSITY, United States, ²University Campus Bio-Medico, Italy, ³Instituto FBandeira de Endocrinologia, United States

Disclosures: Jessica Starr, None

FRI-0008 **ASBMR 2018 Annual Meeting Young Investigator Award**
Parathyroid Gland Localization in Primary Hyperparathyroidism: Evaluation of a Novel Imaging Protocol and Direct Head-to-Head Comparison of Parathyroid 4D-CT and Sestamibi SPECT/CT

Randy Yeh*, Yu-Kwang Donovan Tay, Gaia Tabacco, Laurent Dercle, Jennifer Kuo, Leonardo Bandeira, Catherine Mcmanus, James Lee, John Bilezikian. Columbia University Medical Center, United States

Disclosures: Randy Yeh, None

BIOMECHANICS AND BONE QUALITY

FRI-0053 **Slc20a2, encoding the phosphate transporter PiT2, is a novel genetic determinant of bone quality and strength**

Sarah Beck-Cormier*¹, Christopher J. Lelliott², John G. Logan³, David T. Lafont², Victoria D. Leitch³, Natalie C. Butterfield³, Hayley J. Protheroe³, Peter I. Croucher⁴, Paul A. Baldock⁴, Alina Gaultier-Lintia⁵, Gael Nicolas⁶, Nina Bon¹, Sophie Sourice¹, Jérôme Guicheux¹, Laurent Beck¹, Graham R. Williams³, J. H. Duncan Bassett³. ¹Inserm, UMR 1229, RMeS, Regenerative Medicine and Skeleton, Université de Nantes, UFR Odontologie, ONIRIS, Nantes, F-44042, France, ²Mouse Pipelines, Wellcome Trust Sanger Institute, Hinxton, CB10 1SA, United Kingdom, ³Molecular Endocrinology Laboratory, Department of Medicine, Imperial College London, London W12 0NN, United Kingdom, ⁴The Garvan Institute of Medical Research, Sydney, NSW 2010, Australia, ⁵CHU Nantes, Laennec Hospital, Nantes, F-44093, France, ⁶Normandie Univ, UNIROUEN, Inserm U1245 and Rouen University Hospital, Department of Genetics and CNR-MAJ, F 76000, Normandy Center for Genomic and Personalized Medicine, Rouen, France

Disclosures: Sarah Beck-Cormier, None

FRI-0054 **Bone strength and mineralization are regulated independently of bone mass by ephrinB2-dependent autophagic processes in osteocytes**

Vrahnas Christina*¹, Toby Dite¹, Yifang Hu², Huynh Nguyen³, Mark R Forwood³, Keith R Bamberg⁴, Mark J Tobin⁴, Gordon K Smyth², T John Martin¹, Natalie A Sims¹. ¹St. Vincent's Institute of Medical Research, Australia, ²Walter and Eliza Hall Institute of Medical Research, Australia, ³Griffith University, Australia, ⁴Australian Synchrotron, Australia

Disclosures: Natalie Sims, None

FRI-0055 **ASBMR 2018 Annual Meeting Young Investigator Award**
Non-invasive Localized Cold Therapy as a New Mode of Bone Repair Enhancement

Marianne Comeau-Gauthier*, Daniel Castano, Jose Luis Ramirez-Garcia Luna, Justin Drager, Jake Barralet, Geraldine Merle, Edward Harvey. McGill University, Canada

Disclosures: Marianne Comeau-Gauthier, None

FRI-0056 **A Novel FEM Approach for Evaluating the Fracture Resistance of Human Cortical Bone Demonstrates that Material Heterogeneity Distributes and Attenuates Damage in Cortical Bone from Human Iliac Crest Biopsies**

Ahmet Demirtas*¹, Erik Taylor², Eve Donnelly², Ani Ural¹. ¹Villanova University, United States, ²Cornell University, United States

Disclosures: Ahmet Demirtas, None

- FRI-0057** **Aging and Chronic Kidney Disease differently diminish bone mechanics from the nano- to whole-bone scales**
 Chelsea M Heveran*¹, Charles Schurman², Claire Acevedo³, Eric Schaible⁴, Eric W Livingston⁵, Moshe Levi⁶, Ted Bateman⁵, Tamara Alliston^{2,7}, Karen B King⁸, Virginia L Ferguson¹. ¹Department of Mechanical Engineering, University of Colorado at Boulder, United States, ²Department of Orthopaedic Surgery, University of California San Francisco, United States, ³Department of Mechanical Engineering, University of Utah, United States, ⁴Lawrence Berkeley National Laboratory, United States, ⁵Department of Biomedical Engineering, University of North Carolina, United States, ⁶Department of Biochemistry and Molecular & Cellular Biology, Georgetown University, United States, ⁷UC Berkeley/UCSF Graduate Program in Bioengineering, United States, ⁸Department of Orthopaedics, University of Colorado School of Medicine, United States
Disclosures: Chelsea M Heveran, None
- FRI-0058** **ASBMR 2018 Fund for Research and Education Young Investigator Award in Honor of Adele L. Boskey**
The Effect of Vitamin D3 Supplementation on Distal Radius Fracture Healing: A Randomized Controlled HR-pQCT Trial
 F.L. Heyer*¹, J.J.A. De Jong¹, P.C. Willems¹, J.J. Arts², S.M.J. Van Kuijk¹, J.A.P. Bons¹, M. Poeze¹, P.P. Geusens¹, B. Van Rietbergen³, J.P. Van Den Bergh¹. ¹Maastricht University Medical Center, Netherlands, ²Eindhoven University of Technology, Netherlands, ³Technical University of Eindhoven, Netherlands
Disclosures: F.L. Heyer, None
- FRI-0059** **Differences in Microarchitectural and Nano-mechanical Properties of Bone Between Patients with and without Atypical Femoral Fracture after Prolonged Bisphosphonate Treatment**
 Shijing Qiu*¹, Lanny Griffin², George Divine¹, Mahalakshmi Honasoge¹, Arti Bhan¹, Shiri Levy¹, Elizabeth Warner¹, Sudhaker Rao¹. ¹Henry Ford Hospital, United States, ²California Polytechnic State University, United States
Disclosures: Shijing Qiu, None
- FRI-0060** **Effect of Exercise and Weight on Bone Health in 8-9 Year Old Children**
 Sandra Shefelbine*¹, Vineel Kondiboyina¹, Lauren Raine¹, Arthur Kramer¹, Naiman Khan², Charles Hillman¹. ¹Northeastern University, United States, ²University of Illinois at Urbana-Champaign, United States
Disclosures: Sandra Shefelbine, None
- FRI-0061** **ASBMR 2018 Annual Meeting Young Investigator Award**
Uncontrolled hyperglycemia delays bone healing and disrupts the microstructure and gene expression of cartilaginous and bony cells at the growth plate, metaphyseal and subchondral bone in diabetic rats
 Ariane Zamarioli*¹, Beatriz P Trani¹, Maysa S Campos¹, João Paulo B Ximenez², Raquel A Silva³, José B Volpon¹. ¹School of Medicine of Ribeirão Preto, Brazil, ²School of Pharmaceutical Sciences of Ribeirão Preto, Brazil, ³School of Dentistry of Ribeirão Preto, Brazil
Disclosures: Ariane Zamarioli, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS

- FRI-0110** **Identification of a Non-Linear Maturation Trajectory During Adolescence**
 Melanie Boeyer*, Emily Leary, Dana Duren. University of Missouri, United States
Disclosures: Melanie Boeyer, None

FRI-0111 Sexual Dimorphism in Cortical and Trabecular Bone Microstructure Appears During Puberty in Chinese Children
Ka Yee Cheuk*¹, Xiao-Fang Wang², Ji Wang³, Zhendong Zhang³, Fiona Wp Yu¹, Vivian Wy Hung¹, Wayne Yw Lee¹, Ali Ghasem-Zadeh², Roger Zebaze², Tracy Y Zhu¹, X Edward Guo³, Jack Cy Cheng¹, Tsz Ping Lam¹, Ego Seeman². ¹Department of Orthopaedics and Traumatology, The Chinese University of Hong Kong, Hong Kong, ²Departments of Endocrinology and Medicine, Austin Health, University of Melbourne, Australia, ³Bone Bioengineering Laboratory, Department of Biomedical Engineering, Columbia University, United States
Disclosures: Ka Yee Cheuk, None

FRI-0112 Elucidating the Mechanism of JAGGED1-mediated Osteoblast Commitment during Maxillary Development
Archana Kamalakar*, Melissa Oh, Samir Ballestas, Yvonne Coretha Stephenson, Steven Goudy. Emory University, United States
Disclosures: Archana Kamalakar, None

FRI-0113 Menstrual abnormalities and cortical bone deterioration in young female athletes: an analysis by HR-pQCT
Yuriko Kitajima*¹, Ko Chiba², Yusaku Isobe², Narihiro Okazaki², Naoko Murakami¹, Michio Kitajima¹, Kiyonori Miura¹, Makoto Osaki², Hideaki Masuzaki¹. ¹Department of Obstetrics and Gynecology, Nagasaki University Graduate School of Biomedical Sciences, Japan, ²Department of Orthopedic Surgery, Nagasaki University Graduate School of Biomedical Sciences, Japan
Disclosures: Yuriko Kitajima, MARUSAN-AI Co., Ltd., Grant/Research Support

FRI-0114 Body mass is important, but so is its distribution: associations between body composition and bone health measures in 11-12 year old children
Peter Simm*¹, Dorothea Dumuid², Susan Clifford³, Grace Gell³, Timothy Olds³, Melissa Wake³. ¹Dept of Endocrinology, Royal Children's Hospital Melbourne, Australia, ²Alliance for Research in Exercise, Nutrition and Activity, University of South Australia, Australia, ³Murdoch Children's Research Institute, Australia
Disclosures: Peter Simm, None

BONE INTERACTIONS WITH MUSCLE AND OTHER TISSUES

**FRI-0135 ASBMR 2018 Annual Meeting Young Investigator Award
Osteocalcin is necessary and sufficient to mount an acute stress response**
Julian Berger*, Lori Khrimian, Karsenty Gerard. Columbia University, United States
Disclosures: Julian Berger, None

FRI-0136 Mice with reduced visceral and bone marrow adipose tissue have increased bone mass
Louise Grahnmemo*¹, Karin L. Gustafsson¹, Klara Sjögren¹, Petra Henning¹, Vikte Lionikaite¹, Antti Koskela², Juha Tuukkanen², Claes Ohlsson¹, Ingrid Wernstedt Asterholm³, Marie K. Lagerquist¹. ¹Centre for Bone and Arthritis Research, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, The Sahlgrenska Academy, University of Gothenburg, Sweden, ²Medical Research Center, University of Oulu, Finland, Sweden, ³Unit of Metabolic Physiology, Department of Physiology, Institute of Neuroscience and Physiology, The Sahlgrenska Academy, University of Gothenburg, Sweden
Disclosures: Louise Grahnmemo, None

FRI-0137 An Osteocyte Protective Metabolite, β -aminoisobutyric Acid, BAIBA Mediates Survival Signals through MRGPRD/Ca²⁺/CaMKK β /AMPK pathway.
Yukiko Kitase*, Lynda Bonewald. Indiana University, United States
Disclosures: Yukiko Kitase, None

- FRI-0138** **Fam210a is a Novel Determinant of Bone and Muscle**
 Ken-Ichiro Tanaka*¹, Yingben Xue¹, Loan Nguyen-Yamamoto¹, John A Morris², Ippei Kanazawa³, Toshitsugu Sugimoto³, Simon S Wing⁴, J Brent Richards², David Goltzman¹.
¹Calcium Research Laboratory, Metabolic Disorders and Complications Program, Research Institute of the McGill University Health Centre, Canada, ²Departments of Medicine, Human Genetics, Epidemiology and Biostatistics, McGill University, Jewish General Hospital, Canada, ³Internal Medicine 1, Shimane University Faculty of Medicine, Japan, ⁴Division of Endocrinology, Department of Medicine, McGill University, Canada
Disclosures: Ken-Ichiro Tanaka, None
- FRI-0139** **The direct transdifferentiation of tendon cells into bone cells during bone modeling and remodeling**
 Ke Wang*¹, Chi Ma¹, Minghao Zheng², Xiaohua Liu¹, Jian Feng¹, Yan Jing¹. ¹Texas A&M University College of Dentistry, United States, ²The University of Western Australia, Australia
Disclosures: Ke Wang, None

BONE MARROW MICROENVIRONMENT AND NICHEs

- FRI-0169** **Low bone mass and high marrow adiposity in congenic 6T mice are related to shifts in metabolic flexibility within the bone marrow niche.**
 Sheila Bornstein*, Clifford Rosen, Victoria Demambro, Anyonya Guntur, Makoto Fujiwara. Maine Medical Center Research Institute, United States
Disclosures: Sheila Bornstein, None
- FRI-0170** **Activation of β -catenin signaling in mature osteoblasts versus osteoblast progenitors defines a transcriptional and mutational profile for the transformation of MDS to AML**
 Álvaro Cuesta-Domínguez*¹, Ioanna Mosialou¹, Junfei Zhao², Akihide Yoshimi³, Konstantinos Panitsas⁴, Richard A. Friedman⁵, Omar Abdel-Wahab^{3,6}, Raúl Rabadán⁷, Stavroula Kousteni¹. ¹Department of Physiology and Cellular Biophysics, College of Physicians and Surgeons, Columbia University Medical Center, United States, ²Department of Systems Biology, Columbia University Medical Center, United States, ³Human Oncology and Pathogenesis Program, Memorial Sloan Kettering Cancer Center, United States, ⁴Department of Physiology and Cellular Biophysics, College of Physicians and Surgeons, Columbia University, United States, ⁵Biomedical Informatics Shared Resource, Department of Biomedical Informatics, Herbert Irving Comprehensive Cancer Center, College of Physicians and Surgeons, Columbia University Medical Center, United States, ⁶Weill Cornell Medical College and Leukemia Service, Dept. of Medicine, Memorial Sloan Kettering Cancer Center, United States, ⁷Department of Systems Biology and Department of Biomedical Informatics, Columbia University Medical Center, United States
Disclosures: Álvaro Cuesta-Domínguez, None
- FRI-0171** **Pharmacological Targeting of Osteoblast-Induced MDS and AML**
 Ioanna Mosialou*, Marta Galan-Diez, Andrew Vandenberg, Abdullah Ali, Azra Raza, Stavroula Kousteni. Columbia University, United States
Disclosures: Ioanna Mosialou, None
- FRI-0172** **Single-cell proteomics reveal bone marrow stromal cell drivers of blood regeneration**
 Nicolas Severe*¹, Murat Karabacak², Karin Gustafsson¹, Ninib Baryawno¹, Gabriel Courties¹, Youmna Kfoury¹, Elizabeth Scadden¹, Matthias Nahrendorf¹, Mehmet Toner², David Scadden¹. ¹Massachusetts General Hospital, United States, ²Shriners Hospital for Children, United States
Disclosures: Nicolas Severe, None

BONE TUMORS AND METASTASIS

- FRI-0187** **ERRa in primary breast tumours promotes tumour cell dissemination to bone by regulating RANK**
Geoffrey Vargas*¹, Mathilde Bouchet², Casina Kan³, Claire Benetollo⁴, Martine Crosset¹, Martine Mazel⁵, Laure Cayrefourcq³, Sophie Vacher⁶, Francesco Pantano⁷, Keltouma Driouch⁶, Ivan Bieche⁶, William Jacot⁵, Jane Aubin⁸, Catherine Alix-Panabieres⁵, Philippe Clezardin¹, Edith Bonnelye¹. ¹INSERM-U1033, France, ²ENS-Lyon, France, ³INSERM U1033, Australia, ⁴INSERM U 1028-CNRS UMR 5292-UCBL Lyon 1, France, ⁵Institut Universitaire de Recherche Clinique (IURC)- Montpellier, France, ⁶Institut Curie, France, ⁷University Campus Bio-Medico-Roma, Italy, ⁸University of Toronto, Canada
Disclosures: Geoffrey Vargas, None
- FRI-0188** **ASBMR 2018 Annual Meeting Young Investigator Award
S100A4 Released from Highly Bone-metastatic Breast Cancer Cells Plays a Critical Role in Osteolysis**
Haemin Kim*¹, Sang Il Kim², Hyung Joon Kim³, Brian Y. Ryu², Junho Chung², Zang Hee Lee², Hong-Hee Kim². ¹Hospital for Special Surgery, United States, ²Seoul National University, Republic of Korea, ³Pusan National University, Republic of Korea
Disclosures: Haemin Kim, None
- FRI-0189** **Granulocyte Colony Stimulating Factor impacts on osteomacs and bone marrow macrophages – implications for prostate cancer osteoblastic lesion formation**
Susan Millard*, Andy Wu, Simran Kaur, Yaowu He, Lena Batoon, John Hooper, Allison Pettit. Mater Research - UQ, Australia
Disclosures: Susan Millard, None
- FRI-0190** **Serum levels of RANKL are increased in primary breast cancer patients in the presence of disseminated tumor cells in the bone marrow.**
Tilman Rachner*¹, Martina Rauner², Andy Göbel², Oliver Hoffmann³, Lorenz Hofbauer², Rainer Kimmig³, Sabine Kasimir-Bauer³, Ann-Kathrin Bittner³. ¹Universitätsklinik Dresden, Germany, ²University Hospital Dresden, Germany, ³University Hospital Essen, Germany
Disclosures: Lorenz Hofbauer, None
- FRI-0191** **Suppression of Breast Cancer Bone metastasis by Osteocytic Connexin Hemichannels, a Potential Therapeutic Target**
Manuel Riquelme*¹, Sumin Gu¹, Zhiqiang An², Jean Jiang¹. ¹Department of Biochemistry and Structural Biology, University of Texas Health Science Center at San Antonio, United States, ²Brown Foundation, Institute of Molecular Medicine, UT Health Houston, United States
Disclosures: Lorenz Hofbauer, None
- FRI-0192** **HDAC inhibitors directly stimulate LIFR and induce pro-dormancy effects in breast cancer cells**
Miranda Sowder*¹, Lauren Holtslander¹, Vera Mayhew¹, Samuel Dooyema¹, Rachele W. Johnson². ¹Vanderbilt University, United States, ²Vanderbilt University Medical Center, United States
Disclosures: Miranda Sowder, None
- FRI-0193** **Pharmacological Inhibition of Sclerostin Protects From Breast Cancer-induced Osteolytic Disease and Muscle Weakness**
Eric Hesse*, Saskia Schröder, Diana Zarecneva, Jenny Pamperin, Hiroaki Saito, Hanna Taipaleenmäki. Molecular Skeletal Biology Laboratory, Department of Trauma, Hand and Reconstructive Surgery, University Medical Center Hamburg-Eppendorf, Germany
Disclosures: Eric Hesse, None

CHONDROCYTES

- FRI-0226** **DDR1, an essential component of the ufmylation process, regulates osteochondrogenitor fate determination**
Yangjin Bae*, Adetutu Egunsola, Monika Weisz-Hubshman, Ming-Ming Jiang, Brendan Lee. Baylor College of Medicine, United States
Disclosures: Yangjin Bae, None

- FRI-0227** **The role of mitochondrial dysfunction in the development of post-traumatic osteoarthritis**
Katherine Escalera-Rivera*, Sarah Catheline, Roman Eliseev, Jennifer Jonason. University of Rochester, United States
Disclosures: Katherine Escalera-Rivera, None
- FRI-0228** **Postnatal inactivation of Dot1L histone methyltransferase in growth plate cartilage impairs longitudinal bone growth**
Sangita Karki*, Rosa M. Guzzo. UConn Health, United States
Disclosures: Sangita Karki, None
- FRI-0229** **Ciliary IFT80 Plays a Critical and Necessary Role in Fracture Healing through Regulating IGF β Signaling Pathway**
Min Liu*¹, Mohammed Alharbi², Jormay Lim¹, Dana Graves², Shuying Yang¹. ¹Dept. of Anatomy and Cell Biology, School of Dental Medicine, University of Pennsylvania, United States, ²Dept. of Periodontics, School of Dental Medicine, University of Pennsylvania, United States
Disclosures: Min Liu, None
- FRI-0230** **PTHrP Targets Salt-induced Kinases to Regulate Chondrocyte Differentiation**
Shigeki Nishimori*¹, Marc Wein¹, Kei Sakamoto², Marc Foretz³, Rebecca Berdeaux⁴, Henry Kronenberg¹. ¹Massachusetts General Hospital, United States, ²Nestlé Institute of Health Sciences, Switzerland, ³INSERM, France, ⁴University of Texas, United States
Disclosures: Shigeki Nishimori, None
- FRI-0231** **Direct transdifferentiation of ligament cells into articular chondrocytes that is regulated by Indian hedgehog (IHH) signaling and phosphate levels**
Jun Wang*¹, Chi Ma¹, Hui Li¹, Zhanjun Li², Liangxue Lai², Yan Jing¹, Jian Q. Feng¹. ¹Texas A&M College of Dentistry, United States, ²Jilin Provincial Key Laboratory of Animal Embryo Engineering, Jilin University, China
Disclosures: Jun Wang, None

ENERGY METABOLISM, BONE, MUSCLE AND FAT

- FRI-0255** **Undercarboxylated Osteocalcin Downregulates Pancreatic Lipase Expression in CREB2-Dependent Manner in Pancreatic Acinar Cells**
Danbi Park*¹, Ye-Won Kwon¹, Jeong-Hwa Baek², Kyunghwa Baek¹. ¹Department of Pharmacology, College of Dentistry and Research Institute of Oral Science, Gangneung-Wonju National University, Republic of Korea, ²Department of Molecular Genetics, School of Dentistry and Dental Research Institute, Seoul National University, Republic of Korea
Disclosures: Danbi Park, None
- FRI-0256** **Ppar γ inhibition in osteoblast / osteocyte (OB/OCY) restores PTH bone anabolism in high fat diet model, importance of glycolysis versus mitochondrial oxidation ratio**
Lucie Bourgoin*¹, Beatrice Desvergne², Nicolas Bonnet¹. ¹Service of Bone Diseases, Faculty of Medicine (UNIGE), Switzerland, ²Genopode Science & medical University, Switzerland
Disclosures: Lucie Bourgoin, None
- FRI-0257** **Allocation of Bone Marrow Stromal Cells into the Adipogenic Lineage is Marked by Enhanced Expression of the Mitophagy Receptor Bcl2L13**
Makoto Fujiwara*¹, Anyonya Guntur¹, Phuong Le¹, Victoria Demambro¹, Mark Horowitz², Clifford Rosen¹. ¹Maine Medical Center Research Institute, United States, ²Yale University School of Medicine, United States
Disclosures: Makoto Fujiwara, None
- FRI-0258** **Metformin Facilitates Fracture Healing in Type-2 Diabetes Mice**
Yuqi Guo*, Xin Li. NYU College of Dentistry, United States
Disclosures: Yuqi Guo, None

- FRI-0259** **KLF10 regulates skeletal muscle metabolism in mice**
Malek Kammoun*¹, Vladimir Veksler², Jérôme Piquereau², Lydie Nadal-Desbarats³, Philippe Pouletaut¹, Molly Nelson Holte⁴, Malayannan Subramaniam⁴, Sabine Bensamoun¹, John Hawse⁴. ¹Université de Technologie de Compiègne, France, ²Univ. Paris-Sud, France, ³Université de Tours, France, ⁴Mayo Clinic, United States
Disclosures: Malek Kammoun, None
- FRI-0260** **Fatty acid oxidation is essential for osteoclast development and skeletal homeostasis**
Priyanka Kushwaha*¹, Conor Beil², Michael J. Wolfgang¹, Ryan C. Riddle¹. Johns Hopkins University School of Medicine, United States, ²Johns Hopkins University, United States
Disclosures: Priyanka Kushwaha, None
- FRI-0261** **Metabolic characterization of the OCN-Cre;idTR mouse model supports a relationship between bone health, bone marrow adipose tissue, and overall fitness**
Heather Fairfield*¹, Samantha Costa¹, Calvin Vary¹, Victoria Demambro¹, Marie Demay², Clifford Rosen¹, Michaela Reagan¹. ¹Maine Medical Center Research Institute, United States, ²Center for Skeletal Research, Massachusetts General Hospital, United States
Disclosures: Heather Fairfield, None
- FRI-0262** **Complexity in Neuropeptide Y's effects on the skeleton**
Natalie Ky Wee*¹, Benjamin P Sinder¹, Sanja Novak¹, Xi Wang¹, Brya G Matthews², Boris Zemelman³, Ivo Kalajzic¹. ¹Department of Reconstructive Sciences, University of Connecticut Health Center, United States, ²Department of Molecular Medicine, University of Auckland, New Zealand, ³Center for Learning and Memory, The University of Texas at Austin, United States
Disclosures: Natalie Ky Wee, None

GENETIC MODELS OF MUSCULOSKELETAL DISEASES

- FRI-0295** **Biochemical and phenotypic characterization of mice constitutively expressing epitope-tagged PIT1 transporter in all tissues**
Clemens Bergwitz*, Sampada Chande, Bryan Ho, Shumayi Syed, Jonathan Fentene. Yale University School of Medicine, United States
Disclosures: Clemens Bergwitz, None
- FRI-0296** **The role of inorganic pyrophosphate in the pathogenesis of PXE caused by ABCC6 mutations**
Qiaoli Li*, Jouni Uitto. Thomas Jefferson University, United States
Disclosures: Qiaoli Li, None
- FRI-0297** **BMP2 is Required for Enteseal Bone Formation in Antigen-Induced Arthritis**
Yukiko Maeda*, Catherine Manning, Ellen Gravallesse. University of Massachusetts Medical School, United States
Disclosures: Yukiko Maeda, Abbvie, Grant/Research Support
- FRI-0298** **COPB2 Loss of Function Leads to Disrupted Collagen Trafficking and Juvenile Osteoporosis**
Ronit Marom*¹, Lindsay C Burrage¹, Mahim Jain², Ingo Grafe¹, Daryl A Scott¹, Jill A Rosenfeld¹, Jason D Heaney¹, Denise Lanza¹, Xiaohui Li¹, Kyu-Sang Joeng¹, Yi-Chien Lee¹, I-Wen Song¹, Joseph M Slipek¹, Dominyka Batkovskytė¹, Zixue Jin¹, Brian C Dawson¹, Shan Chen¹, Yuqing Chen¹, Ming-Ming Jiang¹, Elda M Munivez¹, Vernon R Sutton¹, Cole Kuzawa³, Rossella Venditti⁴, Maryann Weis⁵, Aurélie Clément⁶, Brenna Tremp⁶, Bernardo Blanco-Sánchez⁶, Monte Westerfield⁶, David Eyre⁵, Catherine G Ambrose³, Antonella De Matteis⁴, Brendan Lee¹. ¹Baylor College of Medicine, United States, ²Kennedy Krieger Institute, United States, ³University of Texas Health Science Center at Houston, United States, ⁴TIGEM (Telethon Institute of Genetics and Medicine), Italy, ⁵University of Washington, United States, ⁶University of Oregon, United States
Disclosures: Ronit Marom, None

FRI-0299 **PIN1 is a new therapeutic target of craniosynostosis**
Hye-Rim Shin*¹, Han-Sol Bae¹, Bong-Su Kim¹, Heein Yoon¹, Young-Dan Cho¹, Woo-Jin Kim¹, Kang Young Choi², Yun-Sil Lee¹, Kyung-Mi Woo¹, Jeong-Hwa Baek¹, Hyun-Mo Ryoo¹. ¹Seoul National University, Republic of Korea, ²Kyungpook National University, Republic of Korea
Disclosures: Hye-Rim Shin, None

FRI-0300 **Identifying Genetic Modifiers in Patients with Mild Fibrodysplasia Ossificans Progressiva using Whole Exome Sequencing**
Kelly Wentworth*¹, Tania Moody¹, Kim Taylor¹, Niambi Brewer², Fred Kaplan², Robert Pignolo³, Eileen Shore², Edward Hsiao¹. ¹UCSF, United States, ²UPenn, United States, ³Mayo Clinic, United States
Disclosures: Kelly Wentworth, Clementia Pharmaceuticals, Other Financial or Material Support

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE

FRI-0325 **A high resolution Capture-C promoter 'interactome' implicates causal genes at BMD GWAS loci**
Alessandra Chesi*¹, Yadav Wagley², Matthew E. Johnson¹, Sumei Lu¹, Michelle E. Leonard¹, Kenya M. Hodge¹, James A. Pippin¹, Elisabetta Manduchi¹, Andrew D. Wells¹, Struan F.A. Grant¹, Kurt D. Hankenson². ¹The Children's Hospital of Philadelphia, United States, ²University of Michigan, United States
Disclosures: Alessandra Chesi, None

FRI-0326 **Assessing Clinical Utility of Genetic Profiling in Fracture Risk Assessment: A Decision Curve Analysis**
Thao P. Ho-Le*^{1,2}, Jacqueline R. Center^{1,3}, John A. Eisman^{1,3,4}, Hung T. Nguyen², Tuan V. Nguyen^{1,2,3,4}. ¹Bone Biology Division, Garvan Institute of Medical Research, ²School of Biomedical Engineering, University of Technology, Sydney, Australia, ³St Vincent Clinical School, UNSW Australia, Australia, ⁴School of Medicine, Notre Dame University, Australia
Disclosures: Thao P. Ho-Le, None

FRI-0327 **Bioinformatics Informs GWAS: An Osteoporosis and Epigenetics Study**
Hui Shen*, Xiao Zhang, Fangtang Yu, Hong-Wen Deng, Melanie Ehrlich. Tulane University, United States
Disclosures: Hui Shen, None

HORMONAL REGULATORS

FRI-0343 **Regulation of FGF23 and Bone Mass by the Proprotein Convertase Furin**
Omar Al Rifai*¹, Rachid Essalmani¹, John Creemers², Nabil G. Seidah¹, Mathieu Ferron¹. ¹Institut de recherches cliniques de Montreal, Canada, ²KU Leuven, Belgium
Disclosures: Omar Al Rifai, None

FRI-0344 **WITHDRAWN**

FRI-0345 **Bone-Targeted Pharmacological Inhibition of Notch Signaling Potentiates PTH-induced Bone Gain.**
Jesus Delgado-Calle*¹, Gerald Wu², Mathew E. Olson¹, Kevin Mcandrews², Jessica H. Nelson¹, Ashley L. Daniel¹, Noriyoshi Kurihara¹, Emily G. Atkinson², Venkat Srinivasan³, Lifeng Xiao³, Frank H. Ebetino³, G. David Roodman¹, Robert K. Boeckman Jr³, Teresita Bellido². ¹Indiana University School of Medicine, Dept. of Medicine, Hematology/Oncology, United States, ²Indiana University School of Medicine, Dept. of Anatomy and Cell Biology, United States, ³University of Rochester, Dept. of Chemistry, United States
Disclosures: Jesus Delgado-Calle, None

FRI-0346 **Overexpression of Sirt1 in Mesenchymal Stem Cells Protects against Glucocorticoid-Induced Osteoporosis by Inhibiting Oxidative Stress and Osteocyte Senescence**
Qinghe Geng*, Xiaoqing Hu, Jun Wu, Dengshun Miao. Nanjing Medical University, China
Disclosures: Qinghe Geng, None

FRI-0347 Sustained Klotho delivery reduces serum phosphate in a model of diabetic nephropathy
Julia Hum*¹, Linda O'Bryan², Arun Tatiparthi³, Erica Clinkenbeard⁴, Pu Ni⁴, Martin Cramer², Manoj Bhaskaran², Robert Johnson², Jonathan Wilson², Rosamund Smith², Kenneth White⁴. ¹Marian University, United States, ²Eli Lilly and Company, United States, ³Covance Inc, United States, ⁴Indiana University School of Medicine, United States
Disclosures: Julia Hum, None

FRI-0348 WITHDRAWN

**FRI-0349 ASBMR 2018 Annual Meeting Young Investigator Award
1,25-Dihydroxyvitamin D Retards Osteoporosis by Activating Nrf2-Antioxidant Signaling and Inactivating P16 Senescence Signaling**
Wanxin Qiao*¹, Lulu Chen¹, Weiwei Sun¹, David Goltzman², Dengshun Miao¹. ¹Nanjing Medical University, China, ²McGill University, Canada
Disclosures: Wanxin Qiao, None

FRI-0350 Estrogen-stimulated pleiotrophin functions to stimulate osteoblast differentiation and maintain bone mass in IGF binding protein-2 knockout mice
Susan D'Costa*¹, Gang Xi¹, Victoria Demambro², Clifford Rosen², David Clemmons¹.
¹University of North Carolina at Chapel Hill, United States, ²Maine Medical Center Research Institute, United States
Disclosures: Susan D'Costa, None

FRI-0351 Overexpression of Sirt1 in Mesenchymal Stem Cells Protects against Estrogen Deficiency-Induced Osteoporosis
Qian Zhang*, Rong Wang, Jianliang Jin, Dengshun Miao. Nanjing Medical University, China
Disclosures: Qian Zhang, None

MECHANOBIOLOGY

FRI-0392 Gambogic amide, a TrkA agonist, augments skeletal adaptation to mechanical loading through sensory nerve signaling
Phuong Hua*, Ryan Tomlinson. Thomas Jefferson University, United States
Disclosures: Phuong Hua, None

FRI-0393 Knockout p16 Protects against Unloading-Induced Intervertebral Disc Degeneration by Inhibiting Oxidative Stress And Cell Senescence
Yongxin Ren*, Hui Che. The First Affiliated Hospital of Nanjing Medical University, China
Disclosures: Yongxin Ren, None

FRI-0394 FAK expression in osteocytes is dispensable for bone accrual and for the anabolic response of cortical and cancellous bone to mechanical loading in female mice.
Amy Y Sato*¹, Troy Li¹, Kevin Mcandrews¹, Alexander G Robling², Teresita Bellido³.
¹Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, ²Department of Anatomy & Cell Biology, Indiana University School of Medicine, Roudebush Veterans Administration Medical Center, United States, ³Department of Anatomy & Cell Biology, Department of Medicine, Division of Endocrinology, Indiana University School of Medicine, Roudebush Veterans Administration Medical Center, United States
Disclosures: Amy Y Sato, None

**FRI-0395 ASBMR 2018 Annual Meeting Young Investigator Award
IGF1R Deficiency in Periosteal Osteoprogenitors Inhibits Bone Response to Mechanical Loading**
Tianlu Wang*, Faming Tian, Yongmei Wang, Daniel Bikle. Endocrine Unit, University of California, San Francisco and San Francisco VA Health Care System, United States
Disclosures: Tianlu Wang, None

FRI-0396 Mechanical Loading Induces Bone Formation from Pre-Existing Osterix Expressing Cells
Heather Zannit*, Matthew Silva. Washington University in St. Louis, United States
Disclosures: Heather Zannit, None

MUSCULOSKELETAL AGING

- FRI-0419** **Short-term pharmacologic inhibition of RAGE suppresses bone turnover and muscle atrophy in aging**
Hannah M. Davis*^{1,2}, Mohammad W. Aref^{1,2}, Alyson L. Essex¹, Sinai Valdez¹, Alexandra Aguilar-Perez^{1,2}, Padmini Deosthale^{1,2}, Fletcher White^{3,4,5}, Jolene Windle⁶, Matthew R. Allen^{1,2,5}, Lillian I. Plotkin^{1,2,5}. ¹Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, ²Indiana Center for Musculoskeletal Health, United States, ³Department of Anesthesia, Indiana University School of Medicine, United States, ⁴Stark Neuroscience Research Institute, Indiana University School of Medicine, United States, ⁵Roudebush Veterans Administration Medical Center, United States, ⁶Department of Human and Molecular Genetics, Virginia Commonwealth University, Richmond, VA, United States
Disclosures: Hannah M. Davis, None
- FRI-0420** **Anti-Sost/Dkk1 Antibody Therapy Increases Bone Formation in Old Mice, but Does Not Enhance Their Modest Response to Tibial Loading**
Lisa Lawson*, Michael Brodt, Matthew Silva. Washington University in St. Louis, United States
Disclosures: Lisa Lawson, None
- FRI-0421** **Association of trajectories of change in bone, lean mass and physical performance with mortality in older men**
Jian Shen*¹, Neeta Parimi², Peggy Cawthon², Lisa Langsetmo³, Kris Ensrud³, Jane Cauley⁴, Deborah Kado⁵. ¹University of California, San Diego, United States, ²California Pacific Medical Center Research Institute, United States, ³University of Minnesota, United States, ⁴University of Pittsburgh Graduate School of Public Health, United States, ⁵University of California, United States
Disclosures: Jian Shen, None
- FRI-0422** **Fibroblast growth factor receptor 3 inhibits progression of degeneration in the intervertebral disc in mice**
Yangli Xie*, Xiaolan Du, Lin Chen, Zuqiang Wang. Department of Rehabilitation Medicine, Center of Bone Metabolism and Repair, State Key Laboratory of Trauma, Burns and Combined Injury, Trauma Laboratory, Daping Hospital, Army Medical University, China
Disclosures: Yangli Xie, None

MUSCULOSKELETAL DEVELOPMENT

- FRI-0438** **Novel Genetic Loci Control L5 Vertebral Trabecular Bone and the Response to Low Calcium Intake in Growing BXD Recombinant Inbred Mice**
Krittikan Chanpaisaeng*¹, Sarah Mace², Perla Reyes-Fernandez¹, James Fleet¹. ¹Department of Nutrition Science, Purdue University, United States, ²Department of Biological Sciences, Purdue University, United States
Disclosures: Krittikan Chanpaisaeng, None
- FRI-0439** **The large variant of the stimulatory G protein alpha-subunit XLas regulates bone formation by promoting Wnt signaling**
Qing He*, Julia Matthias, Lauren Shumate, Murat Bastepe. Massachusetts General Hospital and Harvard Medical School, United States
Disclosures: Qing He, None
- FRI-0440** **BMP9 stimulates synovial joint regeneration in mice**
Ken Muneoka*, Ling Yu, Mingquan Yan, Lindsay Dawson. Texas A&M University, United States
Disclosures: Ken Muneoka, None
- FRI-0441** **Microtubule-Actin Crosslinking Factor 1 Is Essential for Bone Formation in Mice**
Fan Zhao*¹, Xiaoli Ma¹, Wuxia Qiu², Lifang Hu¹, Aironq Qian¹. ¹Northwestern Polytechnical University, China, ²Northwestern Polytechnical, China
Disclosures: Fan Zhao, None

- FRI-0442** **Epigenetic regulator, Uhrf1, positively controls skeletal muscle differentiation**
Yuichiro Sawada*¹, Tadahiko Kikugawa¹, Iori Sakakibara², Yusuke Ono³, Yuta Yanagihara⁴, Noritaka Saeki⁴, Hiroyuki Iio¹, Takashi Saika¹, Yuuki Imai⁴. ¹Department of Urology, Ehime University Graduate School of Medicine, Japan, ²Research Center for Advanced Science and Technology, The University of Tokyo, Japan, ³Musculoskeletal Molecular Biology Research Group, Nagasaki University Graduate School of Biomedical Sciences, Japan, ⁴Division of Integrative Pathophysiology, Proteo-Science Center, Ehime University, Japan
Disclosures: Yuichiro Sawada, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION

- FRI-0464** **Targeted epigenetic modulation of bone-specific enhancers regulates mesenchymal cell fate and controls osteoblastic differentiation**
Jonathan Gordon*¹, Coralee Tye¹, Joseph Boyd¹, Andre Van Wijnen², Janet Stein¹, Gary Stein¹, Jane Lian¹. ¹Department of Biochemistry, Larner College of Medicine, University of Vermont, United States, ²Department of Orthopedic Surgery, Mayo Clinic, United States
Disclosures: Jonathan Gordon, None
- FRI-0465** **Glutamine metabolism is required in skeletal stem cells for appropriate bone regeneration.**
Yilin Yu*, Anthony Mirando, Leyao Shen, Matthew Hilton, Courtney Karner. Duke University, United States
Disclosures: Yilin Yu, None
- FRI-0466** **Zinc Finger Protein 467 Is a Major Determinant of Lineage Allocation and Bone Turnover in Female Mice**
Phuong Le*¹, Weiqing Liu², Tj Martin³, Beate Lanske⁴, Roland Baron², Clifford Rosen¹. ¹Maine Medical Center Research Institute, United States, ²Harvard School of Dental Medicine, United States, ³St. Vincent's Institute Medical Research, Australia, ⁴Radius Health, Inc, United States
Disclosures: Phuong Le, None
- FRI-0467** **Effects of Notch1 signaling on bone fracture healing**
Sanja Novak*¹, Emilie Roeder¹, Brya G Matthews¹, Douglas J Adams², Ivo Kalajzic¹. ¹Department of Reconstructive Sciences, University of Connecticut Health Center, United States, ²Department of Orthopaedic Surgery, University of Connecticut Health Center, United States
Disclosures: Sanja Novak, None
- FRI-0468** **Aberrant muscle tissue repair by mutant ACVR1 FOP muscle stem cells – implications for heterotopic ossification**
Alexandra Stanley*¹, Elisia Tichy², Foteini Mourkioti³, Eileen M. Shore⁴. ¹Perelman School of Medicine, University of Pennsylvania, Department of Orthopaedic Surgery, Cell and Developmental Biology Graduate Program, United States, ²Perelman School of Medicine, University of Pennsylvania, Department of Orthopaedic Surgery, United States, ³Perelman School of Medicine, University of Pennsylvania, Departments of Orthopaedic Surgery and Cell and Developmental Biology, United States, ⁴Perelman School of Medicine, University of Pennsylvania, Departments of Orthopaedic Surgery and Genetics, United States
Disclosures: Alexandra Stanley, None
- FRI-0469** **New Insight into SHP2 regulation of Osteogenic Commitment of Mesenchymal Progenitors**
Lijun Wang*¹, Jiahui Huang², Chunlin Zuo², Douglas Moore², Matthew Warman³, Michael Ehrlich¹, Wentian Yang¹. ¹Department of Orthopaedics, Brown University Alpert Medical School and Rhode Island Hospital, United States, ²Brown University Alpert Medical School and Rhode Island Hospital, United States, ³Orthopaedic Research Laboratories and Howard Hughes Medical Institute, Boston Children's Hospital and Harvard Medical School, United States
Disclosures: Lijun Wang, None

- FRI-0470 PDGFR β signaling regulates osteogenesis of α SMA labeled periosteal cells.**
 Xi Wang^{*1}, Sanja Novak¹, Danka Grcevic², Brya G Matthews¹, Ivo Kalajzic¹. ¹UConn Health, United States, ²University of Zagreb, Croatia
Disclosures: Xi Wang, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS

- FRI-0501 Drug-induced modulation of gp130 signaling prevents articular cartilage degeneration and promotes repair**
 Ruzanna Shkhyan^{*}, Ben Van Handel, Jacob Bogdanov, Denis Evseenko. University of Southern California, United States
Disclosures: Ruzanna Shkhyan, None
- FRI-0502 Tissue Mechanical Deficiencies Detected in Both Articular Cartilage and Subchondral Trabecular Bone in Osteoarthritic Human Knees**
 Yizhong Hu^{*1}, Eric Y. Yu¹, Ariana Moini¹, Zexi Wang¹, Matthew Scott Heller², Akshay Lakra², Herbert John Cooper², Roshan Pradip Shah², Jeffrey Albert Geller², X. Lucas Lu³, X. Edward Guo¹. ¹Bone Bioengineering Laboratory, Columbia University, United States, ²Department of Orthopaedic Surgery, Columbia University Medical Center, United States, ³Department of Mechanical Engineering, University of Delaware, United States
Disclosures: Yizhong Hu, None
- FRI-0503 ASBMR 2018 Annual Meeting Young Investigator Award**
Reliable change index in the evaluation of joint space loss: a novel method for assessing osteoarthritis progression data from the Osteoarthritis Initiative
 Camille Parsons^{*1}, Andy Judge², Kirsten Leyland², Hazel Inskip¹, Cyrus Cooper¹. ¹MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ²University of Bristol, United Kingdom
Disclosures: Camille Parsons, None
- FRI-0504 Predicting total hip replacement for symptomatic osteoarthritis using radiographs or clinical computed tomography; a prospective case-control study**
 Kenneth Poole^{*1}, Ilya Burkov¹, Graham Treece¹, Andrew Gee¹, Thomas Turmezei¹, Fjola Johannesdottir¹, Sigurdur Sigurdsson², Tamara Harris⁴, Helgi Jonsson³, Vilmundur Gudnason⁵. ¹University of Cambridge, United Kingdom, ²The Icelandic Heart Association, Iceland, ³Public Health Sciences, University of Iceland, Iceland, ⁴Laboratory of Epidemiology and Population Sciences, United States, ⁵Faculty of Medicine, University of Iceland, Iceland
Disclosures: Kenneth Poole, None
- FRI-0505 Beneficial effects of Denosumab on bone loss and bone erosion from results of long-term treatment in the phase 3, DESIRABLE study in patients with rheumatoid arthritis (RA) on background csDMARDs**
 Yoshiya Tanaka^{*1}, Satoshi Soen², Hisashi Yamanaka³, Toshiyuki Yoneda⁴, Sakae Tanaka⁵, Takaya Nitta⁶, Naoki Okubo⁶, Harry Genant⁷, Désirée Van Der Heijde⁸, Tsutomu Takeuchi⁹. ¹University of Occupational and Environmental Health, Japan, ²Kindai University Nara Hospital, Japan, ³Institute of Rheumatology Tokyo Women's Medical University, Japan, ⁴Osaka University Graduate School of Dentistry, Japan, ⁵The University of Tokyo, Japan, ⁶Daiichi Sankyo Co. Ltd, Japan, ⁷University of California, United States, ⁸Leiden University Medical Center, Netherlands, ⁹Keio University School of Medicine, Japan
Disclosures: Yoshiya Tanaka, Mitsubishi Tanabe, Takeda, Bristol-Myers, Chugai, Astellas, Abbvie, MSD, Daiichi Sankyo, Pfizer, Kyowa Hakkō Kirin, Eisai, Ono, Grant/Research Support, Daiichi-Sankyo, Astellas, Pfizer, Mitsubishi Tanabe, Bristol-Myers, Chugai, YL Biologics, Eli Lilly, Sanofi, Janssen, UCB, Speakers' Bureau
- FRI-0506 WITHDRAWN**

OSTEOBLASTS

- FRI-0537** **Conditional deletion of Dock7 in the early limb bud results in reduced trabecular bone in both sexes with increased fat mass only in male mice**
Kathleen A Becker^{*1}, Daniel J Brooks², Anne Harrington³, Mary L Bouxsein², Lucy Liaw³, Clifford J Rosen³. ¹Maine Medical Center Research Institute, United States, ²Beth Israel Deaconess Medical Center, Harvard Medical School, United States, ³Maine Medical Center Research Institute, Maine Medical Center, United States
Disclosures: Kathleen A Becker, None
- FRI-0538** **The Role of VEGFA from Osteoblast Lineage Cells during Fracture and Cortical Defect Repair**
Evan Buettmann^{*}, Nicole Migotsky, Susumu Yoneda, Pei Hu, Jennifer Mckenzie, Matthew Silva. Washington University in St. Louis, United States
Disclosures: Evan Buettmann, None
- FRI-0539** **Gene regulatory landscape in primary human mesenchymal stem cell (MSC) during BMP2-induced osteoblast differentiation**
Alessandra Chesi^{*1}, Yadav Wagley², Matthew E. Johnson¹, Sumei Lu¹, Michelle E. Leonard¹, Kenyaita M. Hodge¹, James A. Pippin¹, Elisabetta Manduchi¹, Andrew D. Wells¹, Kurt D. Hankenson², Struan F.A. Grant¹. ¹The Children's Hospital of Philadelphia, United States, ²University of Michigan, United States
Disclosures: Alessandra Chesi, None
- FRI-0540** **Ablation of Gjc1 in the Chondro-Osteogenic Lineage Inhibits Osteoclastogenesis Leading to High Trabecular Bone Mass**
Francesca Fontana^{*}, Marcus Watkins, Song Dah Woon, Giulia Leanza, Roberto Civitelli. Washington University School of Medicine, United States
Disclosures: Francesca Fontana, None
- FRI-0541** **A novel role for tissue nonspecific alkaline phosphatase in cranial bone progenitor cells.**
Hwa Kyung Nam^{*}, Iva Vesela, Nan Hatch. University of Michigan, School of Dentistry, United States
Disclosures: Hwa Kyung Nam, None
- FRI-0542** **Global Expression of miR-29 Decoy Decreases Bone Formation and Alters Cortical Bone Morphology in Young Mice**
Henry Hrdlicka^{*}, Bongjin Shin, Anne Delany, Sun-Kyeong Lee. UConn Health, United States
Disclosures: Henry Hrdlicka, None
- FRI-0543** **TNAP Deficiency Is the Major Contributor to the Loss of the Mineralization Potential of Trps1 Deficient Osteogenic Cells**
Sana Khalid^{*}, Byongsoo Chae, Daisy Monier, Mairobys Socorro, Victoria Smethurst, Dobrawa Napierala. Center for Craniofacial Regeneration, Dept. of Oral Biology, McGowan Institute for Regenerative Medicine, University of Pittsburgh School of Dental Medicine, United States
Disclosures: Sana Khalid, None
- FRI-0544** **Macrophage-secreted Emilin2 Stimulates Chemotaxis and Differentiation in Stromal/Osteoblastic Cells**
Yukihiro Kohara^{*}, Atsushi Watanabe, Noboru Ogiso, Sunao Takeshita. National Center for Geriatrics and Gerontology, Japan
Disclosures: Yukihiro Kohara, None
- FRI-0545** **Trapidil induces osteogenesis by upregulating the signaling of bone morphogenetic proteins**
Bongjun Kim^{*}, Hong-Hee Kim, Zang Hee Lee. Department of Cell and Developmental Biology, School of Dentistry, Seoul National University, Republic of Korea
Disclosures: Bongjun Kim, None

- FRI-0546** **Regulator of G protein signaling protein 12 is required for osteoblast differentiation through controlling calcium channel/G α i-calcium oscillation-ERK signaling**
Ziqing Li^{*1}, Tongjun Liu², Alyssa Gilmore², Néstor Más Gómez¹, Claire H Mitchell^{1,3}, Yi-Ping Li⁴, Merry J Oursler⁵, Shuying Yang^{1,2}. ¹Department of Anatomy and Cell Biology, University of Pennsylvania, School of Dental Medicine, United States, ²Department of Oral Biology, School of Dental Medicine, University of Buffalo, State University of New York, United States, ³Department of Physiology, University of Pennsylvania, School of Medicine, United States, ⁴Department of Pathology, University of Alabama in Birmingham, United States, ⁵Department of Medicine, Endocrine Research Unit, Mayo Clinic, United States
Disclosures: Ziqing Li, None
- FRI-0547** **Lnc-DIF inhibits bone formation via targeting mir-489-3p**
Zhiping Miao^{*}, Yong Yin, Yan Zhang, Ye Tian, Lifang Hu, Airong Qian. Northwestern Polytechnical University, China
Disclosures: Zhiping Miao, None
- FRI-0548** **Conditional Deletion of the Glucocorticoid Receptor in Osteoprogenitors Reveals Complex Roles for Glucocorticoid Signaling in Caloric Restriction-Induced Bone Marrow Fat Accumulation**
Jessica Pierce^{*}, Ke-Hong Ding, Jianrui Xu, Kanglun Yu, Anuj Sharma, Mark Hamrick, William Hill, Xing-Ming Shi, Carlos Isales, Meghan Mcgee-Lawrence. Augusta University, United States
Disclosures: Jessica Pierce, None
- FRI-0549** **BAF Chromatin Remodelling Epigenetically Controls Osteogenesis in vivo**
Tanner Godfrey^{**}, Mohammad Rehan^{*}, Benjamin Wildman, Yuechuan Chen, Qamarul Hassan. University of Alabama at Birmingham, United States
Disclosures: Tanner Godfrey^{*}, None
- FRI-0550** **The N6-methyladenosine demethylase FTO functions in bone to protect osteoblasts from age-related DNA damage**
Qian Zhang^{*1}, Ryan Riddle¹, Marie-Claude Faugere², Clifford Rosen³, Charles Farber⁴, Thomas Clemens¹. ¹Department of Orthopaedic Surgery, Johns Hopkins University, United States, ²Department of Medicine, University of Kentucky, United States, ³Maine Medical Center, United States, ⁴University of Virginia, United States
Disclosures: Qian Zhang, None
- FRI-0551** **Direct reprogramming of mouse fibroblasts into functional osteoblasts by defined factors**
Hui Zhu^{*1}, Bogdan Conrad², Fan Yang³, Joy Wu¹. ¹Division of Endocrinology, Stanford University School of Medicine, United States, ²Program of Stem Cell Biology and Regenerative Medicine, Stanford University, United States, ³Department of Orthopaedic Surgery, Stanford University School of Medicine, United States
Disclosures: Hui Zhu, None
- OSTEOCLASTS**
- FRI-0596** **ASBMR 2018 Annual Meeting Young Investigator Award
Cell Autonomous Sfrp4-Dependent Inhibition of Non-Canonical Wnt Signaling in Osteoclasts Prevents Osteoclastogenesis, Ensuring Normal Cortical Bone Development**
Kun Chen^{*1}, Pei Ying Ng¹, Dorothy Hu¹, Roland Baron^{1,2}, Francesca Gori¹. ¹Division of Bone and Mineral Research, Harvard Medical School and Harvard School of Dental Medicine, United States, ²Endocrine Unit, Massachusetts General Hospital, United States
Disclosures: Kun Chen, None
- FRI-0597** **Autocrine actions of high mobility group box1 protein (HMGB1) on osteocytes and osteoclasts regulate osteoclastogenesis**
Hannah M. Davis^{*1,2}, Sinai Valdez¹, Leland J. Gomez¹, Angela Bruzzaniti^{1,2,3}, Lilian I. Plotkin^{1,2,4}. ¹Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, ²Indiana Center for Musculoskeletal Health, United States, ³Biomedical and Applied Sciences, Indiana University School of Dentistry, United States, ⁴Roudebush Veterans Administration Medical Center, United States
Disclosures: Hannah M. Davis, None

- FRI-0598** **EOMES is a novel and essential co-partner of PU.1 and MITF in regulating osteoclast differentiation**
 Blake E. Hildreth Iii^{*1}, Heather A. Carey², Devadoss J. Samuvel¹, Katie A. Thies¹, Jennifer A. Geisler², Thomas J. Rosol³, Ramiro E. Toribio³, Julia F. Charles⁴, Michael C. Ostrowski¹, Sudarshana M. Sharma¹. ¹Medical University of South Carolina Department of Biochemistry and Molecular Biology and Hollings Cancer Center, United States, ²Ohio State University Department of Cancer Biology and Genetics and Comprehensive Cancer Center, United States, ³Ohio State University College of Veterinary Medicine, United States, ⁴Brigham and Women's Hospital and Harvard Medical School Department of Medicine, Division of Rheumatology, Immunology and Allergy, United States
Disclosures: Blake E. Hildreth Iii, None
- FRI-0599** **ASBMR 2018 Annual Meeting Young Investigator Award**
RANKL-Sensitive Super-Enhancer Activities Determine Cell Identity During Osteoclastogenesis
 Min Joon Lee^{*1}, Sungho Park², Keunsoo Kang⁴, Jiyoung Ahn³, Ye-Ji Lee³, Sehwan Mun³, Seyeon Bae³, Kaichi Kaneko³, Kyung-Hyun Park-Min². ¹University of Toronto Faculty of Medicine, Canada, ²Arthritis and Tissue Degeneration Program, David Z. Rosensweig Genomics Research Center, Hospital for Special Surgery, United States, ³Arthritis and Tissue Degeneration Program, Hospital for Special Surgery, United States, ⁴Department of Microbiology, Dankook University, Republic of Korea
Disclosures: Min Joon Lee, None
- FRI-0600** **IDH2 is a novel regulator of osteoclast differentiation and function through osteoblastic modulation of ATF-NFATc1-RANKL signaling axis**
 Suk-Hee Lee^{*}, Seung-Hoon Lee, Soon-Young Kim, Eun-Hye Lee, Yeon-Ju Lee, Jung-Eun Kim. Department of Molecular Medicine, CMRI, BK21 Plus KNU Biomedical Convergence Program, School of Medicine, Kyungpook National University, Republic of Korea
Disclosures: Suk-Hee Lee, None
- FRI-0601** **Cortistatin Directly Binds to RANK and Protects Against Osteoporosis in Mice**
 Weiwei Li^{*1}, Ruize Qu², Xiaomin Chen², Wenhan Wang², John Hayball³, Krasimir Vasilev³, Yunpeng Zhao¹. ¹Shandong University Qilu Hospital, China, ²Shandong University, China, ³University of South Australia, Australia
Disclosures: Weiwei Li, None
- FRI-0602** **Hdac3 promotes bone robustness by suppressing osteoclast responsiveness to RANKL and enhancing bone formation**
 Anna Mattson^{*1}, David Molstad¹, Dana Begun¹, Jennifer Westendorf¹, Merry Jo Oursler¹, Meghan Mcgee-Lawrence², Bradley Elizabeth¹. ¹Mayo Clinic, United States, ²Augusta University, United States
Disclosures: Anna Mattson, None
- FRI-0603** **Collagen Type VI $\alpha 2$ Chain Deficiency Causes Trabecular Bone Loss by Promoting Osteoclast Differentiation through Enhanced TNF α Signaling**
 Hai Pham^{*1}, Annie Dar¹, Vardit Kram², Li Li¹, Tina Kilts¹, Marian Young¹. ¹Craniofacial and Skeletal Diseases Branch, National Institute of Dental and Craniofacial Research, National Institutes of Health, United States, ²Collagen Type VI $\alpha 2$ Chain Deficiency Causes Trabecular Bone Loss by Promoting Osteoclast Differentiation through Enhanced TNF α Signaling, United States
Disclosures: Hai Pham, None
- FRI-0604** **ASBMR 2018 Annual Meeting Young Investigator Award**
Dual specificity of the Inpp4b phosphatase in bone remodeling
 Lina Saad^{*}, Monica Pata, Jean Vacher. IRCM, Canada
Disclosures: Lina Saad, None
- FRI-0605** **An Unanticipated Role for Sphingosine Kinase-2 in Bone Anabolism**
 Joanne Walker^{*}, Gang-Qing Yao, Meiling Zhu, Ben-Hua Sun, Christine Simpson, Karl Insogna. Yale University School of Medicine, United States
Disclosures: Joanne Walker, None

OSTEOCYTES

- FRI-0655 Osteocyte Sirt6 has crucial roles in bone and phosphate metabolism**
Aikebaier Aobulikasimu*¹, Zulipiya Aibibula¹, Jinying Piao¹, Shingo Sato², Hiroki Ochi², Kunikazu Tsuji³, Atsushi Okawa¹, Yoshinori Asou¹. ¹Department of Orthopedics Surgery, Tokyo Medical and Dental University, 1-5-45 Yushima Bunkyo-Ku Tokyo Japan, 113-8519, Japan, ²Department of Physiology and Cell Biology, Tokyo Medical and Dental University, 1-5-45 Yushima Bunkyo-Ku Tokyo Japan, 113-8519, Japan, ³Department of Cartilage Regeneration, Tokyo Medical and Dental University, 1-5-45 Yushima Bunkyo-Ku Tokyo Japan, 113-8519, Japan
Disclosures: Aikebaier Aobulikasimu, None
- FRI-0656 PPARα is a negative regulator of sclerostin production in osteocytes**
Amit Chougule*, Lance Stechschulte, Beata Lecka-Czernik. University of Toledo, United States
Disclosures: Amit Chougule, None
- FRI-0657 Microgravity exposure in growing mice is detrimental to osteocyte lacunar volume and shape**
Jennifer C. Coulombe*¹, Zachary K. Mullen², Ashton M. Weins², Louis S. Stodieck³, Virginia L. Ferguson¹. ¹Department of Mechanical Engineering, University of Colorado, Boulder CO, United States, ²Department of Applied Mathematics, University of Colorado, Boulder CO, United States, ³BioServe Space Technologies, University of Colorado, Boulder, CO, United States
Disclosures: Jennifer C. Coulombe, None
- FRI-0658 Sex divergent role of osteocytic miR21 in the maintenance of osteocyte viability and regulation of bone turnover**
Hannah M. Davis*^{1,2}, Rafael Pacheco-Costa^{1,2}, Mohammad W. Aref^{1,2}, Alyson L. Essex¹, Emily G. Atkinson^{1,2}, Julian E. Dilley¹, Carmen Herrera¹, Padmini Deosthale^{1,2}, Mircea Ivan³, Matthew R. Allen^{1,2,4}, Teresita M. Bellido^{1,2,4}, Lilian I. Plotkin^{1,2,4}. ¹Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, ²Indiana Center for Musculoskeletal Health, United States, ³Department of Hematology/Oncology, Indiana University School of Medicine, United States, ⁴Roudebush Veterans Administration Medical Center, United States
Disclosures: Hannah M. Davis, None
- FRI-0659 Osteocyte Density and Viability in Postmenopausal Women after Long-term Bisphosphonate Therapy**
Shijing Qiu*, George Divine, Mahalakshi Honasoge, Arti Bhan, Shiri Levy, Elizabeth Warner, Sudhaker D Rao. Henry Ford Hospital, United States
Disclosures: Shijing Qiu, None

OSTEOPOROSIS - ASSESSMENT

- FRI-0680 Normative Data for Trabecular Bone Score in Men and Women**
Kara Anderson*, Kara Holloway-Kew, Mark Kotowicz, Natalie Hyde, Julie Pasco. Deakin University, Australia
Disclosures: Kara Anderson, None
- FRI-0681 Time since fracture and number of previous fractures are independently associated with risk of new clinical fracture**
Kristian Axelsson*¹, Dan Lundh², Mattias Lorentzon¹. ¹Department of Geriatrics, Sahlgrenska Academy, Gothenburg University, Sweden, ²School of Bioscience, University of Skovde, Sweden
Disclosures: Kristian Axelsson, None

- FRI-0682** **Development of Thresholds for Assessing Radius and Tibia Fragility Fracture Risk Using HR-pQCT – The CaMos Cohort**
 Syed Jafri*¹, Lauren Burt², Leigh Gabel², David Hanley³, Steven Boyd². ¹University of Calgary, Canada, ²McCaig Institute for Bone and Joint Health, Department of Radiology, Cumming School of Medicine, University of Calgary, Calgary, Canada, ³McCaig Institute for Bone and Joint Health, Departments of Community Health Sciences and Oncology, Cumming School of Medicine, University of Calgary, Calgary, Canada
Disclosures: Syed Jafri, None
- FRI-0683** **Automated Identification of Vertebral Compression Fractures Using Artificial Intelligence Convolutional Neural Networks Predicts Incident Non-vertebral and Hip Fracture: The Manitoba BMD Registry**
 Sheldon Derkach*¹, Christopher Kirby², Douglas Kimelman², Mohammad Jafari Jozani¹, J Michael Davidson¹, William Leslie¹. ¹University of Manitoba, Canada, ²St-Boniface Hospital Albrechtsen Research Centre, Canada
Disclosures: Sheldon Derkach, None
- FRI-0684** **Clinical Performance of a Beta Version of Trabecular Bone Score (TBS) Including Thickness-based Correction for Soft Tissue Effects: The Manitoba BMD Cohort**
 William D. Leslie*¹, Enisa Shevroja², Lisa M. Lix¹, Didier Hans². ¹Department of Medicine (W.D.L.), University of Manitoba, Canada, ²Center of Bone Diseases, DAL-RHU - Lausanne University Hospital, Switzerland
Disclosures: William D. Leslie, None
- FRI-0685** **Usefulness of the Trabecular Bone Score in dialysis patients**
 Oliver Malle*, Astrid Fahrleitner-Pammer. Medical University of Graz, Dpt. of Internal Medicine, Div. of Endocrinology and Diabetology, Austria
Disclosures: Oliver Malle, None
- FRI-0686** **Assessment of Age Related Changes in Bone Metabolism Using 18F–Sodium Fluoride PET/CT**
 Sylvia Rhodes*, Alexandra Batzdorf, Austin Alecxih, Jonathan Guntin, Matthew Peng, Amanda Jankelovits, Justin Kim, Julia Hornyak, Poul Flemming, Abass Alavi, Chamith Rajapakse. University of Pennsylvania, United States
Disclosures: Sylvia Rhodes, None
- FRI-0687** **Serum levels of DKK2 and sFRP1 are associated to incident fragility fractures in older women**
 Ana Maria Rodrigues*¹, Mónica Eusébio², Ana Catarina Rodrigues³, Joana Caetano-Lopes⁴, Inês Lopes⁵, Jorge M Mendes⁶, Pedro Simões Coelho⁶, João Eurico Fonseca⁵, Jaime Cunha Branco⁷, Helena Canhão¹. ¹EpiDoc Unit – Unidade de Epidemiologia em Doenças Crónicas, CEDOC, Nova Medical School, Lisboa, Portugal, ²Sociedade Portuguesa de Reumatologia, Lisboa, Portugal, ³Faculdade de Medicina da Universidade de Lisboa, Lisboa, Portugal, ⁴Department of Orthopaedic Research, Boston Children’s Hospital, Boston, MA, USA; ⁵Department of Genetics, Harvard Medical School, Boston, MA, United States, ⁶Unidade de Investigação em Reumatologia, Instituto de Medicina Molecular, Faculdade de Medicina, Universidade de Lisboa, Centro Académico de Medicina de Lisboa, Portugal, ⁷NOVA IMS, Universidade Nova de Lisboa, Lisboa, Portugal, ⁸Centro de Estudos de Doenças Crónicas (CEDOC) da NOVA Medical School, Universidade Nova de Lisboa (NMS/UNL), Lisboa, Portugal
Disclosures: Ana Maria Rodrigues, None
- FRI-0688** **Bone Endosteal But Not Periosteal Changes During Aging At The Distal Radius And Tibia Significantly Differ Between Men And Women As Determined From HRpQCT Images Using A Novel 3D Rigid-Registration Approach**
 Bert Van Rietbergen*¹, Emmanuel Biver², Thierry Chevalley², Keita Ito³, Roland Chapurlat⁴, Serge Ferrari². ¹Dept. Biomed. Eng. Eindhoven University of Technology / Dept. Orthopaedics Maastricht University Medical Centre, Netherlands, ²Division of Bone Diseases, University Hospitals and Faculty of Medicine, Switzerland, ³Orthopaedic Biomechanics, Dept. Biomed. Eng. / Dept. Orthopaedics, University Medical Center Utrecht, Netherlands, ⁴INSERM UMR 1033, Université de Lyon, France
Disclosures: Bert Van Rietbergen, Scanco Medical AG, Consultant

- FRI-0689** **Off-Treatment Bone Mineral Density Changes in Postmenopausal Women after 5 Years of Anastrozole**
 Ivana Sestak*, Jack Cuzick. Centre for Cancer Prevention, Queen Mary University London, United Kingdom
Disclosures: Ivana Sestak, None

OSTEOPOROSIS - EPIDEMIOLOGY

- FRI-0738** **Microvascular Complications and Risk of Incident Hip Fracture in Type 2 Diabetes: A National Cohort**
 Po-Yin Chang*¹, Yi-Ting Wang², Rodrigo J. Valderrábano⁴, Yi-Wen Tsai², Jennifer S. Lee¹.
¹Stanford University School of Medicine, United States, ²National Yang-Ming University Institute of Health and Welfare Policy, Taiwan, ³University of Miami Miller School of Medicine, United States
Disclosures: Po-Yin Chang, None
- FRI-0739** **Cancer Patients who Suffer Fractures are Rarely Assessed or Treated for Osteoporosis: Population-based Data from Manitoba**
 Beatrice Edwards*¹, William Leslie², Saeed Al-Azazi², Lin Yan², Lisa Lix², Piotr Czaykowski³, Harminder Singh³. ¹Central Texas Veterans Healthcare System, United States, ²University of Manitoba, Canada, ³University of Manitoba, CancerCare Manitoba, Canada
Disclosures: Beatrice Edwards, None
- FRI-0740** **ASBMR 2018 Annual Meeting Young Investigator Award
 Risk Factors for Atypical Femur Fractures in a Large, Prospective Cohort Study: A Multivariable Analysis from the Southern California Osteoporosis Cohort Study (SOCS)**
 Erik J. Geiger*¹, Dennis M. Black¹, Bonnie H. Li², Denison S. Ryan², Richard M. Dell², Annette L. Adams². ¹University of California, San Francisco, United States, ²Kaiser Permanente Southern California, United States
Disclosures: Erik J. Geiger, None
- FRI-0741** **ASBMR 2018 Annual Meeting Young Investigator Award
 Treatment with Statins Is Associated with Higher Volumetric Bone Mineral Density and Lower Cortical Porosity in Older Women**
 Berit Larsson*¹, Anna Nilsson¹, Dan Mellstrom¹, Daniel Sundh¹, Mattias Lorentzon².
¹Department of Geriatric Medicine, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, ²Head of Geriatric Medicine, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden
Disclosures: Berit Larsson, None
- FRI-0742** **Osteoporotic Fracture Trends in a Population of US Managed Care Enrollees: 2007-2017**
 E. Michael Lewiecki*¹, Benjamin Chastek², Kevin Sundquist², Setareh A. Williams³, Deane Leader, Jr.³, Richard J. Weiss³, Yamei Wang³, Lorraine A. Fitzpatrick³, Jeffrey R. Curtis⁴.
¹New Mexico Clinical Research & Osteoporosis Center, United States, ²Optum, United States, ³Radius Health, Inc., United States, ⁴UAB Arthritis Clinical Intervention Program, University of Alabama at Birmingham, United States
Disclosures: E. Michael Lewiecki, Radius Health, Inc., Consultant, Merck & Co, Consultant, Eli Lilly and Company, Grant/Research Support, Amgen, Consultant, AbbVie, Consultant, Shire, Consultant, Amgen, Grant/Research Support, Merck & Co, Grant/Research Support, Eli Lilly and Company, Consultant, AgNovos Healthcare, Consultant, Alexion Pharmaceuticals, Consultant, TheraNova, Consultant

FRI-0743

An Atlas of Human and Murine Genetic Influences on Osteoporosis

John Morris*¹, John Kemp², Scott Youlten³, John Logan⁴, Ryan Chai³, Nicholas Vulpesco⁵, Vincenzo Forgetta⁶, Aaron Kleinman⁷, Sindhu Mohanty³, Marcelo Sergio³, Carolina Medina-Gomez⁸, Katerina Trajanoska⁸, Julian Quinn³, Elena Ghirardello⁴, Natalie Butterfield⁴, Katharine Curry⁴, Victoria Leitch⁴, Penny Sparkes⁴, Laetitia Laurent⁶, Anne-Tounsia Adoum⁴, Naila Mannan⁴, Davide Komla-Ebri⁴, Andrea Pollard⁴, Hannah Dewhurst⁴, Stephen Kaptoge⁹, Paul Baldock³, Cyrus Cooper¹⁰, Jonathan Reeve¹¹, Evangelia Ntzani¹², Evangelos Evangelou¹², Claes Ohlsson¹³, David Karasik¹⁴, Fernando Rivadeneira⁸, Cheryl Ackert-Bicknell¹⁵, Douglas Kiel¹⁴, Jonathan Tobias¹⁶, Celia Gregson¹⁶, Nicholas Harvey¹⁰, David Adams¹⁷, Christopher Lelliott¹⁷, David Hinds⁷, Yi-Hsiang Hsu¹⁴, Matthew Maurano⁵, Peter Croucher³, Graham Williams⁴, Duncan Bassett⁴, David Evans², Brent Richards¹.

¹Department of Human Genetics, McGill University, Canada, ²University of Queensland Diamantina Institute, Translational Research Institute, Australia, ³Garvan Institute of Medical Research, Australia, ⁴Molecular Endocrinology Laboratory, Department of Medicine, Imperial College London, United Kingdom, ⁵Institute for Systems Genetics, New York University Langone Medical Center, United States, ⁶Centre for Clinical Epidemiology, Lady Davis Institute, Jewish General Hospital, Canada, ⁷Department of Research, 23andMe, United States, ⁸Department of Internal Medicine, Erasmus Medical Center, Netherlands, ⁹Department of Public Health and Primary Care, University of Cambridge, United Kingdom, ¹⁰MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ¹¹NIHR Musculoskeletal Biomedical Research Unit, Botnar Research Centre, Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, United Kingdom, ¹²Department of Hygiene and Epidemiology, University of Ioannina Medical School, Greece, ¹³Department of Internal Medicine and Clinical Nutrition, University of Gothenburg, Sweden, ¹⁴Institute for Aging Research, Hebrew SeniorLife, United States, ¹⁵Center for Musculoskeletal Research, Department of Orthopaedics, University of Rochester, United States, ¹⁶Musculoskeletal Research Unit, Department of Translational Health Sciences, University of Bristol, United Kingdom, ¹⁷Wellcome Trust Sanger Institute, Wellcome Genome Campus, United Kingdom

Disclosures: John Morris, None

FRI-0744

ASBMR 2018 Annual Meeting Young Investigator Award

Risk of fracture after bariatric surgery in France: population based, retrospective cohort study

Julien Paccou*¹, Niels Martignè¹, Eric Lespessailles², Bernard Cortet¹, Grégoire Ficheur¹. ¹Lille University Hospital, France, ²Université d'Orléans, France

Disclosures: Julien Paccou, None

FRI-0745

Secular trends in the initiation of therapy in secondary fracture prevention: widening treatment gaps in Denmark and Spain

Daniel Prieto-Alhambra*¹, Martin Ernst², Katrine Hass Rubin², Daniel Martínez-Laguna³, M Kassim Javaid¹, Cyrus Cooper⁴, Cesar Libanati⁵, Emese Toth⁵, Bo Abrahamson⁶. ¹Nuffield Department of Orthopaedics, Rheumatology, and Musculoskeletal Sciences (NDORMS), Oxford NIHR Biomedical Research Centre, University of Oxford, United Kingdom, ²OPEN, Institute of Clinical Research, University of Southern Denmark, Denmark, ³GREMPAL Research Group (Idiap Jordi Gol Primary Care Research Institute) and CIBERFes, Universitat Autònoma de Barcelona and Instituto de Salud Carlos III, Spain, ⁴Lifecourse Epidemiology Unit, Southampton University, United Kingdom, ⁵UCB Biopharma Sprl, Belgium, ⁶Holbæk Hospital, Dept of Medicine, Denmark

Disclosures: Daniel Prieto-Alhambra, UCB, Grant/Research Support, Servier, Grant/Research Support, Pharmo Institute, Grant/Research Support, Amgen, Grant/Research Support

FRI-0746

Temporal Trends and Factors Associated with Bisphosphonate Drug Holidays

Jeffrey Curtis*, Rui Chen, Tarun Arora, Shanette Daigle, Robert Matthews, Huifeng Yun, Nicole Wright, Ayesha Jaleel, Elizabeth Delzell, Kenneth Saag. University of Alabama at Birmingham, United States

Disclosures: Jeffrey Curtis, Radius, Grant/Research Support, Radius, Consultant, Amgen, Grant/Research Support, Amgen, Consultant

FRI-0747 **Type 2 Diabetes and HR-pQCT Parameters in Older Men**
Ann Schwartz*¹, Neeta Parimi¹, Andrew Burghardt⁴, Mary Bouxsein², Elsa Strotmeyer³, Eric Vittinghoff³, Eric Orwoll⁴, Gina Woods², Dennis Black¹, Nancy Lane⁶, Kristine Ensrud⁷, Nicola Napoli⁸. ¹University of California, San Francisco, United States, ²Harvard Medical School, United States, ³University of Pittsburgh, United States, ⁴Oregon Health and Science University, United States, ⁵University of California, San Diego, United States, ⁶University of California, Davis, United States, ⁷University of Minnesota and Minneapolis VA Health System, United States, ⁸Uniersita Campus Bio-Medico di Roma, Italy
Disclosures: Ann Schwartz, None

FRI-0748 **Cluster Analysis of High Resolution Peripheral Quantitative Computed Tomography Parameters Identifies Bone Phenotypes Associated With High Rates of Prevalent Fracture**
Kate Ward*, Mark Edwards, Leo Westbury, Cyrus Cooper, Elaine Dennison. MRC Lifecourse Epidemiology, University of Southampton, United Kingdom
Disclosures: Kate Ward, None

OSTEOPOROSIS - HEALTH SERVICES RESEARCH

FRI-0804 **ASBMR 2018 Annual Meeting Young Investigator Award**
The Long-term Impact of Incident Low-trauma Fractures on Health-related Quality of Life of Older People: The Canadian Multicentre Osteoporosis Study
Asm Borhan*¹, Alexandra Papaioannou¹, Olga Gajic-Veljanoski², Courtney Kennedy¹, George Ioannidis¹, Claudie Berger³, Wilma Hopman⁴, David Goltzman⁵, Robert Josse⁶, Christopher S Kovacs⁷, David A Hanley⁸, Jerilynn C Prior⁹, Suzanne N Morin³, Stephanie M Kaiser¹⁰, Angela M Cheung¹³, Lehana Thabane¹², Jonathan D Adachi¹², The Camos Research Group³. ¹McMaster University & GERAS Centre, Canada, ²GERAS Centre, Canada, ³Camos – McGill University, Canada, ⁴Kingston General Hospital, Canada, ⁵McGill University, Canada, ⁶St. Michael Hospital, Canada, ⁷Memorial University of Newfoundland, Canada, ⁸University of Calgary, Canada, ⁹University of British Columbia, Canada, ¹⁰Dalhousie University, Canada, ¹²McMaster University & St. Joseph's Healthcare Hamilton, Canada, ¹³University of Toronto & University Health Network, Canada
Disclosures: Asm Borhan, None

FRI-0805 **Inappropriate Use of Cost-effectiveness Thresholds as Intervention Thresholds – Potential for Overtreatment of Low Risk Individuals**
Eugene Mccloskey*¹, Helena Johansson², Nicholas Harvey³, Juliet Compston⁴, Cyrus Cooper³, John Kanis². ¹Mellanby Centre for Bone Research, University of Sheffield, United Kingdom, ²Centre for Metabolic Bone Diseases, University of Sheffield, United Kingdom, ³MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ⁴Department of Medicine, Cambridge Biomedical Campus, United Kingdom
Disclosures: Eugene Mccloskey, None

FRI-0806 **Bending the Curve with Patient Identification and Treatment in Osteoporosis**
E. Michael Lewiecki*¹, Jesse D. Ortendahl², Jacqueline Vanderpuye-Orgle³, Andreas Grauer³, Amanda L. Harmon², Andrea J. Singer⁴. ¹New Mexico Clinical Research & Osteoporosis Center, United States, ²Partnership for Health Analytic Research, LLC, United States, ³Amgen Inc., United States, ⁴Georgetown University Hospital, United States
Disclosures: E. Michael Lewiecki, New Mexico Clinical Research & Osteoporosis Center, Other Financial or Material Support, Mereo, Grant/Research Support, Sandoz, Consultant, PFEenx, Grant/Research Support, Ultragenyx, Consultant, Shire, Consultant, Shire, Speakers' Bureau, Amgen, Consultant, Amgen, Grant/Research Support, Radius, Speakers' Bureau, Radius, Consultant, Alexion, Consultant, Alexion, Speakers' Bureau

OSTEOPOROSIS - NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY

- FRI-0824 ASBMR 2018 Annual Meeting Young Investigator Award**
The Calgary Vitamin D Study: Safety of Three-Year Supplementation With 400, 4000 or 10000 IU Daily
Emma O Billington*¹, Lauren A Burt¹, Erin M Davison¹, Marianne S Rose², Sharon Gaudet¹, Michelle Kan¹, Steven K Boyd¹, David A Hanley¹. ¹McCaig Institute for Bone and Joint Health, Cumming School of Medicine, University of Calgary, Canada, ²Research Facilitation, Alberta Health Services, Canada
Disclosures: Emma O Billington, None
- FRI-0825 Natural history of maternal urinary β -C-terminal telopeptide of type I collagen (CTX) in pregnancy, and response to cholecalciferol supplementation: findings from the MAVIDOS trial**
Elizabeth Curtis*¹, Camille Parsons¹, Kate Maslin¹, Stefania D'Angelo¹, Rebecca Moon¹, Sarah Crozier¹, Fatma Gossiel², Nicholas Bishop³, Stephen Kennedy⁴, Aris Papageorgiou⁴, Robert Fraser⁵, Saurabh Gandhi⁵, Ann Prentice⁶, Hazel Inskip¹, Keith Godfrey¹, Inez Schoenmakers⁶, M Kassim Javaid⁷, Richard Eastell², Cyrus Cooper¹, Nicholas Harvey¹. ¹MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton, United Kingdom, ²Academic Unit of Bone Metabolism, University of Sheffield, Sheffield, United Kingdom, ³Academic Unit of Child Health, Sheffield Children's Hospital, University of Sheffield, Sheffield, United Kingdom, ⁴Nuffield Department of Women's & Reproductive Health, John Radcliffe Hospital, University of Oxford, Oxford, United Kingdom, ⁵Department of Obstetrics and Gynaecology, Sheffield Hospitals NHS Trust, University of Sheffield, Sheffield, United Kingdom, ⁶MRC Human Nutrition Research, Elsie Widdowson Laboratory, Cambridge, United Kingdom, ⁷National Institute for Health Research (NIHR) Oxford Biomedical Research Centre, University of Oxford, United Kingdom
Disclosures: Elizabeth Curtis, None
- FRI-0826 The association of breastfeeding, maternal smoking, birth weight and maternal diet with bone density and microarchitecture in young adulthood: a 25-year longitudinal study**
Yi Yang*¹, Feitong Wu¹, Terry Dwyer², Tania Winzenberg¹, Graeme Jones¹. ¹Menzies Institute for Medical Research, University of Tasmania, Australia, ²The George Institute for Global Health, University of Oxford, United Kingdom
Disclosures: Yi Yang, None
- FRI-0827 Effect of High-Dose Vitamin D on Bone Microarchitecture assessed via High Resolution Peripheral Quantitative Computed Tomography (HR-pQCT): a Double-Blind RCT**
Ursina Meyer*¹, Ursula Heilmeyer¹, Robert Theiler², Andreas Egli¹, Heike A. Bischoff-Ferrari². ¹Centre on Aging and Mobility, Department of Geriatrics and Aging Research, University Hospital Zurich and Zurich of University, Switzerland, ²Department of Geriatrics and Aging Research, University Hospital Zurich and Zurich of University, Switzerland
Disclosures: Ursina Meyer, None
- FRI-0828 Vitamin D Status, Bone Quality and Long-Term Risk for Fracture-related Hospitalization in Older Women**
Kun Zhu*¹, Joshua Lewis², Marc Sim², Richard Prince³. ¹Department of Endocrinology and Diabetes, Sir Charles Gairdner Hospital, Australia, ²School of Medical and Health Sciences, Edith Cowan University, Australia, ³Medical School, University of Western Australia, Australia
Disclosures: Kun Zhu, None
- FRI-0829 High dietary calcium intakes in men, not women, are associated with increased all-cause mortality: the Melbourne Collaborative Cohort Study**
Alexander Rodriguez*¹, David Scott¹, Belal Khan², Allison Hodge³, Dallas English², Graham Giles³, Bo Abrahamsen⁴, Peter Ebeling¹. ¹Monash University, Australia, ²University of Melbourne, Australia, ³Cancer Council Victoria, Australia, ⁴University of Southern Denmark, Denmark
Disclosures: Alexander Rodriguez, None

OSTEOPOROSIS - PATHOPHYSIOLOGY

- FRI-0859** **A greater weight loss reduces lumbar spine trabecular bone score in the obese, and this is not influenced by vertebral body structural defects**
Julia Amariti*¹, Stephen Schneider², Karen Hansen³, Yvette Schlussek¹, Sue Shapses¹.
¹Rutgers University, United States, ²Rutgers Robert Wood Johnson Medical School, United States, ³University of Wisconsin School of Medicine and Public Health, United States
Disclosures: Julia Amariti, None
- FRI-0860** **Identification of Cellular Senescence and Senescent Secretory Markers as Major Etiologies Underlying Radiotherapy Related Bone Damage**
Abhishek Chandra*, Joshua Farr, David Monroe, Rebekah Samsonraj, Haitao Wang, Susan Law, Sundeep Khosla, Robert Pignolo. Mayo Clinic, United States
Disclosures: Abhishek Chandra, None
- FRI-0861** **Identification and Characterization of lncRNA-DBD in Diabetic Bone Metabolism**
Zhekai Hu*¹, Qisheng Tu¹, Jake Chen^{1,2}. ¹Division of Oral Biology Tufts University School of Dental Medicine, United States, ²Department of Developmental, Molecular and Chemical Biology Sackler School of Graduate Biomedical Sciences Tufts University School of Medicine, United States
Disclosures: Zhekai Hu, None
- FRI-0862** **Estrogen depletion alters regulation of mineralization at actively forming osteonal surfaces in a monkey animal model**
Eleftherios P. Paschalis*¹, Sonja Gamsjaeger¹, Stamatia Rokidi¹, Keith Condon², Klaus Klaushofer¹, David Burr². ¹Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK and AUYA Trauma Centre Meidling, 1st Medical Department, Hanusch Hospital, Heinrich Collin Str. 30, A-1140, Austria, ²Indiana University, School of Medicine, United States
Disclosures: Eleftherios P. Paschalis, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS

- FRI-0877** **Low bone mineral density remains highly prevalent in adolescents despite height adjustment: results from the Sickle Cell Clinical Research and Intervention Program (SCCRIP) pediatric cohort**
Oyebimpe Adesina*¹, Guolian Kang², Martha Villavicencio³, Jason Hodges³, Wassim Chemaitilly⁴, Sue Kaste⁵, James Gurney⁶, Babette Zemel⁷, Jane Hankins³. ¹Division of Hematology, University of Washington School of Medicine, United States, ²Department of Biostatistics, St. Jude Children's Research Hospital, United States, ³Department of Hematology, St. Jude Children's Research Hospital, United States, ⁴Department of Pediatric Medicine, Division of Endocrinology, St. Jude Children's Research Hospital, United States, ⁵Department of Radiological Sciences, St. Jude Children's Research Hospital, United States, ⁶School of Public Health, University of Memphis, United States, ⁷Division of Gastroenterology, Hepatology and Nutrition, Children's Hospital of Philadelphia, United States
Disclosures: Oyebimpe Adesina, None
- FRI-0878** **Hyponatremia Induced Osteoporosis**
Julianna Barsony*¹, Qin Xu, Joseph G. Verbalis. Georgetown University, United States
Disclosures: Julianna Barsony, None
- FRI-0879** **Bone histomorphometric effects of HIV infection and Antiretroviral therapy**
Janaina Ramalho*¹, Csw Martins¹, Rmr Pereira¹, Thomas Nickolas², Mt Yin², J Galvão³, Margareth Eira⁴, Lm Reis¹, Luzia Furukawa¹, Vanda Jorgetti¹, Rm Moyses^{1,3}. ¹Universidade de São Paulo, Brazil, ²Columbia University, United States, ³UNINOVE, Brazil, ⁴Instituto de Infectologia Emilio ribas, Brazil
Disclosures: Janaina Ramalho, None

FRI-0880 **Low daily dose of glucocorticoids induces trabecular and cortical bones impairment at the femur: a 3D analysis using DXA-based modeling.**
Arnau Manasanch Berengué^{*1}, Renaud Winzenrieth¹, Ludovic Humbert¹, Edward Leib².
¹Galgo Medical SL, Spain, ²Dept. of Medicine, University of Vermont College of Medicine, United States

Disclosures: Arnau Manasanch Berengué, Galgo Medical, Other Financial or Material Support

OSTEOPOROSIS – TREATMENT

FRI-0902 **Efficacy of Teriparatide Compared With Risedronate on FRAX®-defined Major Osteoporotic Fractures: A Post-hoc Analysis of the VERO Clinical Trial**

Jean-Jacques Body^{*1}, Fernando Marin², Piet Geusens³, Cristiano Zerbini⁴, Astrid Fahrleitner-Pammer⁵, Ruediger Moericke⁶, Enrique Casado⁷, Jan Stepan⁸, Salvatore Minisola⁹, Eric Lespessailles¹⁰, Pedro López-Romero², David Kendler¹¹. ¹CHU Brugmann, ULB, Belgium, ²Lilly Research Center Europe, Spain, ³Maastricht University Medical Center, Netherlands, ⁴Centro Paulista de Investigação Clínica, Brazil, ⁵Division of Endocrinology, Medical University of Graz, Austria, ⁶Institut Präventive Medizin & Klinische Forschung, Germany, ⁷University Hospital Parc Taulí Sabadell (UAB), Spain, ⁸Institute of Rheumatology and Faculty of Medicine 1, Charles University, Czech Republic, ⁹Sapienza Rome University, Italy, ¹⁰Regional Hospital, University of Orleans, France, ¹¹University of British Columbia, Canada

Disclosures: Jean-Jacques Body, Eli Lilly and Company, Grant/Research Support, Amgen, Speakers' Bureau

FRI-0903 **Association of Alendronate and Risk of Cardiovascular Events in Patients with Hip Fracture**

Ching-Lung Cheung^{*1}, Chor-Wing Sing¹, Angel Wong¹, Douglas Kiel², Elaine Cheung³, Joanne Lam⁴, Tommy Cheung¹, Esther Chan¹, Annie Kung¹, Ian Wong⁵. ¹The University of Hong Kong, Hong Kong, ²Hebrew SeniorLife, Harvard Medical School, United States, ³United Christian Hospital, Hong Kong, ⁴Queen Mary Hospital, Hong Kong, ⁵UCL School of Pharmacy, United Kingdom

Disclosures: Ching-Lung Cheung, None

FRI-0904 **Exploring a Teriparatide and Denosumab Sequencing Option: 18 month Interim Results**

Felicia Cosman^{*1}, David Dempster², Donald McMahon², Jeri Nieves⁴. ¹Columbia University, United States, ²Helen Hayes Hospital, United States, ⁴Columbia University and Helen Hayes Hospital, United States

Disclosures: Felicia Cosman, Amgen, Grant/Research Support, Radius, Speakers' Bureau, Amgen, Speakers' Bureau, Eli Lilly, Speakers' Bureau, Amgen, Consultant, Eli Lilly, Consultant, Radius, Consultant, Eli Lilly, Grant/Research Support

FRI-0905 **Treatments for Osteoporosis Do Not Reduce Overall Mortality**

Steven R. Cummings^{*1}, Li-Yung Lui¹, Douglas C. Bauer², Dennis M. Black². ¹San Francisco Coordinating Center, CPMC Research Institute, United States, ²San Francisco Coordinating Center, University of California San Francisco, United States

Disclosures: Steven R. Cummings, Amgen, Consultant, Amgen, Grant/Research Support

FRI-0906 **Effect of Denosumab Versus Risedronate on Cortical and Trabecular Bone Microarchitecture by High Resolution Peripheral Quantitative Computed Tomography (HR-pQCT) in Glucocorticoid-treated Individuals**

Piet Geusens^{*1}, Stefan Goemaere², Nico Pannacchiulli³, Nancy Lane⁴, Eric Lespessailles⁵, Osvaldo D. Messina⁶, Roland Chapurlat⁷, Xiang Yin³, Rachel B. Wagman³, Joop Pw Van Den Bergh¹. ¹Maastricht University Medical Center, Netherlands, ²Ghent University Hospital, Belgium, ³Amgen Inc., United States, ⁴University of California, Davis, United States, ⁵University Hospital Orleans, France, ⁶Cosme Argerich Hospital, Argentina, ⁷Hôpital Edouard Herriot, France

Disclosures: Piet Geusens, Pfizer, Abbott, Lilly, Amgen, MSD, Will, Roche, UCB, BMS, Celgene, Novartis, Grant/Research Support, Amgen, Lilly, Consultant, Pfizer, Abbott, Lilly, Amgen, MSD, Will, Roche, UCB, BMS, Celgene, Novartis, Speakers' Bureau

- FRI-0907 Abaloparatide Effect on Bone Mineral Density and Fracture Incidence in Postmenopausal Women with Osteoporosis Aged 80 Years or Older: Results from the ACTIVEExtend Phase 3 Trial**
 Susan Greenspan*¹, Fitzpatrick Lorraine², Bruce Mitlak², Yamei Wang², Nicholas C. Harvey³, Chad Deal⁴, Felicia Cosman⁵, Mike Mcclung⁶. ¹University of Pittsburgh, United States, ²Radius Health, Inc., United States, ³MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ⁴Cleveland Clinic Foundation, United States, ⁵Columbia University College of Physicians and Surgeons, United States, ⁶Oregon Osteoporosis Center, United States
Disclosures: Susan Greenspan, NIH, Grant/Research Support, Lilly, Grant/Research Support, Amgen, Grant/Research Support, PCORI, Grant/Research Support
- FRI-0908 Treatment gap following clinical vertebral fracture in the International Cost and Utility Related to Osteoporosis Fractures Study (ICUROS)**
 Mattias Lorentzon*¹, Helena Johansson^{2,3}, Nicholas C Harvey⁴, Anders Odén², Kerrie Sanders⁴, Fredrik Borgström⁵, Axel Svedbom⁶, Eugene Mccloskey^{2,7}, John Kanis^{2,3}.
¹Geriatric Medicine, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg and Geriatric Medicine Clinic, Sahlgrenska University Hospital, Mölndal, Sweden, ²Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, UK, Sweden, ³Institute for Health and Aging, Catholic University of Australia, Melbourne, Australia, United Kingdom, ⁴MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton and NIHR Southampton Biomedical Research Centre, University of Southampton and University Hospital Southampton NHS Foundation Trust, Southampton, United Kingdom, ⁵LIME/MMC, Karolinska Institutet, Stockholm, Sweden, ⁶Mapi, Stockholm, Sweden, ⁷Mellanby Centre for bone research, Department of Oncology and Metabolism, University of Sheffield, Sheffield, United Kingdom
Disclosures: Mattias Lorentzon, None
- FRI-0909 A Pooled Analysis of Fall Incidence from Placebo-controlled Trials of Denosumab**
 Eugene Mccloskey*¹, Richard Eastell¹, Michael Mcclung², Nico Pannaciuoli³, Christine Wang³, Susan Yue³, Steven R. Cummings⁴. ¹The University of Sheffield, United Kingdom, ²Oregon Osteoporosis Center, United States, ³Amgen Inc., United States, ⁴San Francisco Coordinating Center, United States
Disclosures: Eugene Mccloskey, Warner Chilcott, Grant/Research Support, Servier, Grant/Research Support, GSK, Consultant, Consilient Healthcare, Consultant, Synexus, Consultant, Amgen, Consultant, Hologic, Grant/Research Support, Tethys, Grant/Research Support, UCB, Consultant, Sanofi-Aventis, Grant/Research Support, Pfizer, Other Financial or Material Support, Roche, Grant/Research Support, Lilly, Grant/Research Support, AstraZeneca, Other Financial or Material Support, Synexus, Grant/Research Support, Internis, Other Financial or Material Support, Amgen, Other Financial or Material Support, Consilient Healthcare, Other Financial or Material Support, Novartis, Grant/Research Support, Pfizer, Grant/Research Support, IOF, Grant/Research Support, MRC, Grant/Research Support, GSK, Grant/Research Support, ActiveSignal, Grant/Research Support, AR UK, Grant/Research Support, Roche, Other Financial or Material Support, Consilient Healthcare, Grant/Research Support, Medtronic, Grant/Research Support, GSK, Other Financial or Material Support, Internis, Grant/Research Support, Amgen, Grant/Research Support, Servier, Other Financial or Material Support, Lilly, Other Financial or Material Support, Merck, Grant/Research Support, UCB, Grant/Research Support, Hologic, Other Financial or Material Support, AstraZeneca, Grant/Research Support, I3 Innovus, Grant/Research Support, ActiveSignal, Consultant, UCB, Grant/Research Support, Unilever, Grant/Research Support

- FRI-0910** **Teriparatide accelerates proximal humerus fracture consolidation – the TERAFRAP study**
 Christian Muschitz*¹, Judith Haschka¹, Georg Langs², Markus Holzer², Andreas Baierl³, Christoph Pümpel¹, Zora Messner¹, Roland Kocijan¹, Xaver Feichtinger⁴, Rainer Mittermayr⁴, Jakob E. Schanda⁴, Thomas Hausner⁵, Robert Wakolbinger¹, Jochen Schmidfeld⁶, Christian Fialka⁴, Wolfgang Schima⁷, Heinrich Resch¹. ¹St. Vincent Hospital – Medical Department II – VINFORCE; Academic Teaching Hospital of the Medical University of Vienna, Stumpergasse 13, 1060 Vienna, Austria, ²Medical University of Vienna, Department of Biomedical Imaging and Image-guided Therapy, Computational Imaging Research Lab, Währinger Gürtel 18-20, 1090 Vienna, Austria, ³University of Vienna, Department of Statistics and Operations Research, Oskar-Morgenstern-Platz 1, 1090 Vienna, Austria, ⁴AUVA Trauma Center Meidling, Kundratstrasse 37, 1120 Vienna, Austria, ⁵AUVA Trauma Center Lorenz Böhler, Donaueschingenstraße 13, 1200 Vienna, Austria, ⁶Social Medicine Center East, Department of Traumatology, Langobardenstrasse 122, 1220 Vienna, Austria, ⁷St. Vincent Hospital – Department of Diagnostic and Interventional Radiology; Academic Teaching Hospital of the Medical University of Vienna, Stumpergasse 13, 1060 Vienna, Austria
Disclosures: Christian Muschitz, None

- FRI-0911** **Localization of Prefracture Lesions in Atypical Femoral Fracture on Straight and Bowed Femurs**
 Young Chang Park*¹, Kyu Hyun Yang². ¹International St. Mary's Hospital, Catholic Kwandong University College of Medicine, Republic of Korea, ²Yonsei University College of Medicine, Republic of Korea
Disclosures: Young Chang Park, None

PARACRINE REGULATORS

- FRI-0962** **Beta 2 Adrenergic Receptor Gene Deletion Enhances Periosteal Response to Mechanical Stimulation in Senescent Male Mice**
 Sundar Srinivasan*, Dewayne Threet, Philippe Huber, Brandon Ausk, Leah Worton, Ron Kwon, Steve Bain, Ted Gross, Edith Gardiner. University of Washington, United States
Disclosures: Sundar Srinivasan, None

- FRI-0963** **Plasminogen is Critical for Bone Fracture Repair by Promoting the Functions of Mesenchymal Progenitors**
 Luqiang Wang*¹, Zhenqiang He², Duan Hao², Richard Mitteer³, Yanqing Gong², Ling Qin¹. ¹Department of Orthopaedic Surgery, Perelman School of Medicine, University of Pennsylvania, United States, ²Division of Translational Medicine and Human Genetics, Perelman School of Medicine, University of Pennsylvania, United States, ³Radiation Oncology and Neurosurgery, Perelman School of Medicine, University of Pennsylvania, United States
Disclosures: Luqiang Wang, None

PRECLINICAL MODELS: NUTRITION AND PHARMACOLOGY

- FRI-0973** **Strain-Specific Response of Inbred Mice to PTH Suggests Significant Genetic Control of the Bone Anabolic Response to Drug Therapy**
 Douglas Adams*¹, Olivia Hart², Renata Rydzik¹, Dana Godfrey², Michael Zuscik², Cheryl Ackert-Bicknell². ¹University of Connecticut, United States, ²University of Rochester, United States
Disclosures: Douglas Adams, None
- FRI-0974** **AZP-3404, a Short Peptide Derived from Insulin-like Growth Factor Binding Protein 2 (IGFBP-2), Ameliorates Metabolic Status and Trabecular Bone in Aged-Ovariectomized (OVX) Mice**
 Thomas Delale*¹, Stephane Milano¹, Victoria Demambro², David R Clemmons³, Clifford J Rosen², Thierry Aribat¹. ¹Alize pharma 3, France, ²Maine Medical Center, United States, ³NPT Inc, United States
Disclosures: Thomas Delale, None

- FRI-0975** **AZP-3404, a Short Peptide Derived from Insulin-like Growth Factor Binding Protein 2 (IGFBP-2), Improves Trabecular Bone in Ovariectomized (OVX) Mice**
 Thomas Delale*¹, Stephane Milano¹, David R Clemmons², Clifford J Rosen³, Thierry Aribat¹. ¹Alizé Pharma 3, France, ²NPT Inc, United States, ³Maine Medical Center, United States
Disclosures: Thomas Delale, None
- FRI-0976** **A Novel Bone Anabolic Conjugated Drug (C3) Can Rebuild Bone in an Ovariectomized (OVX) Rat Model: A Novel Approach for Reversing Osteoporotic Bone Loss**
 Marc Grynepas*², Zeeshan Sheikh¹, Robert Young³. ¹University of Toronto, Canada, ²Sinai Health System, Canada, ³Simon Fraser University, Canada
Disclosures: Marc Grynepas, None
- FRI-0977** **Abaloparatide is as Effective as PTH (1-34) in Improving Bone Formation While PTHrP (1-36) Has Less Effect in Mice.**
 Carole Le Henaff*¹, Florante Ricarte², Zhiming He¹, Joshua Johnson¹, Johanna Warshaw¹, Nicola Partridge¹. ¹New York University, college of dentistry, United States, ²Molecular Pharmacology Training Program, Sackler Institute of Graduate Biomedical Sciences, United States
Disclosures: Carole Le Henaff, None
- FRI-0978** **ASBMR 2018 Fund for Research and Education Young Investigator Award Vanadyl Acetylacetonate Increases Bone Formation and Inhibits Osteoclast Differentiation in a Diabetes-Related Osteoporotic Rat Model**
 Jayenth Mayur*¹, Anthony Lin¹, Maximilian Muñoz¹, Kevin Mesina¹, Atharva Dhole¹, Savannah Roy¹, Daniel Coban¹, Suleiman Sudah², Joseph Benevenia¹, Jessica Cottrell³, David Paglia¹, Sheldon Lin¹. ¹Rutgers New Jersey Medical School, United States, ²Robert Wood Johnson Medical School, United States, ³Seton Hall University, United States
Disclosures: Jayenth Mayur, None
- FRI-0979** **Low-intensity Pulsed Ultrasound (LIPUS) Prevents Development of BRONJ-like Pathophysiology in Rat Alveolar Bone Defect Induced by Tooth Removal after Alendronate and Porphyromonas Gingivalis Challenges**
 Kouki Hidaka*¹, Yuko Mikuni-Takagaki¹, Satoko Wada-Takahashi¹, Makiko Saita², Ryota Kawamata⁴, Takenori Sato¹, Akira Kawata¹, Chihiro Miyamoto¹, Yojiro Maehata¹, Hiroataka Watabe², Nobuyuki Tani-Ishii², Nobushiro Hamada¹, Shun-Suke Takahashi¹, Shinji Deguchi⁴, Ryohei Takeuchi⁵. ¹Kanagawa Dental University, Graduate School of Dentistry, Department of Oral Science, Japan, ²Kanagawa Dental University, Graduate School of Dentistry, Department of Oral Interdisciplinary Medicine, Japan, ⁴Kanagawa Dental University, Graduate School of Dentistry, Department of Dentomaxillofacial Diagnosis and Treatment, Japan, ⁵Yokosuka City Hospital, Department of Joint Surgery, Japan
Disclosures: Kouki Hidaka, None
- FRI-0980** **A Novel Cathepsin K Inhibitor Specifically Approaching Bone Resorption Surface to Suppress Osteoclastic Bone Resorption**
 Xiaohao Wu*, Jun Lu, Jin Liu, Lei Dang, Aiping Lu, Ge Zhang. Hong Kong Baptist University, Hong Kong
Disclosures: Xiaohao Wu, None

RARE BONE DISEASES: CLINICAL

- FRI-1019** **[18F]NaF PET/CT can identify a silent “chronic” state of Fibrodysplasia Ossificans Progressiva**
 Esmée Botman*¹, Pieter Rajmakers², Maqsood Yaqub², Bernd Teunissen², Coen Ntelenbos¹, Lothar Schwarte³, Wouter Lubbers³, Adriaan Lammertsma², Marelise Eekhoff¹. ¹Department of Internal Medicine, section Endocrinology, Netherlands, ²Department of Nuclear Medicine and Radiology, Netherlands, ³Department of anesthesiology, Netherlands
Disclosures: Esmée Botman, None

- FRI-1020** **Sustained Efficacy and Safety of Burosumab, an Anti-FGF23 Monoclonal Antibody, for 88 Weeks in Children and Early Adolescents with X-Linked Hypophosphatemia (XLH)**
 Thomas O. Carpenter*¹, Wolfgang Högl², Erik Imel³, Anthony A. Portale⁴, Annemieke Boot⁵, Agnès Linglar⁶, Raja Padidela⁷, William Van'T Hoff⁸, Gary S. Gottesman⁹, Meng Mao¹⁰, Alison Skrinar¹⁰, Javier San Martin¹⁰, Michael P. Whyte⁹. ¹Yale University School of Medicine, United States, ²Birmingham Children's Hospital, United Kingdom, ³Indiana University School of Medicine, United States, ⁴University of California, San Francisco, United States, ⁵University of Groningen, Netherlands, ⁶APHP Hôpital Bicêtre Paris Sud, France, ⁷Royal Manchester Children's Hospital, United Kingdom, ⁸Great Ormond Street Hospital, United Kingdom, ⁹Shriners Hospitals for Children, United States, ¹⁰Ultragenyx Pharmaceutical Inc., United States
Disclosures: Thomas O. Carpenter, Ultragenyx Pharmaceutical Inc., Consultant, Ultragenyx Pharmaceutical Inc., Other Financial or Material Support, Ultragenyx Pharmaceutical Inc., Grant/Research Support
- FRI-1021** **In a Randomized, Placebo-Controlled Trial Of Teriparatide (TPTD) For Premenopausal Idiopathic Osteoporosis (IOP), Tissue-Level Bone Formation Rate at Baseline and 3 Months Predicts Bone Density Response**
 Adi Cohen*¹, Stephanie Shiau², Nandini Nair¹, John Williams¹, Robert Recker³, Joan Lappe⁴, David Dempster¹, Hua Zhou⁵, Mafo Kamanda-Kosseh¹, Mariana Bucovsky¹, Julie Stubby³, Elizabeth Shane¹. ¹Columbia University Medical Center, United States, ²Mailman School of Public Health, United States, ³Creighton University Medical Center, United States, ⁴Creighton University, United States, ⁵Helen Hayes Hospital, United States
Disclosures: Adi Cohen, None
- FRI-1022** **ASBMR 2018 Annual Meeting Young Investigator Award Age-related Changes and the Effect of Bisphosphonates on Bone Turnover and Disease Progression in Fibrous Dysplasia of Bone**
 Pablo Florenzano*^{1,2}, Kristen S Pan^{1,3}, Sydney M Brown¹, Lori C Guthrie¹, Luis Fernandez De Castro¹, Michael T Collins¹, Alison M Boyce¹. ¹Skeletal Diseases and Mineral Homeostasis Section, National Institute of Dental and Craniofacial Research, National Institutes of Health., United States, ²Department of Endocrinology, School of Medicine, Pontificia Universidad Catolica de Chile., United States, ³NIH Medical Research Scholars Program (MRSP), United States
Disclosures: Pablo Florenzano, None
- FRI-1023** **Trabecular Bone Score in Osteogenesis Imperfecta. Is it useful?**
 Helena Florez*¹, Africa Muxi², Eva Gonzalez³, Ana Monegal¹, Núria Guañabens¹, Pilar Peris¹. ¹Metabolic Bone Diseases Unit, Department of Rheumatology. Hospital Clinic. University of Barcelona, Spain, ²Department of Nuclear Medicine. Hospital Clinic, University of Barcelona, Spain, ³Department of Immunology. Hospital Clinic, University of Barcelona, Spain
Disclosures: Helena Florez, None
- FRI-1024** **Achondroplasia Natural History: a Large, Ongoing Multi-Center Cohort Study**
 Julie Hoover-Fong*¹, Michael Bober², Syed Hashmi³, Jacqueline Hecht³, Janet Legare⁴, Mary Ellen Little², John Mcgready¹, Peggy Modaff³, Richard Pauli⁴, David Rodriguez-Buritica³, Kerry Schulze¹, Elena Serna³, Cory Smid⁴, Adekemi Alade¹. ¹Johns Hopkins University, United States, ²AI duPont Hospital for Children, United States, ³University of Texas, United States, ⁴University of Wisconsin, United States
Disclosures: Julie Hoover-Fong, BioMarin, Consultant

FRI-1025 **The Effect of Burosumab (KRN23), a Fully Human Anti-FGF23 Monoclonal Antibody, on Osteomalacia in Adults with X-Linked Hypophosphatemia (XLH)**
Karl L. Insogna*¹, Frank Rauch², Peter Kamenický³, Nobuaki Ito⁴, Takuo Kubota⁵, Akie Nakamura⁶, Lin Zhang⁷, Matt Mealiffe⁷, Javier San Martin⁷, Anthony A. Portale⁸. ¹Yale School of Medicine, United States, ²McGill University, Canada, ³Université Paris-Sud, France, ⁴University of Tokyo Hospital, Japan, ⁵Osaka University Hospital, Japan, ⁶Hokkaido University Hospital, Japan, ⁷Ultragenyx Pharmaceutical Inc., United States, ⁸University of California, San Francisco, United States
Disclosures: Karl L. Insogna, Ultragenyx Pharmaceutical Inc., Grant/Research Support, Ultragenyx Pharmaceutical Inc., Other Financial or Material Support, Ultragenyx Pharmaceutical Inc., Consultant

FRI-1026 **An overview of the etiology, clinical manifestations, management strategies and complications of hypoparathyroidism from the Canadian National Hypoparathyroidism Registry**
Rafik El Werfalli*¹, Yasser Hakami¹, Manoela Braga¹, Adam Millar², Zubin Punthakee¹, Farhan Tariq¹, J.E.M. Young¹, Aliya Khan¹. ¹McMaster University, Canada, ²University of Toronto, Canada
Disclosures: Rafik El Werfalli, None

FRI-1027 **Bone Remodeling and Bone Mass in Patients with Hypophosphatasemia**
Laura Lopez-Delgado*¹, Leyre Riancho-Zarrabeitia², Maite Garcia-Unzueta¹, Carmen Valero^{1,3}, Jair Tenorio⁴, Marta Garcia-Hoyos¹, Pablo Lapunzina⁴, Jose A. Riancho^{1,3}. ¹Hospital UM Valdecilla, Spain, ²Hospital Sierrallana, Spain, ³Univ Cantabria, IDIVAL, Spain, ⁴Institute of Medical and Molecular Genetics, Spain
Disclosures: Laura Lopez-Delgado, None

FRI-1028 **ASBMR 2018 Annual Meeting Young Investigator Award
Clinical Features of Patients with Tumoral Calcinosis: The Mayo Clinic Experience**
Jad Sfeir*, Kurt Kennel, Matthew Drake. Mayo Clinic, United States
Disclosures: Jad Sfeir, None

RARE BONE DISEASES: TRANSLATIONAL

FRI-1077 **Mechanisms Underlying Increased Osteoclastogenesis in the Mouse Model of Osteogenesis Imperfecta Due to Mutation in Collagen Type I**
Iris Boraschi*¹, Eréne C Niemi², Frank Rauch¹, Mary Nakamura², Svetlana Komarova¹. ¹Shriners Hospital-Canada/ McGill University, Canada, ²University of San Francisco California, United States
Disclosures: Iris Boraschi, None

FRI-1078 **An antibody against ALK2 extracellular domain reveals a role of dimer formation for signal activation**
Takenobu Katagiri*¹, Shinnosuke Tsuji², Sho Tsukamoto¹, Mai Kuratani¹, Satoshi Ohte¹, Kiyosumi Takaishi^{2,3}, Yoshihiro Kawaguchi⁴, Jun Hasegawa⁴. ¹Division of Pathophysiology, Research Center for Genomic Medicine, Saitama Medical University, Japan, ²Rare Disease & LCM Laboratories, R&D Division, Daiichi-Sankyo Co., Ltd., Japan, ³Kensuke Nakamura, Modality Research Laboratories, Biologics Division, Daiichi-Sankyo Co., Ltd., Japan, ⁴Modality Research Laboratories, Biologics Division, Daiichi-Sankyo Co., Ltd., Japan
Disclosures: Takenobu Katagiri, Daiichi-Sankyo Co., Ltd., Grant/Research Support

FRI-1079 **Activation of the pro-fibrotic TGFβ pathway contributes to the multiorgan dysfunctions in the CLCN7-dependent ADO2**
Antonio Maurizi*¹, Mattia Capulli, Anna Curle, Rajvi Patel, Nadia Rucci, Anna Teti. University of L'Aquila, Italy
Disclosures: Antonio Maurizi, None

FRI-1080 **Autologous Regulatory T Cell Transplantation Enhances Bone Repair in a Mouse Model of Osteogenesis Imperfecta**
Meenal Mehrotra*¹, Inhong Kang, Shilpak Chatterjee, Uday Baliga, Shikhar Mehrotra. Medical University of South Carolina, United States
Disclosures: Meenal Mehrotra, None

- FRI-1081** **BMP signaling and BMPR dynamics and interactions are restrained by cell surface heparan sulfate, a mechanism likely altered in Hereditary Multiple Exostoses**
Christina Mundy*, Evan Yang, Paul Billings, Hajime Takano, Maurizio Pacifici. The Children's Hospital of Philadelphia, United States
Disclosures: Christina Mundy, None
- FRI-1082** **Gene expression profiling of sclerostin antibody-induced therapeutic response in growing Brl/+ mouse model of osteogenesis imperfecta**
Hsiao Hsin Sung*^{1,2}, Rachel Surowiec³, Rebecca Falzon², Lauren Battle², Chris Stephan², Michelle S. Caird², Kenneth M. Kozloff³. ¹RIMLS, Department of Rheumatology, Radboudumc, The Netherlands; Department of Oral and Maxillofacial Surgery, University of Michigan, ²Department of Orthopaedic Surgery, University of Michigan, United States, ³Biomedical Engineering, University of Michigan; Department of Orthopaedic Surgery, University of Michigan, United States
Disclosures: Hsiao Hsin Sung, None
- FRI-1083** **FGF23 Regulates Wnt/ β -catenin Signaling-mediated Osteoarthritis in Mice Overexpressing High Molecular Weight FGF2**
Patience Meo Burt*, Liping Xiao, Marja Hurley. UConn Health, United States
Disclosures: Patience Meo Burt, None

SARCOPENIA, MUSCLE AND FALLS

- FRI-1118** **ASBMR 2018 Annual Meeting Young Investigator Award**
Three months of vitamin D3, 2,800 IU/d has an unfavorable effect on muscle strength and physical performance in vitamin D insufficient, hyperparathyroid women – a randomized placebo controlled trial
Lise Sofie Bislev*¹, Lene Langagergaard Rødbro¹, Lars Rolighed², Tanja Sikjaer¹, Lars Rejnmark¹. ¹Department of Endocrinology and Internal Medicine, Denmark, ²Department of surgery, Denmark
Disclosures: Lise Sofie Bislev, None
- FRI-1119** **Analyzing Fall Risk using Smart Phone Application in Subjects with Osteoporosis with and without Falls**
Krupa Doshi*¹, Seong Moon², Michael Whitaker¹, Thurmon Lockhart². ¹Mayo Clinic, AZ, United States, ²Arizona State University, United States
Disclosures: Krupa Doshi, None
- FRI-1120** **Genetic Basis of Falling Risk Susceptibility**
Katerina Trajanoska*¹, Felix Day², Carolina Medina-Gomez¹, Andre G. Uitterlinden¹, John Perry², Fernando Rivadeneira¹. ¹Department of Internal Medicine, Erasmus Medical Center, Rotterdam, The Netherlands, Netherlands, ²MRC Epidemiology Unit, University of Cambridge School of Clinical Medicine, Cambridge, United Kingdom
Disclosures: Katerina Trajanoska, None
- FRI-1121** **Effects of Music-based Multitask Exercise (Jaques-Dalcroze Eurhythmics) versus Multicomponent Exercise on Physical Function, Falls and Brain Plasticity in Older Adults: A Randomized Controlled Trial**
Mélany Hars*¹, Natalia Fernandez², François Herrmann³, René Rizzoli¹, Gabriel Gold³, Patrik Vuilleumier², Andrea Trombetti¹. ¹Division of Bone Diseases, Department of Internal Medicine Specialties, Geneva University Hospitals and Faculty of Medicine, Switzerland, ²Laboratory for Behavioural Neurology and Imaging of Cognition, Campus Biotech, University of Geneva, Switzerland, ³Division of Geriatrics, Department of Internal Medicine, Rehabilitation and Geriatrics, Geneva University Hospitals and Faculty of Medicine, Switzerland
Disclosures: Mélany Hars, None

FRI-1122

Effect of Vitamin D3 supplementation on muscle strength in HIV+ postmenopausal women

Michael Yin*¹, Mariana Bucovsky¹, John Williams¹, Danielle Brunjes¹, Arindam Roychoudhury³, Ivelisse Colon¹, David Ferris², Susan Olender¹, P.Christian Schulz³, Anjali Sharma⁴, Cosmina Zeana², Barry Zingman⁴, Elizabeth Shane¹. ¹Columbia University Medical Center, United States, ²BronxCare Health System, United States, ³Weill Cornell Medical College, United States, ⁴Albert Einstein College of Medicine and Montefiore Medical Center, United States

Disclosures: Michael Yin, None

POSTER SESSION I AND POSTER TOURS

12:30 pm - 2:30 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

ADULT METABOLIC BONE DISORDERS

- SAT-0001 Acute Kidney Injury in Primary Hyperparathyroidism**
Cristiana Cipriani*¹, Jessica Pepe¹, Federica Biamonte¹, Valeria Fassino¹, Luciano Colangelo¹, Valentina Piazzolla¹, Carolina Clementelli¹, Luciano Nieddu², Salvatore Minisola¹. ¹Sapienza University of Rome, Italy, ²UNINT University, Italy
Disclosures: Cristiana Cipriani, None
- SAT-0002 Changes in Skeletal Microstructure Through Four Years of rPTH(1-84) Therapy in Hypoparathyroidism**
Natalie Cusano*¹, Mishaela Rubin², John Williams², Sanchita Agarwal², Gaia Tabacco², Yu-Kwang Donovan Tay², Rukshana Majeed², Beatriz Omeragic², John Bilezikian². ¹Lenox Hill Hospital, United States, ²Columbia University Medical Center, United States
Disclosures: Natalie Cusano, Shire, Speakers' Bureau, Shire, Grant/Research Support
- SAT-0003 Greater Visceral Adipose Tissue is Associated with Impairment of Bone Strength Assessed with HR-pQCT : the OFELY Study**
Francois Duboeuf*, Elisabeth Sornay-Rendu, Roland Chapurlat. INSERM UMR 1033, Université de Lyon, France
Disclosures: Francois Duboeuf, None
- SAT-0004 Effects of parathyroidectomy on the biology of bone tissue in patients with chronic kidney disease and secondary hyperparathyroidism**
Geovanna O. Pires*^{1,2}, Itamar O. Vieira¹, Fabiana R. Hernandez³, Andre L. Teixeira¹, Ivone B. Oliveira¹, Wagner V. Dominguez¹, Luciene M. Dos Reis¹, Fabio M. Montenegro⁴, Rosa M. Moyses^{1,5}, Aluizio B. Carvalho³, Vanda Jorgetti^{1,2}. ¹Laboratório de Investigação Médica 16, Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, Brazil, ²Hospital Samaritano Américas Serviços Médicos, Brazil, ³Nephrology Division, Federal University of São Paulo, Brazil, ⁴Disciplina de Cabeça e Pescoço, Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, Brazil, ⁵Pos-Graduate Medicine Program, UNINOVE, Brazil
Disclosures: Geovanna O. Pires, None
- SAT-0005 Overweight and Underweight Are Risk Factors for Vertebral Fractures in Patients with Type 2 Diabetes Mellitus**
Ippei Kanazawa*, Masakazu Notsu, Ken-Ichiro Tanaka, Toshitsugu Sugimoto. Shimane University Faculty of Medicine, Japan
Disclosures: Ippei Kanazawa, None
- SAT-0006 Cinacalcet restores bone quality in CKD-MBD mice by modulating Wnt10b and klotho signaling in bone cells**
Jia-Fwu Shyu*¹, Tzu-Hui Chu¹, Yi-Jun Lin¹, Lo-Wei Chen², Cheng-Yuan Hsiao¹, Wen-Chih Liu³. ¹Department of Biology and Anatomy, National Defense Medical Center, Taiwan, ²Department of Biology and Anatomy, National Defense Medical Center, United Republic of Tanzania, ³Graduate Institute of Clinical Medicine, College of Medicine, Taipei Medical University, Taiwan
Disclosures: Jia-Fwu Shyu, None
- SAT-0007 Bone Material Strength Index as Measured by Impact Microindentation in Patients with Primary Hyperparathyroidism and Hypoparathyroidism**
Jessica Starr*¹, Gaia Tabacco², Rukshana Majeed¹, Beatriz Omeragic¹, Maximo Gomez¹, Leonardo Bandeira³, Mishaela Rubin¹. ¹Columbia University, United States, ²University Campus Bio-Medico, Italy, ³Instituto FBandeira de Endocrinologia, United States
Disclosures: Jessica Starr, None

- SAT-0008** **ASBMR 2018 Annual Meeting Young Investigator Award**
Parathyroid Gland Localization in Primary Hyperparathyroidism: Evaluation of a Novel Imaging Protocol and Direct Head-to-Head Comparison of Parathyroid 4D-CT and Sestamibi SPECT/CT
 Randy Yeh*, Yu-Kwang Donovan Tay, Gaia Tabacco, Laurent Dercle, Jennifer Kuo, Leonardo Bandeira, Catherine Mcmanus, James Lee, John Bilezikian. Columbia University Medical Center, United States
Disclosures: Randy Yeh, None
- SAT-0009** **Importance of Recognizing Low Alkaline Phosphatase Levels in a Patient with Decreasing Bone Mineral Density**
 Nada Alhashemi*¹, Christine Derzko². ¹University of Toronto, Canada, ²University of Toronto, St Michael's Hospital, Canada
Disclosures: Nada Alhashemi, None
- SAT-0010** **Fracture risk in Chronic B-cell Lymphocytic Leukemia: a historic cohort study**
 Anupam Kotwal*, Jad Feir, Matthew Drake. Division of Endocrinology, Diabetes, Metabolism, and Nutrition, United States
Disclosures: Anupam Kotwal, None
- SAT-0011** **Evaluation of an optimal cutpoint of parathyroid venous sampling gradient for localizing elusive cases of primary hyperparathyroidism**
 Jooyeon Lee*¹, Namki Hong¹, Sujin Lee¹, Jong Ju Jeong², Byung Moon Kim³, Dong Joon Kim³, Yumie Rhee¹. ¹Department of Internal Medicine, Severance Hospital, Endocrine Research Institute, Yonsei University College of Medicine, Seoul 120-752, Korea, Republic of Korea, ²Thyroid Cancer Clinic, Yonsei University College of Medicine, Severance Hospital, Seoul, Korea, Republic of Korea, ³Department of Radiology, Yonsei University College of Medicine, Severance Hospital, Seoul, Korea, Republic of Korea
Disclosures: Jooyeon Lee, None
- SAT-0012** **Bone Turnover in Patients With Hypoparathyroidism Treated for 5 Years With Recombinant Human Parathyroid Hormone, rhPTH(1-84), in the Open-Label RACE Study**
 Michael Mannstadt*¹, John P. Bilezikian², Henry Bone³, Bart L. Clarke⁴, Douglas Denham⁵, Michael A. Levine⁶, Munro Peacock⁷, Jeffrey Rothman⁸, Dolores M. Shoback⁹, Tamara J. Vokes¹⁰, Mark L. Warren¹¹, Nelson B. Watts¹², Hak-Myung Lee¹³, Nicole Sherry¹³. ¹Massachusetts General Hospital and Harvard Medical School, United States, ²Columbia University, United States, ³Michigan Bone & Mineral Clinic, PC, United States, ⁴Mayo Clinic Division of Endocrinology, Diabetes, Metabolism, and Nutrition, United States, ⁵Clinical Trials of Texas, Inc., United States, ⁶Division of Endocrinology and Diabetes and Center for Bone Health, Children's Hospital of Philadelphia, United States, ⁷Department of Medicine, Division of Endocrinology, Indiana University School of Medicine, United States, ⁸University Physicians Group – Research Division, United States, ⁹Endocrine Research Unit, SF Department of Veterans Affairs Medical Center, University of California, United States, ¹⁰Section of Endocrinology, University of Chicago Medicine, United States, ¹¹Endocrinology and Metabolism, Physicians East, PA, United States, ¹²Osteoporosis and Bone Health Services, Mercy Health, United States, ¹³Shire Human Genetic Therapies, Inc, United States
Disclosures: Michael Mannstadt, Shire, Grant/Research Support, Shire, Consultant
- SAT-0013** **Normocalcaemic Hyperparathyroidism: Study Of The Prevalence And Natural History In A United Kingdom Referral Population**
 Marian Schini*¹, Richard Jacques¹, Nicola Peel², Jennifer Walsh¹, Richard Eastell¹. ¹University of Sheffield, United Kingdom, ²Sheffield Teaching Hospitals, NHS, United Kingdom
Disclosures: Marian Schini, None

- SAT-0014** **Low Volumetric Bone Density is a Risk Factor for Complications after Spine Fusion Surgery**
 Yi Liu^{*1}, Alexander Dash¹, Andre Samuel¹, Eric Marty¹, Harold Moore², Brandon Carlson¹, John Carrino¹, Donald McMahon³, Alexander Hughes¹, Han Jo Kim¹, Matthew Cunningham¹, Frank Schwab¹, Richard Bockman¹, Emily Stein¹. ¹Hospital for Special Surgery, United States, ²Weill Cornell Medical College, United States, ³Columbia University, United States
Disclosures: Yi Liu, None
- SAT-0015** **Quality of life in hypoparathyroidism improves with rhPTH(1-84) throughout 8 years of continuous therapy**
 Gaia Tabacco^{*1}, Donovan Tay Yu-Kwang¹, Mishaela Rubin¹, John Williams¹, Beatriz Omeragic¹, Rukshana Majeed¹, Maximo Gomez Almonte¹, Natalie Cusano², John Bilezikian¹. ¹Department of Medicine, Division of Endocrinology, College of Physicians & Surgeons, Columbia University, United States, ²Department of Medicine, Division of Endocrinology, Lenox Hill Hospital, United States
Disclosures: Gaia Tabacco, None
- SAT-0016** **rhPTH(1-84) in Hypoparathyroidism Is Associated With Stable Renal Function Through 8 Years of Continuous, Uninterrupted Therapy**
 Donovan Tay^{*1}, Gaia Tabacco¹, Natalie Cusano², John Williams¹, Beatriz Omeragic¹, Rukshana Majeed¹, Maximo Gomez Almonte¹, John Bilezikian¹, Mishaela Rubin¹. ¹Columbia University Medical Center, United States, ²Lenox Hill Hospital Department of Medicine, United States
Disclosures: Donovan Tay, None
- SAT-0017** **Recognition of persistent low serum alkaline phosphatase in hospitalized adults**
 Justine Vix^{*1}, Thierry Hauet², Pascal Roblot³, Francoise Debiais¹. ¹Rheumatology department CHU, France, ²Biochemistry department CHU, France, ³Internal medicine department CHU, France
Disclosures: Justine Vix, None
- SAT-0018** **Coronary Artery Calcification Absence, Assessed by Computed-Tomography, Spanning One Year Of Asfotase Alfa Therapy For A 69-Year-Old Woman With Hypophosphatasia**
 Michael P. Whyte^{*1}, Andy Bierhals². ¹Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine at Barnes-Jewish Hospital; Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States, ²Mallinckrodt Institute of Radiology, Washington University School of Medicine at Barnes-Jewish Hospital, United States
Disclosures: Michael P. Whyte, None
- SAT-0040** **PTH 1-34 Replacement Therapy has Minimal Effect on Quality of Life in Patients with Hypoparathyroidism**
 Rachel I. Gafni^{*1}, Tiffany Hu¹, Lori C. Guthrie¹, Beth A. Brillante¹, Michaele Smith², Robert James³, Michael T. Collins¹. ¹National Institute of Dental and Craniofacial Research, National Institutes of Health, United States, ²Rehabilitation Medicine Department, Clinical Center, National Institutes of Health, United States, ³Rho, Inc, United States
Disclosures: Rachel I. Gafni, None

BIOMECHANICS AND BONE QUALITY

- SAT-0053** **Slc20a2, encoding the phosphate transporter Pit2, is a novel genetic determinant of bone quality and strength**
 Sarah Beck-Cormier^{*1}, Christopher J. Lelliott², John G. Logan³, David T. Lafont², Victoria D. Leitch³, Natalie C. Butterfield³, Hayley J. Protheroe³, Peter I. Croucher⁴, Paul A. Baldock⁴, Alina Gaultier-Lintia⁵, Gael Nicolas⁶, Nina Bon¹, Sophie Sourice¹, Jérôme Guicheux¹, Laurent Beck¹, Graham R. Williams³, J. H. Duncan Bassett³. ¹Inserm, UMR 1229, RMeS, Regenerative Medicine and Skeleton, Université de Nantes, UFR Odontologie, ONIRIS, Nantes, F-44042, France, ²Mouse Pipelines, Wellcome Trust Sanger Institute, Hinxton, CB10 1SA, United Kingdom, ³Molecular Endocrinology Laboratory, Department of Medicine, Imperial College London, London W12 0NN, United Kingdom, ⁴The Garvan Institute of Medical Research, Sydney, NSW 2010, Australia, ⁵CHU Nantes, Laennec Hospital, Nantes, F-44093, France, ⁶Normandie Univ, UNIROUEN, Inserm U1245 and Rouen University Hospital, Department of Genetics and CNR-MAJ, F 76000, Normandy Center for Genomic and Personalized Medicine, Rouen, France
Disclosures: Sarah Beck-Cormier, None

- SAT-0054** **Bone strength and mineralization are regulated independently of bone mass by ephrinB2-dependent autophagic processes in osteocytes**
 Vrahnas Christina*¹, Toby Dite¹, Yifang Hu², Huynh Nguyen³, Mark R Forwood³, Keith R Bamberg⁴, Mark J Tobin⁴, Gordon K Smyth², T John Martin¹, Natalie A Sims¹. ¹St. Vincent's Institute of Medical Research, Australia, ²Walter and Eliza Hall Institute of Medical Research, Australia, ³Griffith University, Australia, ⁴Australian Synchrotron, Australia
Disclosures: Natalie Sims, None
- SAT-0055** **ASBMR 2018 Annual Meeting Young Investigator Award**
Non-invasive Localized Cold Therapy as a New Mode of Bone Repair Enhancement
 Marianne Comeau-Gauthier*, Daniel Castano, Jose Luis Ramirez-Garcia Luna, Justin Drager, Jake Barralet, Geraldine Merle, Edward Harvey. McGill University, Canada
Disclosures: Marianne Comeau-Gauthier, None
- SAT-0056** **A Novel FEM Approach for Evaluating the Fracture Resistance of Human Cortical Bone Demonstrates that Material Heterogeneity Distributes and Attenuates Damage in Cortical Bone from Human Iliac Crest Biopsies**
 Ahmet Demirtas*¹, Erik Taylor², Eve Donnelly², Ani Ural¹. ¹Villanova University, United States, ²Cornell University, United States
Disclosures: Ahmet Demirtas, None
- SAT-0057** **Aging and Chronic Kidney Disease differently diminish bone mechanics from the nano- to whole-bone scales**
 Chelsea M Heveran*¹, Charles Schurman², Claire Acevedo³, Eric Schaible⁴, Eric W Livingston⁵, Moshe Levi⁶, Ted Bateman⁵, Tamara Alliston^{2,7}, Karen B King⁸, Virginia L Ferguson¹. ¹Department of Mechanical Engineering, University of Colorado at Boulder, United States, ²Department of Orthopaedic Surgery, University of California San Francisco, United States, ³Department of Mechanical Engineering, University of Utah, United States, ⁴Lawrence Berkeley National Laboratory, United States, ⁵Department of Biomedical Engineering, University of North Carolina, United States, ⁶Department of Biochemistry and Molecular & Cellular Biology, Georgetown University, United States, ⁷UC Berkeley/UCSF Graduate Program in Bioengineering, United States, ⁸Department of Orthopaedics, University of Colorado School of Medicine, United States
Disclosures: Chelsea M Heveran, None
- SAT-0058** **ASBMR 2018 Fund for Research and Education Young Investigator Award in Honor of Adele L. Boskey**
The Effect of Vitamin D3 Supplementation on Distal Radius Fracture Healing: A Randomized Controlled HR-pQCT Trial
 F.L. Heyer*¹, J.J.A. De Jong¹, P.C. Willems¹, J.J. Arts², S.M.J. Van Kuijk¹, J.A.P. Bons¹, M. Poeze¹, P.P. Geusens¹, B. Van Rietbergen², J.P. Van Den Bergh¹. ¹Maastricht University Medical Center, Netherlands, ²Eindhoven University of Technology, Netherlands
Disclosures: F.L. Heyer, None
- SAT-0059** **Differences in Microarchitectural and Nano-mechanical Properties of Bone Between Patients with and without Atypical Femoral Fracture after Prolonged Bisphosphonate Treatment**
 Shijing Qiu*¹, Lanny Griffin², George Divine¹, Mahalakshmi Honasoge¹, Arti Bhan¹, Shiri Levy¹, Elizabeth Warner¹, Sudhaker Rao¹. ¹Henry Ford Hospital, United States, ²California Polytechnic State University, United States
Disclosures: Shijing Qiu, None
- SAT-0060** **Effect of Exercise and Weight on Bone Health in 8-9 Year Old Children**
 Sandra Shefelbine*¹, Vineel Kondiboyina¹, Lauren Raine¹, Arthur Kramer¹, Naiman Khan², Charles Hillman¹. ¹Northeastern University, United States, ²University of Illinois at Urbana-Champaign, United States
Disclosures: Sandra Shefelbine, None

- SAT-0061** **ASBMR 2018 Annual Meeting Young Investigator Award**
Uncontrolled hyperglycemia delays bone healing and disrupts the microstructure and gene expression of cartilaginous and bony cells at the growth plate, metaphyseal and subchondral bone in diabetic rats
 Ariane Zamarioli*¹, Beatriz P Trani¹, Maysa S Campos¹, João Paulo B Ximenez², Raquel A Silva³, José B Volpon¹. ¹School of Medicine of Ribeirão Preto, Brazil, ²School of Pharmaceutical Sciences of Ribeirão Preto, Brazil, ³School of Dentistry of Ribeirão Preto, Brazil
Disclosures: Ariane Zamarioli, None
- SAT-0062** **Second-generation HR-pQCT reveals minor size differences between right and left sides, but no major differences in density or microarchitecture**
 Sanchita Agarwal*¹, Bin Zhou², Y Eric Yu², Kyle K Nishiyama¹, Fernando R Rosete¹, Mariana Bucovsky¹, Elizabeth Shane¹, X Edward Guo². ¹Division of Endocrinology, Department of Medicine, Columbia University, United States, ²Bone Bioengineering Laboratory, Department of Biomedical Engineering, Columbia University, United States
Disclosures: Sanchita Agarwal, None
- SAT-0063** **Persistent activation of calcium-sensing receptor increases microcrack and decreases bone strength.**
 Itsuto Endo*^{1,2}, Bingzi Dong³, Yukiyo Ohnishi¹, Yukari Ooguro¹, Kiyoe Kurahashi¹, Masahiro Hiasa⁴, Jumpei Teramachi⁵, Hirofumi Tenshin⁴, Seiji Fukumoto⁶, Masahiro Abe¹, Toshio Matsumoto⁶. ¹Department of Hematology, Endocrinology and Metabolism, Tokushima University Graduate School of Medical Sciences, Japan, ²Department of Chronomedicine, Tokushima University Graduate School of Medical Sciences, Japan, ³Department of Endocrinology and Metabolism, the Affiliated Hospital of Qingdao University, China, ⁴Department of Orthodontics and Dentofacial Orthopedic, Tokushima University, Japan, ⁵Department of Tissue Regulation, Tokushima University, Japan, ⁶Fujii Memorial Institute of Medical Sciences, Tokushima University, Japan
Disclosures: Itsuto Endo, None
- SAT-0064** **Is cortical porosity associated with degraded material quality ?**
 Aurelien Gourrier*¹, Delphine Farlay², Helene Follet², Georges Boivin². ¹LIPHY CNRS Université Grenoble Alpes, France, ²INSERM UMR 1033 Université de Lyon, France
Disclosures: Aurelien Gourrier, None
- SAT-0065** **Chondroitin Sulfate and Biglycan Play Pivotal Roles in Bone Toughness via Retaining Bound Water in Bone Matrix**
 Rui Hua*¹, Jie Bai², Xiaodu Wang², Jean X. Jiang¹. ¹Department of Biochemistry, UT Health San Antonio, United States, ²Department of Mechanical Engineering, University of Texas at San Antonio, United States
Disclosures: Rui Hua, None
- SAT-0066** **Quantitative Computed Tomography (QCT) Analysis of Bone Quality: Consideration of Hierarchical Levels of Variation for Predicting Fracture Risk.**
 Randee Hunter*¹, Karen Briley², James Ellis², Amanda Agnew¹. ¹Skeletal Biology Research Laboratory, United States, ²Wright Center of Innovation in Biomedical Imaging, United States
Disclosures: Randee Hunter, None
- SAT-0067** **Compressive Bone Strength Index (BSIc) Explains 85% Variance in Experimentally-Derived Distal Radius Failure Load**
 James Johnston*¹, Matthew McDonald¹, Saija Kontulainen². ¹Department of Mechanical Engineering, University of Saskatchewan, Canada, ²College of Kinesiology, University of Saskatchewan, Canada
Disclosures: James Johnston, None
- SAT-0068** **Differences in bone quality between fresh bone and PMMA-embedded bone**
 Hiromi Kimura-Suda*¹, Teppei Ito¹, Masahiko Takahata², Tomohiro Shimizu², Fumiya Nakamura¹, Masahiro Ota². ¹Chitose Institute of Science and Technology, Japan, ²Hokkaido University, Japan
Disclosures: Hiromi Kimura-Suda, None

SAT-0069 **Osseointegrated implants for lower limb amputees: evaluation of bone mineral density**
Seamus Thomson*¹, William Lu¹, Munjed Al Muderis². ¹The University of Sydney, Australia, ²The Osseointegration Group of Australia, Australia
Disclosures: Seamus Thomson, Osseointegration International, Grant/Research Support

SAT-0070 **Distal Radius Bone Microarchitecture: what happens between age 25 and old age?**
Canchen Ma*¹, Feng Pan¹, Laura Laslett¹, Kathryn Squibb¹, Roger Zebaze², Tania Winzenberg¹, Graeme Jones¹. ¹Menzies Institute for Medical Research, University of Tasmania, Australia, ²Austin and Repatriation Medical Centre, University of Melbourne, Australia
Disclosures: Canchen Ma, None

SAT-0071 **Osteoarthritis Correlates with High-Speed Exercise and Sesamoid Bone Fracture in Racehorses**
Heidi Reesink*¹, Erin Cresswell², Sean Mcdonough¹, Scott Palmer¹, Christopher Hernandez¹, Caroline Wollman¹, Bridgette Peal³. ¹Cornell University, United States, ²LifeNet Health, United States, ³North Carolina State University, United States
Disclosures: Heidi Reesink, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS

SAT-0110 **Identification of a Non-Linear Maturational Trajectory During Adolescence**
Melanie Boeyer*¹, Emily Leary, Dana Duren. University of Missouri, United States
Disclosures: Melanie Boeyer, None

SAT-0111 **Sexual Dimorphism in Cortical and Trabecular Bone Microstructure Appears During Puberty in Chinese Children**
Ka Yee Cheuk*¹, Xiao-Fang Wang², Ji Wang³, Zhendong Zhang³, Fiona Wp Yu¹, Vivian Wy Hung¹, Wayne Yw Lee¹, Ali Ghasem-Zadeh², Roger Zebaze², Tracy Y Zhu¹, X Edward Guo³, Jack Cy Cheng¹, Tsz Ping Lam¹, Ego Seeman². ¹Department of Orthopaedics and Traumatology, The Chinese University of Hong Kong, Hong Kong, ²Departments of Endocrinology and Medicine, Austin Health, University of Melbourne, Australia, ³Bone Bioengineering Laboratory, Department of Biomedical Engineering, Columbia University, United States
Disclosures: Ka Yee Cheuk, None

SAT-0112 **Elucidating the Mechanism of JAGGED1-mediated Osteoblast Commitment during Maxillary Development**
Archana Kamalakar*¹, Melissa Oh, Samir Ballestas, Yvonne Coretha Stephenson, Steven Goudy. Emory University, United States
Disclosures: Archana Kamalakar, None

SAT-0113 **Menstrual abnormalities and cortical bone deterioration in young female athletes: an analysis by HR-pQCT**
Yuriko Kitajima*¹, Ko Chiba², Yusaku Isobe², Narihiro Okazaki², Naoko Murakami¹, Michio Kitajima¹, Kiyonori Miura¹, Makoto Osaki², Hideaki Masuzaki¹. ¹Department of Obstetrics and Gynecology, Nagasaki University Graduate School of Biomedical Sciences, Japan, ²Department of Orthopedic Surgery, Nagasaki University Graduate School of Biomedical Sciences, Japan
Disclosures: Yuriko Kitajima, MARUSAN-AI Co., Ltd., Grant/Research Support

SAT-0114 **Body mass is important, but so is its distribution: associations between body composition and bone health measures in 11-12 year old children**
Peter Simm*¹, Dorothea Dumuid², Susan Clifford³, Grace Gell³, Timothy Olds², Melissa Wake³. ¹Dept of Endocrinology, Royal Children's Hospital Melbourne, Australia, ²Alliance for Research in Exercise, Nutrition and Activity, University of South Australia, Australia, ³Murdoch Children's Research Institute, Australia
Disclosures: Peter Simm, None

SAT-0115 **Elevated RANKL Levels in Pediatric Patients with Metabolic Bone and Neuromuscular Disorders**
Sara Akhtar Ali*¹, Leigh Ramos-Platt, Senta Georgia, Pisit Pitukcheewanont. Children's Hospital Los Angeles, United States
Disclosures: Sara Akhtar Ali, None

- SAT-0116 SITAR Models of Bone and Body Composition Growth: Prospective Longitudinal Data for U.S. White Girls from Childhood to Adulthood**
 Jodi N Dowthwaite*¹, Stephanie A Kliethermes², Tamara A Scerpella². ¹SUNY Upstate Medical University; Binghamton University, United States, ²University of Wisconsin - Madison, United States
Disclosures: Jodi N Dowthwaite, None
- SAT-0117 Low Trabecular Bone Score in Adolescent Female Inpatients with Anorexia Nervosa**
 Yael Levy-Shraga*¹, Liana Tripto-Shkolnik², Dana David¹, Iris Vered², Daniel Stein³, Dalit Modan-Moses¹. ¹Pediatric Endocrinology Unit, The Edmond and Lily Safra Children's Hospital, Chaim Sheba Medical Center, Tel-Hashomer, Israel, ²Institute of Endocrinology, Chaim Sheba Medical Center, Tel-Hashomer, Israel, ³Pediatric Psychosomatic Department, The Edmond and Lily Safra Children's Hospital, Chaim Sheba Medical Center, Tel-Hashomer, Israel
Disclosures: Yael Levy-Shraga, None
- SAT-0118 Polyhydramnios: sole risk factor for non-traumatic fractures in 3 infants**
 Geneviève Nadeau*, Marie-Béatrice Saade, Patricia Olivier, Melissa Fiscaletti, Marie Laberge-Malot, Philippe Campeau, Nathalie Alos. CHU Sainte-Justine - University of Montreal, Canada
Disclosures: Geneviève Nadeau, None

BONE INTERACTIONS WITH MUSCLE AND OTHER TISSUES

- SAT-0135 ASBMR 2018 Annual Meeting Young Investigator Award**
Osteocalcin is necessary and sufficient to mount an acute stress response
 Julian Berger*, Lori Khirimian, Karsenty Gerard. Columbia University, United States
Disclosures: Julian Berger, None
- SAT-0136 Mice with reduced visceral and bone marrow adipose tissue have increased bone mass**
 Louise Grahnmemo*¹, Karin L. Gustafsson¹, Klara Sjögren¹, Petra Henning¹, Vikte Lionikaite¹, Antti Koskela², Juha Tuukkanen², Claes Ohlsson¹, Ingrid Wernstedt Asterholm³, Marie K. Lagerquist¹. ¹Centre for Bone and Arthritis Research, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, The Sahlgrenska Academy, University of Gothenburg, Sweden, ²Medical Research Center, University of Oulu, Finland, Sweden, ³Unit of Metabolic Physiology, Department of Physiology, Institute of Neuroscience and Physiology, The Sahlgrenska Academy, University of Gothenburg, Sweden
Disclosures: Louise Grahnmemo, None
- SAT-0137 An Osteocyte Protective Metabolite, β -aminoisobutyric Acid, BAIBA Mediates Survival Signals through MRGPRD/Ca²⁺/CaMKK β /AMPK pathway.**
 Yukiko Kitase*, Lynda Bonewald. Indiana University, United States
Disclosures: Yukiko Kitase, None
- SAT-0138 Fam210a is a Novel Determinant of Bone and Muscle**
 Ken-Ichiro Tanaka*¹, Yingben Xue¹, Loan Nguyen-Yamamoto¹, John A Morris², Ippei Kanazawa³, Toshitsugu Sugimoto³, Simon S Wing⁴, J Brent Richards², David Goltzman¹. ¹Calcium Research Laboratory, Metabolic Disorders and Complications Program, Research Institute of the McGill University Health Centre, Canada, ²Departments of Medicine, Human Genetics, Epidemiology and Biostatistics, McGill University, Jewish General Hospital, Canada, ³Internal Medicine 1, Shimane University Faculty of Medicine, Japan, ⁴Division of Endocrinology, Department of Medicine, McGill University, Canada
Disclosures: Ken-Ichiro Tanaka, None
- SAT-0139 The direct transdifferentiation of tendon cells into bone cells during bone modeling and remodeling**
 Ke Wang*¹, Chi Ma¹, Minghao Zheng², Xiaohua Liu¹, Jian Feng¹, Yan Jing¹. ¹Texas A&M University College of Dentistry, United States, ²The University of Western Australia, Australia
Disclosures: Ke Wang, None

- SAT-0140** **Nmp4 regulates bone physiology, obesity, and glucose metabolism**
Joseph Bidwell*, Ronald Wek, Alexander Robling, Sarah Tersey, Michele Adaway, Carmella Evans-Molina. Indiana University School of Medicine, United States
Disclosures: Joseph Bidwell, None
- SAT-0141** **Osteocalcin/Oxytocin and NGF/BDNF mRNA levels in bone mediate muscle phenotype dependent response to cold stress challenge in mice**
Claudia Camerino*, Elena Conte, Maria Rosaria Carratù, Adriano Fonzino, Domenico Tricarico. University of Bari, Italy
Disclosures: Claudia Camerino, None
- SAT-0142** **Bone Defect and Fracture Healing in Dystrophy/utrophin Double Knockout Mice**
Xueqin Gao^{*1}, Xuying Sun¹, Sarah Amra¹, Yan Cui¹, Zhenhan Deng¹, Haizi Cheng¹, Charles Huard¹, Bing Wang², Walter Lowe¹, Johnny Huard¹. ¹University of Texas Health Science Center at Houston, United States, ²University of Pittsburgh, United States
Disclosures: Xueqin Gao, None
- SAT-0143** **Annexin A5 prevents force-mediated bone ridge overgrowth at the enthesis**
Hisashi Ideno^{*1}, Yoshinori Arai², Koichiro Komatsu¹, Kazuhisa Nakashima¹, Satoshi Wada³, Teruhito Yamashita⁴, Ernst Pöschl⁵, Bent Brachvogel⁶, Yoichi Ezura⁷, Akira Nifuji¹. ¹Department of Pharmacology, Tsurumi University School of Dental Medicine, Yokohama, Japan, ²Nihon University, School of Dentistry, Japan, ³Department of Orthodontics, Tsurumi University School of Dental Medicine, Yokohama, Japan, ⁴Division of Hard Tissue Research, Institute for Oral Science, Matsumoto Dental University, Japan, ⁵School of Biological Sciences, University of East Anglia, Norwich Research Park, Norwich, United Kingdom, ⁶Experimental Neonatology, Department of Pediatrics and Adolescent Medicine, Center for Biochemistry, Medical Faculty, University of Cologne, Germany, ⁷Department of Molecular Pharmacology, Medical Research Institute, Tokyo Medical and Dental University, Japan
Disclosures: Hisashi Ideno, None
- SAT-0144** **Dysregulation of NF-κB in Intestinal Epithelial Cells Induces Osteopenia in Mice**
Ke Ke*, Manoj Arra, Gabriel Mbalaviele, Gaurav Swarnkar, Yousef Abu-Amer. Washington University School of Medicine, United States
Disclosures: Ke Ke, None
- SAT-0145** **Factors Secreted From MLO-Y4 Osteocyte-Like Cells under Inflammatory Conditions Inhibit C2C12 Myoblast Differentiation**
Dorit Naot*, Maureen Watson, Ally Choi, David Musson, Jillian Cornish. Department of Medicine, University of Auckland, New Zealand
Disclosures: Dorit Naot, None
- SAT-0146** **Region-specific differences in geometric parameters of cortical fibula structure and peroneal muscle forces in football players.**
Sergio Luscher^{*1}, Laura Marcela Nocciolino^{1,2}, Nicolas Pilot³, Leonardo Pissani³, Gustavo Roberto Cointry¹, Maria Rosa Ulla⁴, Joern Rittweger⁵, Alex Ireland⁶, Jose Luis Ferretti¹, Ricardo Francisco Capozza¹. ¹Center for P-Ca Metabolism Studies (CEMFOC), Natl Univ of Rosario, Argentina, ²Musculoskeletal Biomechanical Studies Unit (UDEBOM), University Institute Gran Rosario (IUGR), Argentina, ³Musculoskeletal Biomechanical Studies Unit (UDEBOM), University Institute Gran Rosario (IUGR), Argentina, ⁴CEOM- Centro de endocrinología Osteología y Metabolismo de Córdoba, Argentina, ⁵Institute of Aerospace Medicine, German Aerospace Center (DLR); Department of Pediatrics and Adolescent Medicine, University of Cologne, Germany, ⁶School of Healthcare Science, Manchester Metropolitan University, United Kingdom
Disclosures: Sergio Luscher, None

BONE MARROW MICROENVIRONMENT AND NICHES

- SAT-0169** **Low bone mass and high marrow adiposity in congenic 6T mice are related to shifts in metabolic flexibility within the bone marrow niche.**
Sheila Bornstein*, Clifford Rosen, Victoria Demambro, Anyonya Guntur, Makoto Fujiwara. Maine Medical Center Research Institute, United States
Disclosures: Sheila Bornstein, None

- SAT-0170** **Activation of β -catenin signaling in mature osteoblasts versus osteoblast progenitors defines a transcriptional and mutational profile for the transformation of MDS to AML**
 Álvaro Cuesta-Domínguez^{*1}, Ioanna Mosialou¹, Junfei Zhao², Akihide Yoshimi³, Konstantinos Panitsas⁴, Richard A. Friedman⁵, Omar Abdel-Wahab^{3,6}, Raúl Rabadán⁷, Stavroula Kousteni¹. ¹Department of Physiology and Cellular Biophysics, College of Physicians and Surgeons, Columbia University Medical Center, United States, ²Department of Systems Biology, Columbia University Medical Center, United States, ³Human Oncology and Pathogenesis Program, Memorial Sloan Kettering Cancer Center, United States, ⁴Department of Physiology and Cellular Biophysics, College of Physicians and Surgeons, Columbia University, United States, ⁵Biomedical Informatics Shared Resource, Department of Biomedical Informatics, Herbert Irving Comprehensive Cancer Center, College of Physicians and Surgeons, Columbia University Medical Center, United States, ⁶Weill Cornell Medical College and Leukemia Service, Dept. of Medicine, Memorial Sloan Kettering Cancer Center, United States, ⁷Department of Systems Biology and Department of Biomedical Informatics, Columbia University Medical Center, United States
Disclosures: Álvaro Cuesta-Domínguez, None
- SAT-0171** **Pharmacological Targeting of Osteoblast-Induced MDS and AML**
 Ioanna Mosialou^{*}, Marta Galan-Diez, Andrew Vandenberg, Abdullah Ali, Azra Raza, Stavroula Kousteni. Columbia University, United States
Disclosures: Ioanna Mosialou, None
- SAT-0172** **Single-cell proteomics reveal bone marrow stromal cell drivers of blood regeneration**
 Nicolas Severe^{*1}, Murat Karabacak², Karin Gustafsson¹, Ninib Baryawno¹, Gabriel Courties¹, Youmna Kfoury¹, Elizabeth Scadden¹, Matthias Nahrendorf¹, Mehmet Toner², David Scadden¹. ¹Massachusetts General Hospital, United States, ²Shriners Hospital for Children, United States
Disclosures: Nicolas Severe, None
- SAT-0173** **Osteocalcin and osteopontin mediate osteogenic differentiation of mesenchymal stem/stromal cells by controlling the maturation level of mineral species**
 Marta Carvalho^{*1}, Joaquim Cabral², Cláudia Lobato Da Silva², Deepak Vashishth¹. ¹Center for Biotechnology and Interdisciplinary Studies, Department of Biomedical Engineering, Rensselaer Polytechnic Institute, United States, ²Department of Bioengineering and iBB - Institute of Bioengineering and Biosciences, Instituto Superior Técnico, Universidade de Lisboa, Portugal
Disclosures: Marta Carvalho, None
- SAT-0174** **Osterix-cre expression by itself enhances adipogenic differentiation of stromal cells and affects hematopoiesis**
 Katrin Huck^{*1}, Carla Sens-Albert², Inaam Nakchbandi¹. ¹Max-Planck Institute for Medical Research, Germany, ²University of Heidelberg, Germany
Disclosures: Katrin Huck, None

BONE TUMORS AND METASTASIS

- SAT-0187** **ERRa in primary breast tumours promotes tumour cell dissemination to bone by regulating RANK**
 Geoffrey Vargas^{*1}, Mathilde Bouchet², Casina Kan³, Claire Benetollo⁴, Martine Croset¹, Martine Mazel⁵, Laure Cayrefourcq⁵, Sophie Vacher⁶, Francesco Pantano⁷, Keltouma Driouch⁶, Ivan Bieche⁶, William Jacot⁵, Jane Aubin⁸, Catherine Alix-Panabieres⁵, Philippe Clezardin¹, Edith Bonnefelye¹. ¹INSERM-U1033, France, ²ENS-Lyon, France, ³INSERM U1033, Australia, ⁴INSERM U 1028-CNRS UMR 5292-UCBL Lyon 1, France, ⁵Institut Universitaire de Recherche Clinique (IURC)- Montpellier, France, ⁶Institut Curie, France, ⁷University Campus Bio-Medico-Roma, Italy, ⁸University of Toronto, Canada
Disclosures: Geoffrey Vargas, None

- SAT-0188** **ASBMR 2018 Annual Meeting Young Investigator Award**
S100A4 Released from Highly Bone-metastatic Breast Cancer Cells Plays a Critical Role in Osteolysis
Haemin Kim*¹, Sang Il Kim², Hyung Joon Kim³, Brian Y. Ryu², Junho Chung², Zang Hee Lee², Hong-Hee Kim². ¹Hospital for Special Surgery, United States, ²Seoul National University, Republic of Korea, ³Pusan National University, Republic of Korea
Disclosures: Haemin Kim, None
- SAT-0189** **Granulocyte Colony Stimulating Factor impacts on osteomacs and bone marrow macrophages – implications for prostate cancer osteoblastic lesion formation**
Susan Millard*, Andy Wu, Simran Kaur, Yaowu He, Lena Batoon, John Hooper, Allison Pettit. Mater Research - UQ, Australia
Disclosures: Susan Millard, None
- SAT-0190** **Serum levels of RANKL are increased in primary breast cancer patients in the presence of disseminated tumor cells in the bone marrow.**
Tilman Rachner*¹, Martina Rauner², Andy Göbel², Oliver Hoffmann³, Lorenz Hofbauer², Rainer Kimmig³, Sabine Kasimir-Bauer³, Ann-Kathrin Bittner³. ¹Universitätsklinik Dresden, Germany, ²University Hospital Dresden, Germany, ³University Hospital Essen, Germany
Disclosures: Lorenz Hofbauer, None
- SAT-0191** **Suppression of Breast Cancer Bone metastasis by Osteocytic Connexin Hemichannels, a Potential Therapeutic Target**
Manuel Riquelme*¹, Sumin Gu¹, Zhiqiang An², Jean Jiang¹. ¹Department of Biochemistry and Structural Biology, University of Texas Health Science Center at San Antonio, United States, ²Brown Foundation, Institute of Molecular Medicine, UT Health Houston, United States
Disclosures: Manuel Riquelme, None
- SAT-0192** **HDAC inhibitors directly stimulate LIFR and induce pro-dormancy effects in breast cancer cells**
Miranda Sowder*¹, Lauren Holtslander¹, Vera Mayhew¹, Samuel Dooyema¹, Rachele W. Johnson². ¹Vanderbilt University, United States, ²Vanderbilt University Medical Center, United States
Disclosures: Miranda Sowder, None
- SAT-0193** **Pharmacological Inhibition of Sclerostin Protects From Breast Cancer-induced Osteolytic Disease and Muscle Weakness**
Eric Hesse*, Saskia Schröder, Diana Zarecneva, Jenny Pamperin, Hiroaki Saito, Hanna Taipaleenmäki. Molecular Skeletal Biology Laboratory, Department of Trauma, Hand and Reconstructive Surgery, University Medical Center Hamburg-Eppendorf, Germany
Disclosures: Eric Hesse, None
- SAT-0194** **Epigenetic targeting of the myeloma-bone microenvironment in 3D**
Juraj Adamik*¹, Yerneni S Saigopalakrishna², Sree H Pulugulla³, Quanhong Sun¹, Philip E Auron³, Phil G Campbell⁴, Deborah L Galson⁵. ¹Department of Medicine, Hematology/Oncology, UPMC Hillman Cancer Center, University of Pittsburgh, United States, ²Department of Biomedical Engineering, Carnegie Mellon University, United States, ³Department of Biological Sciences, Duquesne University, United States, ⁴Department of Biomedical Engineering, Engineering Research Accelerator, Carnegie Mellon University, United States, ⁵Department of Medicine, Hematology/Oncology, UPMC Hillman Cancer Center, McGowan Institute for Regenerative Medicine, University of Pittsburgh, United States
Disclosures: Juraj Adamik, None
- SAT-0195** **Metastatic Lesion Types Predict Vertebral Bone Matrix Quality and Strength**
Stacyann Bailey*¹, David Hackney², Marc Stadelmann³, Philippe Zysset³, Ron Alkalay², Deepak Vashishth¹. ¹Rensselaer Polytechnic Institute, United States, ²Beth Israel Deaconess Medical Center, United States, ³University of Bern, Switzerland
Disclosures: Stacyann Bailey, None

- SAT-0196** **Diacritic impacts of matrix stiffness and adhesion on osteosarcoma cells and osteoblasts**
Tongmeng Jiang*, Li Zheng, Jinmin Zhao. Guangxi Engineering Center in Biomedical Materials for Tissue and Organ Regeneration & Guangxi Collaborative Innovation Center for Biomedicine, The First Affiliated Hospital of Guangxi Medical University, China
Disclosures: Tongmeng Jiang, None
- SAT-0197** **Identification of potential mediators of bone loss in cancer**
Jessica Dorschner*, Jennifer Westendorf, Theodore Craig, Xuewei Wang, Rajiv Kumar. Mayo Clinic, United States
Disclosures: Jessica Dorschner, None
- SAT-0198** **An Incomplete Atypical Femoral Fracture Associated with Bisphosphonate Therapy and Femoral Skeletal Metastasis**
Pamela Taxel, Md*, Adam Lindsay, Md. UConn Health, United States
Disclosures: Pamela Taxel, Md, None
- SAT-0199** **Roles of membrane bound HB-EGF and EGF-Receptor interaction on osteoblast in melanoma induced bone resorption**
Kenta Watanabe*, Shosei Yoshinouchi, Keita Taniguchi, Michiko Hirata, Tsukasa Tominari, Chisato Miyaura, Masaki Inada. Tokyo University of Agriculture and Technology, Japan
Disclosures: Kenta Watanabe, None

CHONDROCYTES

- SAT-0226** **DDRKG1, an essential component of the ufmylation process, regulates osteochondrogenitor fate determination**
Yangjin Bae*, Adetutu Egunsola, Monika Weisz-Hubshman, Ming-Ming Jiang, Brendan Lee. Baylor College of Medicine, United States
Disclosures: Yangjin Bae, None
- SAT-0227** **The role of mitochondrial dysfunction in the development of post-traumatic osteoarthritis**
Katherine Escalera-Rivera*, Sarah Catheline, Roman Eliseev, Jennifer Jonason. University of Rochester, United States
Disclosures: Katherine Escalera-Rivera, None
- SAT-0228** **Postnatal inactivation of Dot1L histone methyltransferase in growth plate cartilage impairs longitudinal bone growth**
Sangita Karki*, Rosa M. Guzzo. UConn Health, United States
Disclosures: Sangita Karki, None
- SAT-0229** **Ciliary IFT80 Plays a Critical and Necessary Role in Fracture Healing through Regulating IGF β Signaling Pathway**
Min Liu*¹, Mohammed Alharbi², Jormay Lim¹, Dana Graves², Shuying Yang¹. ¹Dept. of Anatomy and Cell Biology, School of Dental Medicine, University of Pennsylvania, United States, ²Dept. of Periodontics, School of Dental Medicine, University of Pennsylvania, United States
Disclosures: Min Liu, None
- SAT-0230** **PTHrP Targets Salt-induced Kinases to Regulate Chondrocyte Differentiation**
Shigeki Nishimori*¹, Marc Wein¹, Kei Sakamoto², Marc Foretz³, Rebecca Berdeaux⁴, Henry Kronenberg¹. ¹Massachusetts General Hospital, United States, ²Nestlé Institute of Health Sciences, Switzerland, ³INSERM, France, ⁴University of Texas, United States
Disclosures: Shigeki Nishimori, None
- SAT-0231** **Direct transdifferentiation of ligament cells into articular chondrocytes that is regulated by Indian hedgehog (IHH) signaling and phosphate levels**
Jun Wang*¹, Chi Ma¹, Hui Li¹, Zhanjun Li², Liangxue Lai², Yan Jing¹, Jian Q. Feng¹. ¹Texas A&M College of Dentistry, United States, ²Jilin Provincial Key Laboratory of Animal Embryo Engineering, Jilin University, China
Disclosures: Jun Wang, None

SAT-0232 Runx2 Deletion in Chondrocytes Fails to Disrupt Development of TMJ
David Summerford*, Haiyan Chen, Harunur Rashid, Yang Yang, Amjad Javed. University of Alabama at Birmingham, United States
Disclosures: David Summerford, None

SAT-0233 IL36a promotes chondrocyte maturation: is this a functional role in fracture repair?
Xin Jin*, Tieshi Li, Alessandra Esposito, Jie Jiang, Lai Wang, Joseph Temple, Anna Spagnoli. Rush University Medical Center, United States
Disclosures: Xin Jin, None

SAT-0234 Role of the A2B Adenosine Receptor in Inflammatory Degradation of Cartilage
Meghan Kupratis*, Lauren Mangano Drenkard, Louis Gerstenfeld, Elise Morgan. Boston University, United States
Disclosures: Meghan Kupratis, None

SAT-0235 WITHDRAWN

ENERGY METABOLISM, BONE, MUSCLE AND FAT

SAT-0255 Undercarboxylated Osteocalcin Downregulates Pancreatic Lipase Expression in CREB2-Dependent Manner in Pancreatic Acinar Cells
Danbi Park*¹, Ye-Won Kwon¹, Jeong-Hwa Baek², Kyunghwa Baek¹. ¹Department of Pharmacology, College of Dentistry and Research Institute of Oral Science, Gangneung-Wonju National University, Republic of Korea, ²Department of Molecular Genetics, School of Dentistry and Dental Research Institute, Seoul National University, Republic of Korea
Disclosures: Danbi Park, None

SAT-0256 Ppar γ inhibition in osteoblast / osteocyte (OB/OCY) restores PTH bone anabolism in high fat diet model, importance of glycolysis versus mitochondrial oxidation ratio
Lucie Bourgoin*¹, Beatrice Desvergne², Nicolas Bonnet¹. ¹Service of Bone Diseases, Faculty of Medicine (UNIGE), Switzerland, ²Genopode Science & medical University, Switzerland
Disclosures: Lucie Bourgoin, None

SAT-0257 Allocation of Bone Marrow Stromal Cells into the Adipogenic Lineage is Marked by Enhanced Expression of the Mitophagy Receptor Bcl2L13
Makoto Fujiwara*¹, Anyonya Guntur¹, Phuong Le¹, Victoria Demambro¹, Mark Horowitz², Clifford Rosen¹. ¹Maine Medical Center Research Institute, United States, ²Yale University School of Medicine, United States
Disclosures: Makoto Fujiwara, None

SAT-0258 Metformin Facilitates Fracture Healing in Type-2 Diabetes Mice
Yuqi Guo*, Xin Li. NYU College of Dentistry, United States
Disclosures: Yuqi Guo, None

SAT-0259 KLF10 regulates skeletal muscle metabolism in mice
Malek Kammoun*¹, Vladimir Veksler², Jérôme Piquereau², Lydie Nadal-Desbarats³, Philippe Pouletaut¹, Molly Nelson Holte⁴, Malayannan Subramaniam⁴, Sabine Bensamoun¹, John Hawse⁴. ¹Université de Technologie de Compiègne, France, ²Univ. Paris-Sud, France, ³Université de Tours, France, ⁴Mayo Clinic, United States
Disclosures: Malek Kammoun, None

SAT-0260 Fatty acid oxidation is essential for osteoclast development and skeletal homeostasis
Priyanka Kushwaha*¹, Conor Beil², Michael J. Wolfgang¹, Ryan C. Riddle¹. ¹Johns Hopkins University School of Medicine, United States, ²Johns Hopkins University, United States
Disclosures: Priyanka Kushwaha, None

SAT-0261 Metabolic characterization of the OCN-Cre;idTR mouse model supports a relationship between bone health, bone marrow adipose tissue, and overall fitness
Heather Fairfield*¹, Samantha Costa¹, Calvin Vary¹, Victoria Demambro¹, Marie Demay², Clifford Rosen¹, Michaela Reagan¹. ¹Maine Medical Center Research Institute, United States, ²Center for Skeletal Research, Massachusetts General Hospital, United States
Disclosures: Heather Fairfield, None

- SAT-0262** **Complexity in Neuropeptide Y's effects on the skeleton**
 Natalie Ky Wee*¹, Benjamin P Sinder¹, Sanja Novak¹, Xi Wang¹, Brya G Matthews², Boris Zemelman³, Ivo Kalajzic¹. ¹Department of Reconstructive Sciences, University of Connecticut Health Center, United States, ²Department of Molecular Medicine, University of Auckland, New Zealand, ³Center for Learning and Memory, The University of Texas at Austin, United States
Disclosures: Natalie Ky Wee, None
- SAT-0263** **Osteocalcin Null Mice Differ From Wildtype by Sex and Genotype in Response to Prolonged High Fat Diet**
 Patricia Buckendahl*, Saad Ahmad, Nicholas Bello, Sue Shapses. Rutgers University, United States
Disclosures: Patricia Buckendahl, None
- SAT-0264** **Change In Body Composition And Mass In Relation To The Final Menstrual Period (FMP): Study Of Women's Health Across The Nation (SWAN)**
 Gail Greendale*¹, Weijuan Han¹, Meihua Huang¹, Barbara Sternfeld², Kristine Ruppert³, Carrie Karvonen-Gutierrez⁴, Arun Karlamangla¹. ¹Division of Geriatrics, David Geffen School of Medicine at UCLA, United States, ²Division of Geriatrics, Emeritus, United States, ³Epidemiology Data Center, University of Pittsburgh, United States, ⁴School of Public Health, University of Michigan, United States
Disclosures: Gail Greendale, None
- SAT-0265** **Hyperandrogenism is not associated with low bone mineral density in exercising women with menstrual disturbances**
 Kristen Koltun*, Emily Southmayd, Nancy Williams, Mary Jane De Souza. Pennsylvania State University, United States
Disclosures: Kristen Koltun, None
- SAT-0266** **Thermonutral housing exacerbates bone loss from atypical antipsychotic drugs**
 Roni Kunst*¹, Megan Rue², Katherine Motyl². ¹MMCRI, Netherlands, ²MMCRI, United States
Disclosures: Roni Kunst, None
- SAT-0267** **Metabolic, Anthropometric and Nutritional Profile of Girls with Adolescent Idiopathic Scoliosis: A Pilot Study**
 Émilie Normand*, Anita Franco, Stefan Parent, Alain Moreau, Valérie Marcil. Centre de recherche CHU Sainte-Justine, Canada
Disclosures: Émilie Normand, None
- SAT-0268** **A rat model of steroid-associated osteonecrosis**
 Li-Zhen Zheng*¹, Jia-Li Wang¹, Ling Kong¹, Le Huang¹, Li Tian¹, Qian-Qian Pang¹, Xin-Luan Wang², Ling Qin¹. ¹Musculoskeletal Research Laboratory, Department of Orthopaedics & Traumatology, The Chinese University of Hong Kong, Hong Kong SAR, PR China, Hong Kong, ²Translational Medicine R&D Center, Institute of Biomedical and Health Engineering, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, PR China, China
Disclosures: Li-Zhen Zheng, None

GENETIC MODELS OF MUSCULOSKELETAL DISEASES

- SAT-0295** **Biochemical and phenotypic characterization of mice constitutively expressing epitope-tagged PIT1 transporter in all tissues**
 Clemens Bergwitz*, Sampada Chande, Bryan Ho, Shumayi Syed, Jonathan Fentene. Yale University School of Medicine, United States
Disclosures: Clemens Bergwitz, None
- SAT-0296** **The role of inorganic pyrophosphate in the pathogenesis of PXE caused by ABCC6 mutations**
 Qiaoli Li*, Jouni Uitto. Thomas Jefferson University, United States
Disclosures: Qiaoli Li, None

- SAT-0297** **BMP2 is Required for Enteseal Bone Formation in Antigen-Induced Arthritis**
Yukiko Maeda*, Catherine Manning, Ellen Gravalles. University of Massachusetts Medical School, United States
Disclosures: Yukiko Maeda, Abbvie, Grant/Research Support
- SAT-0298** **COPB2 Loss of Function Leads to Disrupted Collagen Trafficking and Juvenile Osteoporosis**
Ronit Marom*¹, Lindsay C Burrage¹, Mahim Jain², Ingo Grafe¹, Daryl A Scott¹, Jill A Rosenfeld¹, Jason D Heaney¹, Denise Lanza¹, Xiaohui Li¹, Kyu-Sang Joeng¹, Yi-Chien Lee¹, I-Wen Song¹, Joseph M Sliepka¹, Dominyka Batkovskyte¹, Zixue Jin¹, Brian C Dawson¹, Shan Chen¹, Yuqing Chen¹, Ming-Ming Jiang¹, Elda M Munivez¹, Vernon R Sutton¹, Cole Kuzawa³, Rossella Venditti⁴, Maryann Weis⁵, Aurélie Clément⁶, Brenna Tremp⁶, Bernardo Blanco-Sánchez⁶, Monte Westerfield⁶, David Eyre⁵, Catherine G Ambrose³, Antonella De Matteis⁴, Brendan Lee¹. ¹Baylor College of Medicine, United States, ²Kennedy Krieger Institute, United States, ³University of Texas Health Science Center at Houston, United States, ⁴TIGEM (Telethon Institute of Genetics and Medicine), Italy, ⁵University of Washington, United States, ⁶University of Oregon, United States
Disclosures: Ronit Marom, None
- SAT-0299** **PIN1 is a new therapeutic target of craniosynostosis**
Hye-Rim Shin*¹, Han-Sol Bae¹, Bong-Su Kim¹, Heein Yoon¹, Young-Dan Cho¹, Woo-Jin Kim¹, Kang Young Choi², Yun-Sil Lee¹, Kyung-Mi Woo¹, Jeong-Hwa Baek¹, Hyun-Mo Ryoo¹. ¹Seoul National University, Republic of Korea, ²Kyungpook National University, Republic of Korea
Disclosures: Hye-Rim Shin, None
- SAT-0300** **Identifying Genetic Modifiers in Patients with Mild Fibrodysplasia Ossificans Progressiva using Whole Exome Sequencing**
Kelly Wentworth*¹, Tania Moody¹, Kim Taylor¹, Niambi Brewer², Fred Kaplan², Robert Pignolo³, Eileen Shore², Edward Hsiao¹. ¹UCSF, United States, ²UPenn, United States, ³Mayo Clinic, United States
Disclosures: Kelly Wentworth, Clementia Pharmaceuticals, Other Financial or Material Support
- SAT-0301** **No Indication for Increased Severity of the Sclerotic Bone Phenotype of Sost Knock-out Mice in the Presence of an Lrp4 Mutation.**
Eveline Boudin*¹, Timur Yorgan², Gretl Hendrickx², Ellen Steenackers¹, Michaela Kneissel³, Ina Kramer⁴, Geert Mortier¹, Thorsten Schinck², Wim Van Hul¹. ¹Centre of Medical Genetics, University and University Hospital of Antwerp, Belgium, ²Department of Osteology and Biomechanics, University Medical Center Hamburg, Germany, ³Musculoskeletal Disease Area, Novartis Institutes for BioMedical Research, Basel, Switzerland., Switzerland, ⁴Musculoskeletal Disease Area, Novartis Institutes for BioMedical Research, Basel, Switzerland., Belgium
Disclosures: Eveline Boudin, None
- SAT-0302** **Adgrg6 Is a Novel and Critical Regulator for Cartilage Homeostasis and Joint Stability**
Zhaoyang Liu*, Ryan Gray. University of Texas at Austin, Dell Medical School, United States
Disclosures: Zhaoyang Liu, None
- SAT-0303** **Common and rare variants of WNT16, DKK1 and SOST and their relationship with bone mineral density**
Núria Martínez-Gil*¹, Neus Roca-Ayats¹, Anna Monistrol-Mula¹, Natàlia García-Giralt², Adolfo Díez-Pérez², Xavier Nogués², Leonardo Mellibovsky², Daniel Grinberg¹, Susana Balcells¹. ¹Department of Genetics, Microbiology and Statistics, Faculty of Biology, University of Barcelona, IBUB, IRSJD, CIBERER, Spain, ²Musculoskeletal Research Group, IMIM (Hospital del Mar Medical Research Institute), Centro de Investigación Biomédica en Red de Fragilidad y Envejecimiento Saludable (CIBERFES), ISCIII, Spain
Disclosures: Núria Martínez-Gil, None

- SAT-0304 Genetic variability and functionality of the FLJ42280 locus, a GWAS hit for osteoporosis**
 Neus Roca-Ayats*¹, Darío G. Lupiáñez², Núria Martínez-Gil¹, Marina Gerousi³, Mónica Cozar¹, Natàlia Garcia-Giral⁴, Xavier Nogués⁴, Leonardo Mellibovsky⁴, Adolfo Díez-Pérez⁴, Susanna Balcells¹, Daniel Grinberg¹. ¹Department of Genetics, Microbiology and Statistics, Facultat de Biologia, Universitat de Barcelona, Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), ISCIII, IBUB, IRSJD, Spain, ²Epigenetics and Sex Development Group, Berlin Institute for Medical Systems Biology, Max-Delbrück Center for Molecular Medicine, Germany, ³Department of Genetics, Microbiology and Statistics, Facultat de Biologia, Universitat de Barcelona, IBUB, Spain, ⁴Musculoskeletal Research Group, IMIM (Hospital del Mar Medical Research Institute), Centro de Investigación Biomédica en Red en Fragilidad y Envejecimiento Saludable (CIBERFES), ISCIII, Spain
Disclosures: Neus Roca-Ayats, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE

- SAT-0325 A high resolution Capture-C promoter ‘interactome’ implicates causal genes at BMD GWAS loci**
 Alessandra Chesi*², Yadav Wagley¹, Matthew E. Johnson², Sumei Lu², Michelle E. Leonard², Kenya M. Hodge², James A. Pippin², Elisabetta Manduchi², Andrew D. Wells², Struan F.A. Grant², Kurt D. Hankenson¹. ¹University of Michigan, United States, ²The Children’s Hospital of Philadelphia, United States
Disclosures: Alessandra Chesi, None
- SAT-0326 Assessing Clinical Utility of Genetic Profiling in Fracture Risk Assessment: A Decision Curve Analysis**
 Thao P. Ho-Le*^{1,2}, Jacqueline R. Center^{1,3}, John A. Eisman^{1,3,4}, Hung T. Nguyen², Tuan V. Nguyen^{1,2,3,4}. ¹Bone Biology Division, Garvan Institute of Medical Research, Australia, ²School of Biomedical Engineering, University of Technology, Sydney, Australia, ³St Vincent Clinical School, UNSW Australia, Australia, ⁴School of Medicine, Notre Dame University, Australia., Australia
Disclosures: Thao P. Ho-Le, None
- SAT-0327 Bioinformatics Informs GWAS: An Osteoporosis and Epigenetics Study**
 Hui Shen*, Xiao Zhang, Fangtang Yu, Hong-Wen Deng, Melanie Ehrlich. Tulane University, United States
Disclosures: Hui Shen, None
- SAT-0328 Comprehensive targeted LC-QTOF-MS metabolomics identifies novel metabolite changes associated with treatment of the rare bone disease Alkaptonuria**
 Brendan Norman*¹, Andrew Davison², Gordon Ross³, Anna Milan², Andrew Hughes², Norman Roberts², Lakshminarayan Ranganath², James Gallagher¹. ¹Institute of Ageing & Chronic Disease, University of Liverpool, United Kingdom, ²Liverpool Clinical Laboratories, Royal Liverpool University Hospitals Trust, United Kingdom, ³Agilent Technologies UK Ltd, United Kingdom
Disclosures: Brendan Norman, None
- SAT-0329 Identification of secreted factors coupling bone resorption to bone formation in humans using denosumab as a biological probe**
 Megan Weivoda*, David Monroe, Josh Farr, Elizabeth Atkinson, Brittany Negley, Brianne Thicke, Ming Ruan, Louise Mccready, Matthew Drake, Merry Jo Oursler, Sundeep Khosla. Mayo Clinic, United States
Disclosures: Megan Weivoda, None

- SAT-0330** **Integrative analysis of genetic and clinical risk factors affecting bone loss in Korean population**
 Ji Hyun Lee*¹, Jooyong Park², Jung Hee Kim³, Hyung Jin Choi⁴, Eu Jeong Ku⁵, A Ram Hong⁶, Ji-Yeob Choi², Nam H. Cho⁷, Chan Soo Shin³. ¹Department of Internal Medicine, Seoul National University College of Medicine, Department of Internal Medicine, VHS Medical Center, Republic of Korea, ²Department of Biomedical Sciences, Seoul National University College of Medicine, Republic of Korea, ³Department of Internal Medicine, Seoul National University College of Medicine, Republic of Korea, ⁴Department of Anatomy, Seoul National University College of Medicine, Seoul, Republic of Korea, ⁵Department of Internal Medicine, Chungbuk National University College of Medicine, Cheongju Si, Republic of Korea, ⁶Department of Internal Medicine, Seoul National University College of Medicine, Boramae Medical Center, Republic of Korea, ⁷Department of Preventive Medicine, Ajou University School of Medicine, Republic of Korea
Disclosures: Ji Hyun Lee, None

HORMONAL REGULATORS- POSTER SESSION I AND POSTER TOURS

- SAT-0343** **Regulation of FGF23 and Bone Mass by the Proprotein Convertase Furin**
 Omar Al Rifai*¹, Rachid Essalmani¹, John Creemers², Nabil G. Seidah¹, Mathieu Ferron¹.
¹Institut de recherches cliniques de Montreal, Canada, ²KU Leuven, Belgium
Disclosures: Omar Al Rifai, None
- SAT-0344** **WITHDRAWN**
- SAT-0345** **Bone-Targeted Pharmacological Inhibition of Notch Signaling Potentiates PTH-induced Bone Gain.**
 Jesus Delgado-Calle*¹, Gerald Wu², Mathew E. Olson¹, Kevin Mcandrews², Jessica H. Nelson¹, Ashley L. Daniel¹, Noriyoshi Kurihara¹, Emily G. Atkinson², Venkat Srinivasan³, Lifeng Xiao³, Frank H. Ebetino³, G. David Roodman¹, Robert K. Boeckman Jr³, Teresita Bellido². ¹Indiana University School of Medicine, Dept. of Medicine, Hematology/Oncology, United States, ²Indiana University School of Medicine, Dept. of Anatomy and Cell Biology, United States, ³University of Rochester, Dept. of Chemistry, United States
Disclosures: Jesus Delgado-Calle, None
- SAT-0346** **Overexpression of Sirt1 in Mesenchymal Stem Cells Protects against Glucocorticoid-Induced Osteoporosis by Inhibiting Oxidative Stress and Osteocyte Senescence**
 Qinghe Geng*¹, Xiaoqing Hu, Jun Wu, Dengshun Miao. Nanjing Medical University, China
Disclosures: Qinghe Geng, None
- SAT-0347** **Sustained Klotho delivery reduces serum phosphate in a model of diabetic nephropathy**
 Julia Hum*¹, Linda O'Bryan², Arun Tatiparthi³, Erica Clinkenbeard⁴, Pu Ni⁴, Martin Cramer², Manoj Bhaskaran², Robert Johnson², Jonathan Wilson², Rosamund Smith², Kenneth White⁴. ¹Marian University, United States, ²Eli Lilly and Company, United States, ³Covance Inc, United States, ⁴Indiana University School of Medicine, United States
Disclosures: Julia Hum, None
- SAT-0348** **WITHDRAWN**
- SAT-0349** **1,25-Dihydroxyvitamin D Retards Osteoporosis by Activating Nrf2-Antioxidant Signaling and Inactivating P16 Senescence Signaling**
 Wanxin Qiao*¹, Lulu Chen¹, Weiwei Sun¹, David Goltzman², Dengshun Miao¹. ¹Nanjing Medical University, China, ²McGill University, Canada
Disclosures: Wanxin Qiao, None
- SAT-0350** **Estrogen-stimulated pleiotrophin functions to stimulate osteoblast differentiation and maintain bone mass in IGF binding protein-2 knockout mice**
 Susan D'Costa*¹, Gang Xi¹, Victoria Demambro², Clifford Rosen², David Clemmons¹.
¹University of North Carolina at Chapel Hill, United States, ²Maine Medical Center Research Institute, United States
Disclosures: Susan D'Costa, None

- SAT-0351** **Overexpression of Sirt1 in Mesenchymal Stem Cells Protects against Estrogen Deficiency-Induced Osteoporosis**
 Qian Zhang*, Rong Wang, Jianliang Jin, Dengshun Miao. Nanjing Medical University, China
Disclosures: Qian Zhang, None
- SAT-0352** **Oxytocin treatment improves the femoral neck bone quality of the aging rats in periostropause**
 Fernanda Fernandes*, Camila Tami Stringheta Garcia, Melise Jacon Peres Ueno, Angela Cristina Nicola, Fabiana Fernandes, Mário Jefferson Quirino Louzada, Antônio Hernandez Chaves-Neto, Rita Cássia Menegati Dornelles. UNESP, Brazil
Disclosures: Fernanda Fernandes, None
- SAT-0353** **The Phosphate Hypothesis: Divergent Roles for PTH and PTHrP**
 Robert Fredericks*. Endocrine-Associates, United States
Disclosures: Robert Fredericks, None
- SAT-0354** **Estrogen Attenuates Complex I Activity and Stimulates the Mitochondrial Apoptotic Death Pathway in Osteoclast Progenitors**
 Ha-Neui Kim*^{1,2}, Intawat Nookaew¹, Nukhet Aykin-Burns¹, Kim Krager¹, Li Han^{1,2}, Robert Jilka^{1,2}, Stavros Manolagas^{1,2}, Maria Almeida^{1,2}. ¹University of Arkansas for Medical Sciences, United States, ²Central Arkansas Veterans Healthcare System, United States
Disclosures: Ha-Neui Kim, None
- SAT-0355** **The impact of dietary phosphate on acute renal phosphate and calcium excretion in healthy subjects.**
 Tom Mazzetti*¹, Mandy E. Turner², Laura Couture³, Jenny Munroe⁴, Rachel M. Holden⁵. ¹Queen's University School of Medicine, Canada, ²Queen's University Department of Biomedical and Molecular Sciences, Canada, ³McGill University Faculty of Health Sciences, Canada, ⁴Kingston General Hospital, Canada, ⁵Queen's University Department of Medicine, Canada
Disclosures: Tom Mazzetti, None
- SAT-0356** **Relative influence of serum ionized calcium and 25-hydroxyvitamin D in regulating PTH secretion in healthy subjects: an analysis of a large cohort**
 Federica Ferrone*¹, Jessica Pepe¹, Cristiana Cipriani¹, Vittoria Danese¹, Veronica Cecchetti¹, Valeria Fassino¹, Federica Biamonte¹, Luciano Colangelo¹, Frank Blocki², Salvatore Minisola³. ¹Department of Internal Medicine and Medical Disciplines, "Sapienza" University of Rome, Italy, ²diasorin inc, United States, ³Department of Internal Medicine and Medical Disciplines, "Sapienza" University of Rome, Jamaica
Disclosures: Federica Ferrone, None
- SAT-0357** **Decrement of Dentin Matrix Protein 1 caused by Excessive Parathyroid hormone is one of the pathogenesis in elevating Fibroblast Growth Factor 23 expression in Bone Tissue on Primary Hyperparathyroidism Model**
 Yuki Nagata*, Yasuo Imanishi, Tomomi Maeda, Daichi Miyaoka, Noriyuki Hayashi, Masanori Emoto, Masaaki Inaba. Osaka City University Graduate School of Medicine, Department of Metabolism, Endocrinology, and Molecular Medicine, Japan
Disclosures: Yuki Nagata, None
- SAT-0358** **Vitamin D Metabolites and the Gut Microbiome in Older Men: The MrOS Study.**
 Robert Thomas*¹, Lingjing Jiang¹, Zech Xu¹, Jian Shen¹, Stefan Janssen¹, Gail Ackermann¹, John Adams², Steven Pauwels³, Dirk Vanderschueren³, Rob Knight¹, Eric Orwoll⁴, Deborah Kado¹. ¹University of California San Diego, United States, ²University of California Los Angeles, United States, ³UZ Leuven, Belgium, ⁴Oregon Health Sciences University, United States
Disclosures: Robert Thomas, None

- SAT-0359** **Determination of reference ranges for parathyroid hormone in healthy individuals classified by vitamin D status using the Elecsys® PTH and Vitamin D total II immunoassays**
Richard Ostlund*¹, Naga Yalla¹, Gabriella Bobba², Ge Guo³, Ann Stankiewicz³. ¹Washington University, St. Louis, MO, United States, ²Roche Diagnostics International Ltd, Rotkreuz, Switzerland, ³Roche Diagnostics Inc., Indianapolis, Indiana, United States
Disclosures: Richard Ostlund, Roche Diagnostics and Regeneron, Grant/Research Support

MECHANOBIOLOGY

- SAT-0392** **Gambogic amide, a TrkA agonist, augments skeletal adaptation to mechanical loading through sensory nerve signaling**
Phuong Hua*, Ryan Tomlinson. Thomas Jefferson University, United States
Disclosures: Phuong Hua, None
- SAT-0393** **Knockout p16 Protects against Unloading-Induced Intervertebral Disc Degeneration by Inhibiting Oxidative Stress And Cell Senescence**
Yongxin Ren*, Hui Che. The First Affiliated Hospital of Nanjing Medical University, China
Disclosures: Yongxin Ren, None
- SAT-0394** **FAK expression in osteocytes is dispensable for bone accrual and for the anabolic response of cortical and cancellous bone to mechanical loading in female mice.**
Amy Y Sato*¹, Troy Li¹, Kevin Mcandrews¹, Alexander G Robling^{1,2}, Teresita Bellido^{2,3}.
¹Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, ²Roudebush Veterans Administration Medical Center, United States, ³Department of Anatomy & Cell Biology, Department of Medicine, Division of Endocrinology, Indiana University School of Medicine, United States
Disclosures: Amy Y Sato, None
- SAT-0395** **ASBMR 2018 Annual Meeting Young Investigator Award
IGF1R Deficiency in Periosteal Osteoprogenitors Inhibits Bone Response to Mechanical Loading**
Tianlu Wang*, Faming Tian, Yongmei Wang, Daniel Bikle. Endocrine Unit, University of California, San Francisco and San Francisco VA Health Care System, United States
Disclosures: Tianlu Wang, None
- SAT-0396** **Mechanical Loading Induces Bone Formation from Pre-Existing Osterix Expressing Cells**
Heather Zannit*, Matthew Silva. Washington University in St. Louis, United States
Disclosures: Heather Zannit, None
- SAT-0397** **Growth Hormone Effects on Bone Loss-Induced by Mild Traumatic Brain Injury and/or Hind Limb Unloading**
Nikita Bajwa*¹, Chandrasekhar Kesavan^{1,2}, Heather Watt¹, Subburaman Mohan^{1,2}.
¹Musculoskeletal Disease Center, VA Loma Linda Healthcare System, United States, ²Department of Medicine, Loma Linda University, United States
Disclosures: Nikita Bajwa, None
- SAT-0398** **Mechanical Stress-induced Intracellular Ca²⁺ Oscillations in Human Periodontal Ligament Fibroblasts**
Ei Ei Hsu Hlaing*¹, Yoshihito Ishihara², Ziyi Wang¹, Naoya Odagaki¹, Hiroshi Kamioka¹.
¹Department of Orthodontics, Okayama University Graduate School of Medicine, Dentistry, and Pharmaceutical Sciences, Japan, ²Department of Orthodontics, Okayama University Hospital, Japan
Disclosures: Ei Ei Hsu Hlaing, None
- SAT-0399** **Role of Parathyroid Hormone Receptor Type I and Primary Cilia in Bone Mechanotransduction on Osteocytes and Osteoblast**
Arancha Gortazar*, Irene Buendia, Eduardo Martin-Guerrero, Irene Tirado, Juan Antonio Ardura. Bone Physiopathology Laboratory, Departamento de Ciencias Médicas Básicas, Facultad de Medicina, Universidad San Pablo CEU, CEU Universities, Spain
Disclosures: Arancha Gortazar, None

- SAT-0400 Adaptive Changes in Micromechanical Environment of Cancellous and Cortical Bone Following Mechanical Loading and Disuse**
Haisheng Yang*¹, Ran Liu¹, Whitney Bullock², Russell Main². ¹Beijing University of Technology, China, ²Purdue University, United States
Disclosures: Haisheng Yang, None

MUSCULOSKELETAL AGING

- SAT-0419 Short-term pharmacologic inhibition of RAGE suppresses bone turnover and muscle atrophy in aging**
Hannah M. Davis*^{1,2}, Mohammad W. Aref^{1,2}, Alyson L. Essex¹, Sinai Valdez¹, Alexandra Aguilar-Perez^{1,2}, Padmini Deosthale^{1,2}, Fletcher White^{3,4,5}, Jolene Windle⁶, Matthew R. Allen^{1,2,5}, Lilian I. Plotkin^{1,2,5}. ¹Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, ²Indiana Center for Musculoskeletal Health, United States, ³Department of Anesthesia, Indiana University School of Medicine, United States, ⁴Stark Neuroscience Research Institute, United States, ⁵Roudebush Veterans Administration Medical Center, United States, ⁶Department of Human and Molecular Genetics, Virginia Commonwealth University, Richmond, VA, United States
Disclosures: Hannah M. Davis, None
- SAT-0420 Anti-Sost/Dkk1 Antibody Therapy Increases Bone Formation in Old Mice, but Does Not Enhance Their Modest Response to Tibial Loading**
Lisa Lawson*, Michael Brodt, Matthew Silva. Washington University in St. Louis, United States
Disclosures: Lisa Lawson, None
- SAT-0421 Association of trajectories of change in bone, lean mass and physical performance with mortality in older men**
Jian Shen*¹, Neeta Parimi², Peggy Cawthon², Lisa Langsetmo³, Kris Ensrud³, Jane Cauley⁴, Deborah Kado⁵. ¹University of California, San Diego, United States, ²California Pacific Medical Center Research Institute, United States, ³University of Minnesota, United States, ⁴University of Pittsburgh Graduate School of Public Health, United States, ⁵University of California, United States
Disclosures: Jian Shen, None
- SAT-0422 Fibroblast growth factor receptor 3 inhibits progression of degeneration in the intervertebral disc in mice**
Yangli Xie*, Xiaolan Du, Lin Chen, Zuqiang Wang. Department of Rehabilitation Medicine, Center of Bone Metabolism and Repair, State Key Laboratory of Trauma, Burns and Combined Injury, Trauma Laboratory, Daping Hospital, Army Medical University, China
Disclosures: Yangli Xie, None
- SAT-0423 The Vitamin D Receptor Expression in Skeletal Muscle of Women with Distal Radius Fracture**
Kahyun Kim*¹, Hyun Sik Gong². ¹Department of Orthopaedic Surgery, Hallym University College of Medicine, Republic of Korea, ²Department of Orthopaedic Surgery, Seoul National University College of Medicine, Republic of Korea
Disclosures: Kahyun Kim, None
- SAT-0424 Age-related Decline of Osteogenesis Depends on Regulation of Protein Kinase A (PKA) by the Protein Kinase Inhibitor Gamma (PKI γ)**
Bryan S. Hausman*¹, Xin Chen², Hyonmin Choe³, Ozan Akkus¹, Edward M. Greenfield¹. ¹Case Western Reserve University, United States, ²University of North Carolina at Chapel Hill, United States, ³Department of Orthopaedic, Yokohama City University, Japan
Disclosures: Bryan S. Hausman, None
- SAT-0425 Lineage Tracing Studies Identify The Source Of Chondrocyte-Like Cells In Mouse Intervertebral Disc With Normal Aging**
Sarthak Mohanty*¹, Robert Pinelli¹, Chitra Dahia². ¹Hospital for Special Surgery, United States, ²Weill Cornell Medical College, United States
Disclosures: Sarthak Mohanty, None

MUSCULOSKELETAL DEVELOPMENT

- SAT-0438** **Novel Genetic Loci Control L5 Vertebral Trabecular Bone and the Response to Low Calcium Intake in Growing BXD Recombinant Inbred Mice**
Krittikan Chanpaisaeng*¹, Sarah Mace², Perla Reyes-Fernandez¹, James Fleet¹. ¹Department of Nutrition Science, Purdue University, United States, ²Department of Biological Sciences, Purdue University, United States
Disclosures: Krittikan Chanpaisaeng, None
- SAT-0439** **The large variant of the stimulatory G protein alpha-subunit XLas regulates bone formation by promoting Wnt signaling**
Qing He*, Julia Matthias, Lauren Shumate, Murat Bastepe. Massachusetts General Hospital and Harvard Medical School, United States
Disclosures: Qing He, None
- SAT-0440** **BMP9 stimulates synovial joint regeneration in mice**
Ken Muneoka*, Ling Yu, Mingquan Yan, Lindsay Dawson. Texas A&M University, United States
Disclosures: Ken Muneoka, None
- SAT-0441** **Microtubule-Actin Crosslinking Factor 1 Is Essential for Bone Formation in Mice**
Fan Zhao*¹, Xiaoli Ma¹, Wuxia Qiu², Lifang Hu¹, Airong Qian¹. ¹Northwestern Polytechnical University, China, ²Northwestern Polytechnical, China
Disclosures: Fan Zhao, None
- SAT-0442** **Epigenetic regulator, Uhrfl, positively controls skeletal muscle differentiation**
Yuichiro Sawada*¹, Tadahiko Kikugawa¹, Iori Sakakibara², Yusuke Ono³, Yuta Yanagihara⁴, Noritaka Saeki⁴, Hiroyuki Iio¹, Takashi Saika¹, Yuuki Imai⁴. ¹Department of Urology, Ehime University Graduate School of Medicine, Japan, ²Research Center for Advanced Science and Technology, The University of Tokyo, Japan, ³Musculoskeletal Molecular Biology Research Group, Nagasaki University Graduate School of Biomedical Sciences, Japan, ⁴Division of Integrative Pathophysiology, Proteo-Science Center, Ehime University, Japan
Disclosures: Yuichiro Sawada, None
- SAT-0443** **Circulating MicroRNAs Are Negatively Associated with Bone Mineral Density in Postmenopausal Women**
Zhaojing Chen*¹, Debra Bembem², Michael Bembem². ¹California State University, San Bernardino, United States, ²University of Oklahoma, United States
Disclosures: Zhaojing Chen, None
- SAT-0444** **Comparing the epithelial-mesenchymal interaction effects in alveolar bone and long bone**
Chul Son*, Joo-Cheol Park, Dong-Seol Lee, Yeoung Hyun Park. Laboratory for the Study of Regenerative Dental Medicine, Department of Oral Histology and Developmental Biology, School of Dentistry and Dental Research Institute, Seoul National University, Republic of Korea
Disclosures: Chul Son, None
- SAT-0445** **Gait and Scaling Effect on Bone Growth in Rat Tibia**
Hyunggi Song*, Mariana Kersh. Department of Mechanical Science and Engineering, UIUC, United States
Disclosures: Hyunggi Song, None
- SAT-0446** **Associations of Insulin-like Growth Factor-1, Insulin-like Growth Factor Binding Protein-3, Bone and Body Composition Variables in Children 2 to 8 y**
Olusola Sotunde*¹, Neil Brett², Sherry Agellon¹, Catherine Vanstone¹, Hope Weiler¹. ¹School of Human Nutrition, McGill University, Canada, ²School of Nutrition Ryerson University, Canada
Disclosures: Olusola Sotunde, None

- SAT-0447 Interactions between protein phosphatases and potassium channels control chondrocytes proliferation and regeneration**
Earnest Taylor*, Elizabeth Bradley, Xiaodong Li, Jennifer Westendorf. Mayo Clinic, United States
Disclosures: Earnest Taylor, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION

- SAT-0464 Targeted epigenetic modulation of bone-specific enhancers regulates mesenchymal cell fate and controls osteoblastic differentiation**
Jonathan Gordon*¹, Coralee Tye¹, Joseph Boyd¹, Andre Van Wijnen², Janet Stein¹, Gary Stein¹, Jane Lian¹. ¹Department of Biochemistry, Larner College of Medicine, University of Vermont, United States, ²Department of Orthopedic Surgery, Mayo Clinic, United States
Disclosures: Jonathan Gordon, None
- SAT-0465 Glutamine metabolism is required in skeletal stem cells for appropriate bone regeneration.**
Yilin Yu*, Anthony Mirando, Leyao Shen, Matthew Hilton, Courtney Karner. Duke University, United States
Disclosures: Yilin Yu, None
- SAT-0466 Zinc Finger Protein 467 Is a Major Determinant of Lineage Allocation and Bone Turnover in Female Mice**
Phuong Le*¹, Weiqing Liu², Tj Martin³, Beate Lanske⁴, Roland Baron², Clifford Rosen¹. ¹Maine Medical Center Research Institute, United States, ²Harvard School of Dental Medicine, United States, ³St. Vincent's Institute Medical Research, Australia, ⁴Radius Health, Inc, United States
Disclosures: Phuong Le, None
- SAT-0467 Effects of Notch1 signaling on bone fracture healing**
Sanja Novak*¹, Emilie Roeder¹, Brya G Matthews¹, Douglas J Adams², Ivo Kalajzic¹. ¹Department of Reconstructive Sciences, University of Connecticut Health Center, United States, ²Department of Orthopaedic Surgery, University of Connecticut Health Center, United States
Disclosures: Sanja Novak, None
- SAT-0468 Aberrant muscle tissue repair by mutant ACVR1 FOP muscle stem cells – implications for heterotopic ossification**
Alexandra Stanley*¹, Elisia Tichy², Foteini Mourkioti³, Eileen M. Shore⁴. ¹Perelman School of Medicine, University of Pennsylvania, Department of Orthopaedic Surgery, Cell and Developmental Biology Graduate Program, United States, ²Perelman School of Medicine, University of Pennsylvania, Department of Orthopaedic Surgery, United States, ³Perelman School of Medicine, University of Pennsylvania, Departments of Orthopaedic Surgery and Cell and Developmental Biology, United States, ⁴Perelman School of Medicine, University of Pennsylvania, Departments of Orthopaedic Surgery and Genetics, United States
Disclosures: Alexandra Stanley, None
- SAT-0469 New Insight into SHP2 regulation of Osteogenic Commitment of Mesenchymal Progenitors**
Lijun Wang*¹, Jiahui Huang², Chunlin Zuo², Douglas Moore², Matthew Warman³, Michael Ehrlich¹, Wentian Yang¹. ¹Department of Orthopaedics, Brown University Alpert Medical School and Rhode Island Hospital, United States, ²Brown University Alpert Medical School and Rhode Island Hospital, United States, ³Orthopaedic Research Laboratories and Howard Hughes Medical Institute, Boston Children's Hospital and Harvard Medical School, United States
Disclosures: Lijun Wang, None
- SAT-0470 PDGFR β signaling regulates osteogenesis of α SMA labeled periosteal cells.**
Xi Wang*¹, Sanja Novak¹, Danka Grcevic², Brya G Matthews¹, Ivo Kalajzic¹. ¹UConn Health, United States, ²University of Zagreb, Croatia
Disclosures: Xi Wang, None

- SAT-0471** **Human mesenchymal stromal cells in adhesion to cell-derived extracellular matrix and titanium: comparative kinome profile analysis**
Marta Baroncelli*¹, Gwenny Fuhler², Jeroen Van De Peppel¹, William Zambuzzi³, Johannes Van Leeuwen¹, Maikel Peppelenbosch², Bram Van Der Eerden¹. ¹Internal Medicine, Erasmus MC, Netherlands, ²Gastroenterology, Erasmus MC, Netherlands, ³Chemistry and Biochemistry, Institute of Bioscience, UNESP, Brazil
Disclosures: Marta Baroncelli, None
- SAT-0472** **Requirement of the PDGFR-PI3K-AKT signaling axis in periosteal cells**
Laura Doherty*, Xi Wang, Jungeun Yu, Ivo Kalajzic, Archana Sanjay. UConn Health, United States
Disclosures: Laura Doherty, None
- SAT-0473** **DPP-4-Cleaved SDF-1 β Diminishes Migration and Osteogenic Differentiation Capacities of Bone Marrow Mesenchymal Stem Cells**
Ahmed Elmansi*¹, Khaled Hussein¹, Brian Volkman², Galina Kondrikova¹, Wendy Bollag³, Sadanand Fulzele⁴, Xingming Shi², Meghan Mcgee-Lawrence¹, Mark Hamrick¹, Carlos Isaacs⁵, William Hill¹, Sudharsan Periyasamy-Thandavan⁶. ¹Department of Cellular Biology and Anatomy, Augusta University, United States, ²Department of Biochemistry, Medical College of Wisconsin, United States, ³Department of Physiology, Augusta University, United States, ⁴Department of Orthopedic Surgery, Medical College of Georgia, United States, ⁵DEPARTMENT OF NEUROSCIENCE AND REGENERATIVE MEDICINE, Augusta University, United States, ⁶Cancer Center Pharmacy, Medical College of Georgia, Augusta University, United States
Disclosures: Ahmed Elmansi, None
- SAT-0474** **Assessment of a new anabolic drug, picolinic acid, in MSC cultures using in vitro live-cell confocal imaging**
Damian Myers*, Ahmed Al Saedi, Gustavo Duque. University of Melbourne, Australia
Disclosures: Damian Myers, None
- SAT-0475** **Validation of osteogenic properties of Cytochalasin D by high-resolution RNA-sequencing in mesenchymal stem cells derived from bone marrow and adipose tissues**
Rebekah Samsonraj*¹, Christopher Paradise¹, Amel Dudakovic¹, Buer Sen², Asha Nair¹, Allan Dietz¹, David Deyle¹, Simon Cool³, Janet Rubin², Andre Van Wijnen¹. ¹Mayo Clinic, United States, ²University of North Carolina, United States, ³Institute of Medical Biology, Singapore
Disclosures: Rebekah Samsonraj, None
- SAT-0476** **Activation of Mitochondrial OxPhos Drives Osteogenesis via β -catenin**
Brianna Shares*, Melanie Busch, Noelle White, Laura Shum, Roman Eliseev. University of Rochester, United States
Disclosures: Brianna Shares, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS

- SAT-0501** **Drug-induced modulation of gp130 signaling prevents articular cartilage degeneration and promotes repair**
Ruzanna Shkhyan*, Ben Van Handel, Jacob Bogdanov, Denis Evseenko. University of Southern California, United States
Disclosures: Ruzanna Shkhyan, None
- SAT-0502** **Tissue Mechanical Deficiencies Detected in Both Articular Cartilage and Subchondral Trabecular Bone in Osteoarthritic Human Knees**
Yizhong Hu*¹, Eric Y. Yu¹, Ariana Moini¹, Zexi Wang¹, Matthew Scott Heller², Akshay Lakra², Herbert John Cooper², Roshan Pradip Shah², Jeffrey Albert Geller², X. Lucas Lu³, X. Edward Guo¹. ¹Bone Bioengineering Laboratory, Columbia University, United States, ²Department of Orthopaedic Surgery, Columbia University Medical Center, United States, ³Department of Mechanical Engineering, University of Delaware, United States
Disclosures: Yizhong Hu, None

- SAT-0503 ASBMR 2018 Annual Meeting Young Investigator Award**
Reliable change index in the evaluation of joint space loss: a novel method for assessing osteoarthritis progression data from the Osteoarthritis Initiative
 Camille Parsons*¹, Andy Judge², Kirsten Leyland², Hazel Inskip¹, Cyrus Cooper¹. ¹MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ²University of Bristol, United Kingdom
Disclosures: Camille Parsons, None
- SAT-0504 Predicting total hip replacement for symptomatic osteoarthritis using radiographs or clinical computed tomography; a prospective case-control study**
 Kenneth Poole*¹, Ilya Burkov¹, Graham Treece¹, Andrew Gee¹, Thomas Turmezei², Fjola Johannesdottir¹, Sigurdur Sigurdsson³, Tamara Harris⁵, Helgi Jonsson⁴, Vilmundur Gudnason⁶. ¹University of Cambridge, United Kingdom, ²University of East Anglia, United Kingdom, ³The Icelandic Heart Association, Iceland, ⁴Public Health Sciences, University of Iceland, Iceland, ⁵Laboratory of Epidemiology and Population Sciences, United States, ⁶Faculty of Medicine, University of Iceland, Iceland
Disclosures: Kenneth Poole, None
- SAT-0505 Beneficial effects of Denosumab on bone loss and bone erosion from results of long-term treatment in the phase 3, DESIRABLE study in patients with rheumatoid arthritis (RA) on background csDMARDs**
 Yoshiya Tanaka*¹, Satoshi Soen², Hisashi Yamanaka³, Toshiyuki Yoneda⁴, Sakae Tanaka⁵, Takaya Nitta⁶, Naoki Okubo⁶, Harry Genant⁷, Désirée Van Der Heijde⁸, Tsutomu Takeuchi⁹. ¹University of Occupational and Environmental Health, Japan, ²Kindai University Nara Hospital, Japan, ³Institute of Rheumatology Tokyo Women's Medical University, Japan, ⁴Osaka University Graduate School of Dentistry, Japan, ⁵The University of Tokyo, Japan, ⁶Daiichi Sankyo Co. Ltd, Japan, ⁷University of California, United States, ⁸Leiden University Medical Center, Netherlands, ⁹Keio University School of Medicine, Japan
Disclosures: Yoshiya Tanaka, Mitsubishi Tanabe, Takeda, Bristol-Myers, Chugai, Astellas, Abbvie, MSD, Daiichi Sankyo, Pfizer, Kyowa Hakkō Kirin, Eisai, Ono, Grant/Research Support, Daiichi-Sankyo, Astellas, Pfizer, Mitsubishi Tanabe, Bristol-Myers, Chugai, YL Biologics, Eli Lilly, Sanofi, Janssen, UCB, Speakers' Bureau
- SAT-0506 PTH cease the process of TMJ OA by HDAC4**
 Jun Zhang*, Caixia Pi, Fan Yi, Quan Yuan, Xin Xu, Xuedong Zhou, Liwei Zheng. State Key Laboratory of Oral Diseases, National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, China
Disclosures: Jun Zhang, None
- SAT-0507 Subchondral cyst number is positively associated with proximal tibia bone mineral density, alignment and joint space narrowing in individuals with OA**
 Wadena Burnett*¹, Saija Kontulainen¹, Christine McLennan², Diane Hazel², Carl Talmo², David Wilson³, David Hunter⁴, James Johnston¹. ¹University of Saskatchewan, Canada, ²New England Baptist Hospital, United States, ³University of British Columbia, Canada, ⁴Kolling Institute of Bone & Joint Research, University of Sydney, Australia
Disclosures: Wadena Burnett, None
- SAT-0508 Establishing a Model to Investigate the Role of Non-Traumatic Bone Marrow Lesions in the Pathogenesis of Knee Osteoarthritis: 9.4T MRI and microCT in Dunkin-Hartley Guinea Pigs**
 Alicia K Gabilondo*¹, John R Matyas², Jeffrey F Dunn¹, Sarah L Manske¹. ¹McCaig Institute for Bone and Joint Health, Department of Radiology, Cumming School of Medicine, University of Calgary, Canada, ²McCaig Institute for Bone and Joint Health, Faculty of Veterinary Medicine, University of Calgary, Canada
Disclosures: Alicia K Gabilondo, None

- SAT-0509 Accelerated Osteoarthritic-like Symptoms in a Novel Dual Injury Model Combining Destabilisation of the Medial Meniscus and Cartilage Damage**
Kendal McCulloch*¹, Carmen Huesa², Lynette Dunning¹, Rob Van 'T Hof³, John Lockhart¹, Carl Goodyear⁴. ¹University of the West of Scotland, United Kingdom, ²University of Edinburgh, United Kingdom, ³University of Liverpool, United Kingdom, ⁴University of Glasgow, United Kingdom
Disclosures: Kendal McCulloch, None
- SAT-0510 LPS Induced Inflammation Pre-Injury Increases the Severity of Post-Traumatic Osteoarthritis in MRL/MpJ Superhealer Mice**
Melanie Mendez*¹, Deepa Muruges², Allison Hsia³, Blaine Christiansen³, Gabriela Loots³. ¹University of California-Merced, Lawrence Livermore National Laboratory, United States, ²Lawrence Livermore National Laboratory, United States, ³University of California-Davis, United States
Disclosures: Melanie Mendez, None
- SAT-0511 Bone and Muscle Quality in Postmenopausal Women with Both Osteoarthritis and Osteoporosis – the AMBERS study**
Andy Kin On Wong*¹, Shannon Reitsma², Hana Gillick², Abinaa Chandrakumar³, Eva Szabo³, Justin Chee³, Angela M Cheung³, Jonathan D Adachi². ¹Joint Department of Medical Imaging, University Health Network, Canada, ²Department of Medicine, McMaster University, Canada, ³CESHA, University Health Network, Canada
Disclosures: Andy Kin On Wong, None
- SAT-0512 Intermittent PTH exerts an anabolic effect on the osteochondral tissue of the TMJ**
Sumit Yadav*¹, Po-Jung Chen², Mara H O'Brien², Eliane Dutra². ¹Associate Professor, United States, ²University of Connecticut Health Center, United States
Disclosures: Sumit Yadav, None

OSTEOBLASTS

- SAT-0537 Conditional deletion of Dock7 in the early limb bud results in reduced trabecular bone in both sexes with increased fat mass only in male mice**
Kathleen A Becker*¹, Daniel J Brooks², Anne Harrington³, Mary L Boussein², Lucy Liaw³, Clifford J Rosen³. ¹Maine Medical Center Research Institute, United States, ²Beth Israel Deaconess Medical Center, Harvard Medical School, United States, ³Maine Medical Center Research Institute, Maine Medical Center, United States
Disclosures: Kathleen A Becker, None
- SAT-0538 The Role of VEGFA from Osteoblast Lineage Cells during Fracture and Cortical Defect Repair**
Evan Buettmann*, Nicole Migotsky, Susumu Yoneda, Pei Hu, Jennifer Mckenzie, Matthew Silva. Washington University in St. Louis, United States
Disclosures: Evan Buettmann, None
- SAT-0539 Gene regulatory landscape in primary human mesenchymal stem cell (MSC) during BMP2-induced osteoblast differentiation**
Alessandra Chesi*¹, Yadav Wagley², Matthew E. Johnson¹, Sumei Lu¹, Michelle E. Leonard¹, Kenyaita M. Hodge¹, James A. Pippin¹, Elisabetta Manduchi¹, Andrew D. Wells¹, Kurt D. Hankenson², Struan F.A. Grant¹. ¹The Children's Hospital of Philadelphia, United States, ²University of Michigan, United States
Disclosures: Alessandra Chesi, None
- SAT-0540 Ablation of Gjc1 in the Chondro-Osteogenic Lineage Inhibits Osteoclastogenesis Leading to High Trabecular Bone Mass**
Francesca Fontana*, Marcus Watkins, Song Dah Woon, Giulia Leanza, Roberto Civitelli. Washington University School of Medicine, United States
Disclosures: Francesca Fontana, None
- SAT-0541 A novel role for tissue nonspecific alkaline phosphatase in cranial bone progenitor cells.**
Hwa Kyung Nam*, Iva Vesela, Nan Hatch. University of Michigan, School of Dentistry, United States
Disclosures: Hwa Kyung Nam, None

- SAT-0542** **Global Expression of miR-29 Decoy Decreases Bone Formation and Alters Cortical Bone Morphology in Young Mice**
Henry Hrdlicka*, Bongjin Shin, Anne Delany, Sun-Kyeong Lee. UConn Health, United States
Disclosures: Henry Hrdlicka, None
- SAT-0543** **TNAP Deficiency Is the Major Contributor to the Loss of the Mineralization Potential of Trps1 Deficient Osteogenic Cells**
Sana Khalid*, Byongsoo Chae, Daisy Monier, Mairobys Socorro, Victoria Smethurst, Dobrawa Napierala. Center for Craniofacial Regeneration, Dept. of Oral Biology, McGowan Institute for Regenerative Medicine, University of Pittsburgh School of Dental Medicine, United States
Disclosures: Sana Khalid, None
- SAT-0544** **Macrophage-secreted Emilin2 Stimulates Chemotaxis and Differentiation in Stromal/Osteoblastic Cells**
Yukihiro Kohara*, Atsushi Watanabe, Noboru Ogiso, Sunao Takeshita. National Center for Geriatrics and Gerontology, Japan
Disclosures: Yukihiro Kohara, None
- SAT-0545** **Trapidil induces osteogenesis by upregulating the signaling of bone morphogenetic proteins**
Bongjun Kim*, Hong-Hee Kim, Zang Hee Lee. Department of Cell and Developmental Biology, School of Dentistry, Seoul National University, Republic of Korea
Disclosures: Bongjun Kim, None
- SAT-0546** **Regulator of G protein signaling protein 12 is required for osteoblast differentiation through controlling calcium channel/Gai-calcium oscillation-ERK signaling**
Ziqing Li^{*1}, Tongjun Liu², Alyssa Gilmore², Néstor Más Gómez¹, Claire H Mitchell^{1,3}, Yi-Ping Li⁴, Merry J Oursler⁵, Shuying Yang^{1,2}. ¹Department of Anatomy and Cell Biology, University of Pennsylvania, School of Dental Medicine, United States, ²Department of Oral Biology, School of Dental Medicine, University of Buffalo, State University of New York, United States, ³Department of Physiology, University of Pennsylvania, School of Medicine, United States, ⁴Department of Pathology, University of Alabama in Birmingham, United States, ⁵Department of Medicine, Endocrine Research Unit, Mayo Clinic, United States
Disclosures: Ziqing Li, None
- SAT-0547** **Lnc-DIF inhibits bone formation via targeting mir-489-3p**
Zhiping Miao*, Yong Yin, Yan Zhang, Ye Tian, Lifang Hu, Airong Qian. Northwestern Polytechnical University, China
Disclosures: Zhiping Miao, None
- SAT-0548** **Conditional Deletion of the Glucocorticoid Receptor in Osteoprogenitors Reveals Complex Roles for Glucocorticoid Signaling in Caloric Restriction-Induced Bone Marrow Fat Accumulation**
Jessica Pierce*, Ke-Hong Ding, Jianrui Xu, Kanglun Yu, Anuj Sharma, Mark Hamrick, William Hill, Xing-Ming Shi, Carlos Isales, Meghan Mcgee-Lawrence. Augusta University, United States
Disclosures: Jessica Pierce, None
- SAT-0549** **BAF Chromatin Remodelling Epigenetically Controls Osteogenesis in vivo**
Tanner Godfrey**, Mohammad Rehan*, Benjamin Wildman, Yuechuan Chen, Quamarul Hassan. University of Alabama at Birmingham, United States
Disclosures: Tanner Godfrey*, None
- SAT-0550** **The N6-methyladenosine demethylase FTO functions in bone to protect osteoblasts from age-related DNA damage**
Qian Zhang*¹, Ryan Riddle¹, Marie-Claude Faugere², Clifford Rosen³, Charles Farber⁴, Thomas Clemens¹. ¹Department of Orthopaedic Surgery, Johns Hopkins University, United States, ²Department of Medicine, University of Kentucky, United States, ³Maine Medical Center, United States, ⁴University of Virginia, United States
Disclosures: Qian Zhang, None

- SAT-0551** **Direct reprogramming of mouse fibroblasts into functional osteoblasts by defined factors**
Hui Zhu*¹, Bogdan Conrad², Fan Yang³, Joy Wu¹. ¹Division of Endocrinology, Stanford University School of Medicine, United States, ²Program of Stem Cell Biology and Regenerative Medicine, Stanford University, United States, ³Department of Orthopaedic Surgery, Stanford University School of Medicine, United States
Disclosures: Hui Zhu, None
- SAT-0552** **Possible involvement of regulation of intracellular RANKL by a RANKL binding peptide WP9QY in osteogenesis.**
Yuriko Furuya*. Nagahama Institute for Biochemical Science, Oriental Yeast Co., Ltd., Japan
Disclosures: Yuriko Furuya, None
- SAT-0553** **Remarkable early bone-forming efficacy of bisphosphonate (alendronate, zoledronate or risedronate)-conjugated collagen sponges as a rhBMP-2 delivery carrier**
Soon Jung Hwang*¹, In Sook Kim². ¹Department of Oral and Maxillofacial Surgery, School of Dentistry, Seoul National University, Republic of Korea, ²Dental Research Institute, Seoul National University, Republic of Korea
Disclosures: Soon Jung Hwang, None
- SAT-0554** **Gene activated-matrix (GAM) comprised of atelocollagen and plasmid DNA encoding microRNA promotes rat cranial bone augmentation**
Rena Shido*¹, Yoshinori Sumita², Masashi Hara¹, Shun Narahara¹, Izumi Asahina¹. ¹Department of Regenerative Oral Surgery, Unit of Translational Medicine, Graduate School of Biomedical Science, Nagasaki University, Japan, ²Basic and Translational Research Center for Hard Tissue Disease, Nagasaki University Graduate School of Biomedical Sciences, Japan
Disclosures: Rena Shido, None
- SAT-0555** **Synergistic Effects of Adiponectin and Irisin on Bone Cells**
Tong Chen*¹, Weina Zhou^{2,3}, Qisheng Tu², Jinkun Chen^{2,4}. ¹2nd Dental Center, Peking University School and Hospital of Stomatology, Beijing, China. Central Laboratory, Peking University School and Hospital of Stomatology, Beijing, China., China, ²Division of Oral Biology, Tufts University School of Dental Medicine, Boston, Massachusetts, United States, ³Jiangsu Key Laboratory of Oral Disease, Nanjing Medical University, Nanjing, China, ⁴Department of Developmental, Molecular and Chemical Biology Sackler School of Graduate Biomedical Sciences Tufts University School of Medicine, United States
Disclosures: Tong Chen, None
- SAT-0556** **The stimulation of osteogenesis by delivery of recombinant protein of osteogenic molecular switches**
Woojin Kim*, Youngdan Cho, Hyunmo Ryoo. Seoul National University, Republic of Korea
Disclosures: Woojin Kim, None

OSTEOCLASTS

- SAT-0596** **ASBMR 2018 Annual Meeting Young Investigator Award
Cell Autonomous Sfrp4-Dependent Inhibition of Non-Canonical Wnt Signaling in Osteoclasts Prevents Osteoclastogenesis, Ensuring Normal Cortical Bone Development**
Kun Chen*¹, Pei Ying Ng¹, Dorothy Hu¹, Roland Baron^{1,2}, Francesca Gori¹. ¹Division of Bone and Mineral Research, Harvard Medical School and Harvard School of Dental Medicine, United States, ²Endocrine Unit, Massachusetts General Hospital, United States
Disclosures: Kun Chen, None
- SAT-0597** **Autocrine actions of high mobility group box1 protein (HMGB1) on osteocytes and osteoclasts regulate osteoclastogenesis**
Hannah M. Davis*^{1,2}, Sinai Valdez¹, Leland J. Gomez¹, Angela Bruzzaniti^{1,2,3}, Lilian I. Plotkin^{1,2,4}. ¹Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, ²Indiana Center for Musculoskeletal Health, United States, ³Biomedical and Applied Sciences, Indiana University School of Dentistry, United States, ⁴Roudebush Veterans Administration Medical Center, United States
Disclosures: Hannah M. Davis, None

- SAT-0598** **EOMES is a novel and essential co-partner of PU.1 and MITF in regulating osteoclast differentiation**
 Blake E. Hildreth Iii*¹, Heather A. Carey², Devadoss J. Samuvel¹, Katie A. Thies¹, Jennifer A. Geisler², Thomas J. Rosol³, Ramiro E. Toribio³, Julia F. Charles⁴, Michael C. Ostrowski¹, Sudarshana M. Sharma¹. ¹Medical University of South Carolina Department of Biochemistry and Molecular Biology and Hollings Cancer Center, United States, ²Ohio State University Department of Cancer Biology and Genetics and Comprehensive Cancer Center, United States, ³Ohio State University College of Veterinary Medicine, United States, ⁴Brigham and Women's Hospital and Harvard Medical School Department of Medicine, Division of Rheumatology, Immunology and Allergy, United States
Disclosures: Blake E. Hildreth Iii, None
- SAT-0599** **ASBMR 2018 Annual Meeting Young Investigator Award**
RANKL-Sensitive Super-Enhancer Activities Determine Cell Identity During Osteoclastogenesis
 Min Joon Lee*¹, Sungho Park², Keunsoo Kang³, Jiyoung Ahn⁴, Ye-Ji Lee⁴, Sehwan Mun⁴, Seyeon Bae⁴, Kaichi Kaneko⁴, Kyung-Hyun Park-Min². ¹University of Toronto Faculty of Medicine, Canada, ²Arthritis and Tissue Degeneration Program, David Z. Rosensweig Genomics Research Center, Hospital for Special Surgery, United States, ³Department of Microbiology, Dankook University, Republic of Korea, ⁴Arthritis and Tissue Degeneration Program, Hospital for Special Surgery, United States
Disclosures: Min Joon Lee, None
- SAT-0600** **IDH2 is a novel regulator of osteoclast differentiation and function through osteoblastic modulation of ATF-NFATc1-RANKL signaling axis**
 Suk-Hee Lee*, Seung-Hoon Lee, Soon-Young Kim, Eun-Hye Lee, Yeon-Ju Lee, Jung-Eun Kim. Department of Molecular Medicine, CMRI, BK21 Plus KNU Biomedical Convergence Program, School of Medicine, Kyungpook National University, Republic of Korea
Disclosures: Suk-Hee Lee, None
- SAT-0601** **Cortistatin Directly Binds to RANK and Protects Against Osteoporosis in Mice**
 Weiwei Li*¹, Ruize Qu², Xiaomin Chen², Wenhan Wang², John Hayball³, Krasimir Vasilev³, Yunpeng Zhao¹. ¹Shandong University Qilu Hospital, China, ²Shandong University, China, ³University of South Australia, Australia
Disclosures: Weiwei Li, None
- SAT-0602** **Hdac3 promotes bone robustness by suppressing osteoclast responsiveness to RANKL and enhancing bone formation**
 Anna Mattson*¹, David Molstad¹, Dana Begun¹, Jennifer Westendorf¹, Merry Jo Oursler¹, Meghan Mcgee-Lawrence², Bradley Elizabeth¹. ¹Mayo Clinic, United States, ²Augusta University, United States
Disclosures: Anna Mattson, None
- SAT-0603** **Collagen Type VI $\alpha 2$ Chain Deficiency Causes Trabecular Bone Loss by Promoting Osteoclast Differentiation through Enhanced TNF α Signaling**
 Hai Pham*¹, Ainnie Dar¹, Vardit Kram², Li Li¹, Tina Kilts¹, Marian Young¹. ¹Craniofacial and Skeletal Diseases Branch, National Institute of Dental and Craniofacial Research, National Institutes of Health, United States, ²Collagen Type VI $\alpha 2$ Chain Deficiency Causes Trabecular Bone Loss by Promoting Osteoclast Differentiation through Enhanced TNF α Signaling, United States
Disclosures: Hai Pham, None
- SAT-0604** **ASBMR 2018 Annual Meeting Young Investigator Award**
Dual specificity of the Inpp4b phosphatase in bone remodeling
 Lina Saad*, Monica Pata, Jean Vacher. IRCM, Canada
Disclosures: Lina Saad, None
- SAT-0605** **An Unanticipated Role for Sphingosine Kinase-2 in Bone Anabolism**
 Joanne Walker*, Gang-Qing Yao, Meiling Zhu, Ben-Hua Sun, Christine Simpson, Karl Insogna. Yale University School of Medicine, United States
Disclosures: Joanne Walker, None

- SAT-0606 Osteoclastogenic cues induce both priming and assembly signals for the NLRP3 inflammasome**
 Yael Alippe*¹, Chun Wang¹, Biancamaria Ricci², Jianqiu Xiao¹, Dustin Kress¹, Guillermo Blanco³, Yousef Abu-Amer², Roberto Civitelli¹, Gabriel Mbalaviele¹. ¹Division of Bone and Mineral Diseases, Washington University School of Medicine, United States, ²Department of Orthopaedic Surgery, Washington University School of Medicine, United States, ³IDEHU, University of Buenos Aires, Argentina
Disclosures: Yael Alippe, None
- SAT-0607 Regulation of Membrane Localization of CD44 and Migration of Osteoclasts by ERM proteins**
 Meenakshi Chellaiah*. School of Dentistry, University of Maryland, United States
Disclosures: Meenakshi Chellaiah, None
- SAT-0608 Protective effect of a novel benzamide derivative on alveolar bone erosion through suppression of NFATc1-mediated osteoclastogenesis**
 Hye Jung Ihn*¹, Soomin Lim², Hong-In Shin², Eui Kyun Park². ¹Institute for Hard Tissue and Biotooth Regeneration, Kyungpook National University, Republic of Korea, ²Department of Oral Pathology and Regenerative Medicine, Kyungpook National University, Republic of Korea
Disclosures: Hye Jung Ihn, None
- SAT-0609 Fas/S1P1 crosstalk via NF-κB activation in osteoclasts controls subchondral bone remodeling in murine TMJ arthritis**
 Islamy Rahma Hutami*, Eiji Tanaka, Takashi Izawa. Tokushima University Graduate School, Japan
Disclosures: Islamy Rahma Hutami, None
- SAT-0610 Downregulation of receptor activator NF-κB (RANK) expression by methylation of its gene promoter**
 Riko Kitazawa*¹, Yuki Murata², Ryuma Haraguchi², Sohei Kitazawa². ¹Division of Diagnostic Pathology, Ehime University Hospital, Japan, ²Department of Molecular Pathology, Ehime University Graduate School of Medicine, Japan
Disclosures: Riko Kitazawa, None
- SAT-0611 CCR5 is required for osteoclast function through regulating lysosomal vesicle trafficking**
 Jiwon Lee*, Yuuki Imai, Tadahiro Imura. Ehime University, Japan
Disclosures: Jiwon Lee, None
- SAT-0612 Inhibition of osteoclast differentiation and P. gingivalis lipopolysaccharide-induced alveolar bone resorption by novel Bruton's tyrosine kinase inhibitor acalabrutinib**
 Youngkyun Lee*, Yong-Gun Kim, Jung-Hong Ha. Kyungpook National University School of Dentistry, Republic of Korea
Disclosures: Youngkyun Lee, None
- SAT-0613 Regulation of osteoclastogenesis by protein kinase D2 and protein kinase D3**
 Carina M G Meyers*, Kim Mansky, Eric Jensen. University of Minnesota, United States
Disclosures: Carina M G Meyers, None
- SAT-0614 WITHDRAWN**
- SAT-0615 Lipoteichoic acid, a membrane component of gram-positive bacteria, induces PGE2-mediated inflammatory bone resorption in periodontitis.**
 Tsukasa Tominari*, Ryota Ichimaru, Keita Taniguchi, Kenta Watanabe, Chiho Matsumoto, Michiko Hirata, Masaki Inada, Chisato Miyaura. Tokyo University of Agriculture and Technology, Japan
Disclosures: Tsukasa Tominari, None

OSTEOCYTES

- SAT-0655** **Osteocyte Sirt6 has crucial roles in bone and phosphate metabolism**
Aikebaier Aobulikasimu*¹, Zulipiya Aibibula¹, Jinying Piao¹, Shingo Sato², Hiroki Ochi², Kunikazu Tsuji³, Atsushi Okawa¹, Yoshinori Asou¹. ¹Department of Orthopedics Surgery, Tokyo Medical and Dental University, 1-5-45 Yushima Bunkyo-Ku Tokyo Japan, 113-8519, Japan, ²Department of Physiology and Cell Biology, Tokyo Medical and Dental University, 1-5-45 Yushima Bunkyo-Ku Tokyo Japan, 113-8519, Japan, ³Department of Cartilage Regeneration, Tokyo Medical and Dental University, 1-5-45 Yushima Bunkyo-Ku Tokyo Japan, 113-8519, Japan
Disclosures: Aikebaier Aobulikasimu, None
- SAT-0656** **PPAR α is a negative regulator of sclerostin production in osteocytes**
Amit Chougule*, Lance Stechschulte, Beata Lecka-Czernik. University of Toledo, United States
Disclosures: Amit Chougule, None
- SAT-0657** **Microgravity exposure in growing mice is detrimental to osteocyte lacunar volume and shape**
Jennifer C. Coulombe*¹, Zachary K. Mullen², Ashton M. Weins², Louis S. Stodieck³, Virginia L. Ferguson¹. ¹Department of Mechanical Engineering, University of Colorado, Boulder CO, United States, ²Department of Applied Mathematics, University of Colorado, Boulder CO, United States, ³BioServe Space Technologies, University of Colorado, Boulder, CO, United States
Disclosures: Jennifer C. Coulombe, None
- SAT-0658** **Sex divergent role of osteocytic miR21 in the maintenance of osteocyte viability and regulation of bone turnover**
Hannah M. Davis*^{1,2}, Rafael Pacheco-Costa^{1,2}, Mohammad W. Aref^{1,2}, Alyson L. Essex¹, Emily G. Atkinson^{1,2}, Julian E. Dilley¹, Carmen Herrera¹, Padmini Deosthale^{1,2}, Mircea Ivan³, Matthew R. Allen^{1,2,4}, Teresita M. Bellido^{1,2,4}, Lilian I. Plotkin^{1,2,4}. ¹Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, ²Indiana Center for Musculoskeletal Health, United States, ³Department of Hematology/Oncology, Indiana University School of Medicine, United States, ⁴Roudebush Veterans Administration Medical Center, United States
Disclosures: Hannah M. Davis, None
- SAT-0659** **Osteocyte Density and Viability in Postmenopausal Women after Long-term Bisphosphonate Therapy**
Shijing Qiu*, George Divine, Mahalakshi Honasoge, Arti Bhan, Shiri Levy, Elizabeth Warner, Sudhaker D Rao. Henry Ford Hospital, United States
Disclosures: Shijing Qiu, None
- SAT-0660** **Defective Perilacunar/Canalicular Remodeling in Subchondral Bone Exacerbates Osteoarthritis**
Karsyn Bailey*, Jonathon Woo, Cristal Yee, Claire Acevedo, Aaron Fields, Jeffrey Lotz, Alexis Dang, Alfred Kuo, Thomas Vail, Tamara Alliston. University of California San Francisco, United States
Disclosures: Karsyn Bailey, None
- SAT-0661** **Effects of in vivo Induction of Diffuse Damage in Osteocyte Network**
Rinaldo Florencio-Silva*, Leila Mehraban Alvandi, Dorra Frikha, Erica Teixeira, Robert Majeska, Mitchell Schaffler. The City College Of New York, United States
Disclosures: Rinaldo Florencio-Silva, None
- SAT-0662** **A potential role for the NLRP3 inflammasome in osteocyte-mediated triggering of osteoclast differentiation**
Dorra Frikha-Benayed*, Maria Lapshina, Robert Majeska, Mitchell Schaffler. The City College Of New York, United States
Disclosures: Dorra Frikha-Benayed, None

- SAT-0663** **Scriptaid Induces Osteocyte Respiration through an HDAC5 Independent Mechanism**
Ningyuan Sun*¹, Ehab Azab¹, Yuhei Uda¹, Chao Shi², Paola Divieti Pajevic¹. ¹Boston University Henry M. Goldman School of Dental Medicine, United States, ²The Second Affiliated Hospital of Xi'an Jiaotong University, China
Disclosures: Ningyuan Sun, None

OSTEOPOROSIS – ASSESSMENT

- SAT-0680** **Normative Data for Trabecular Bone Score in Men and Women**
Kara Anderson*, Kara Holloway-Kew, Mark Kotowicz, Natalie Hyde, Julie Pasco. Deakin University, Australia
Disclosures: Kara Anderson, None
- SAT-0681** **Time since fracture and number of previous fractures are independently associated with risk of new clinical fracture**
Kristian Axelsson*¹, Dan Lundh², Mattias Lorentzon¹. ¹Department of Geriatrics, Sahlgrenska Academy, Gothenburg University, Sweden, ²School of Bioscience, University of Skovde, Sweden
Disclosures: Kristian Axelsson, None
- SAT-0682** **Development of Thresholds for Assessing Radius and Tibia Fragility Fracture Risk Using HR-pQCT – The CaMos Cohort**
Syed Jafri*¹, Lauren Burt², Leigh Gabel², David Hanley³, Steven Boyd². ¹University of Calgary, Canada, ²McCaig Institute for Bone and Joint Health, Department of Radiology, Cumming School of Medicine, University of Calgary, Calgary, Canada, ³McCaig Institute for Bone and Joint Health, Departments of Community Health Sciences and Oncology, Cumming School of Medicine, University of Calgary, Calgary, Canada
Disclosures: Syed Jafri, None
- SAT-0683** **Automated Identification of Vertebral Compression Fractures Using Artificial Intelligence Convolutional Neural Networks Predicts Incident Non-vertebral and Hip Fracture: The Manitoba BMD Registry**
Sheldon Derkatch*¹, Christopher Kirby², Douglas Kimelman², Mohammad Jafari Jozani¹, J Michael Davidson¹, William Leslie¹. ¹University of Manitoba, Canada, ²St-Boniface Hospital Albrechtsen Research Centre, Canada
Disclosures: Sheldon Derkatch, None
- SAT-0684** **Clinical Performance of a Beta Version of Trabecular Bone Score (TBS) Including Thickness-based Correction for Soft Tissue Effects: The Manitoba BMD Cohort**
William D. Leslie*¹, Enisa Shevroja², Lisa M. Lix¹, Didier Hans². ¹Department of Medicine (W.D.L.), University of Manitoba, Canada, ²Center of Bone Diseases, DAL-RHU - Lausanne University Hospital, Switzerland
Disclosures: William D. Leslie, None
- SAT-0685** **Usefulness of the Trabecular Bone Score in dialysis patients**
Oliver Malle*, Astrid Fahrleitner-Pammer. Medical University of Graz, Dpt. of Internal Medicine, Div. of Endocrinology and Diabetology, Austria
Disclosures: Oliver Malle, None
- SAT-0686** **Assessment of Age Related Changes in Bone Metabolism Using 18F–Sodium Fluoride PET/CT**
Sylvia Rhodes*, Alexandra Batzdorf, Austin Alecxih, Jonathan Guntin, Matthew Peng, Amanda Jankelovits, Justin Kim, Julia Hornyak, Poul Flemming, Abass Alavi, Chamith Rajapakse. University of Pennsylvania, United States
Disclosures: Sylvia Rhodes, None

- SAT-0687** **Serum levels of DKK2 and sFRP1 are associated to incident fragility fractures in older women**
 Ana Maria Rodrigues*¹, Mónica Eusébio², Ana Catarina Rodrigues³, Joana Caetano-Lopes⁴, Inês Lopes⁵, Jorge M Mendes⁶, Pedro Simões Coelho⁶, João Eurico Fonseca⁵, Jaime Cunha Branco⁷, Helena Canhão¹. ¹EpiDoc Unit – Unidade de Epidemiologia em Doenças Crónicas, CEDOC, Nova Medical School, Lisboa, Portugal, ²Sociedade Portuguesa de Reumatologia, Lisboa, Portugal, ³Faculdade de Medicina da Universidade de Lisboa, Lisboa, Portugal, ⁴Department of Orthopaedic Research, Boston Children’s Hospital, Boston, MA, USA; ⁵Department of Genetics, Harvard Medical School, Boston, MA, United States, ⁶Unidade de Investigação em Reumatologia, Instituto de Medicina Molecular, Faculdade de Medicina, Universidade de Lisboa, Centro Académico de Medicina de Lisboa, Portugal, ⁷NOVA IMS, Universidade Nova de Lisboa, Lisboa, Portugal, ⁸Centro de Estudos de Doenças Crónicas (CEDOC) da NOVA Medical School, Universidade Nova de Lisboa (NMS/UNL), Lisboa, Portugal
Disclosures: Ana Maria Rodrigues, None
- SAT-0688** **Bone Endosteal But Not Periosteal Changes During Aging At The Distal Radius And Tibia Significantly Differ Between Men And Women As Determined From HRpQCT Images Using A Novel 3D Rigid-Registration Approach**
 Bert Van Rietbergen*¹, Emmanuel Biver², Thierry Chevalley², Keita Ito³, Roland Chapurlat⁴, Serge Ferrari². ¹Dept. Biomed. Eng. Eindhoven University of Technology / Dept. Orthopaedics Maastricht University Medical Center, Netherlands, ²Division of Bone Diseases, University Hospitals and Faculty of Medicine, Switzerland, ³Orthopaedic Biomechanics, Dept. Biomed. Eng. / Dept. Orthopaedics, University Medical Center Utrecht, Netherlands, ⁴INSERM UMR 1033, Université de Lyon, France
Disclosures: Bert Van Rietbergen, Scanco Medical AG, Consultant
- SAT-0689** **Off-Treatment Bone Mineral Density Changes in Postmenopausal Women after 5 Years of Anastrozole**
 Ivana Sestak*, Jack Cuzick. Centre for Cancer Prevention, Queen Mary University London, United Kingdom
Disclosures: Ivana Sestak, None
- SAT-0690** **Clinical Applicability of TBS in Women with Short Stature**
 Pedro Alvarenga*¹, Mariana Diniz², Milena Leite³, Caroline Silva⁴, Jessica Eleuterio², Maria Marta Soares⁵, Bruno Muzzi⁶, Barbara Silva⁷. ¹Alberto Cavalcanti Hospital, Brazil, ²Santa Casa de Belo Horizonte, Brazil, ³Mario Pena Hospital, Brazil, ⁴CEMA, Brazil, ⁵Felicio Rocho Hospital, Brazil, ⁶Mater Dei Hospital, Densimater, Brazil, ⁷Felicio Rocho Hospital, Santa Casa de Belo Horizonte, Brazil
Disclosures: Pedro Alvarenga, None
- SAT-0691** **BRIDGING THE GAP WITH FRAX: FRAX UTILITY IN PREVENTING HIP FRACTURES IN MEN**
 Eduardo Dusty Luna*^{1,2}, Donna Davenport², John W Hinchey², Jan M Bruder^{1,2}. ¹UTHSCSA, United States, ²ALMVAH, United States
Disclosures: Eduardo Dusty Luna, None
- SAT-0692** **Trabecular Bone Score (TBS) Integrating a New Correction for Soft Tissue Effects Based on Estimated Tissue Thickness**
 François De Guio*¹, Enisa Shevroja², Franck Michelet¹, Doris Tran¹, Christophe Lelong¹, Didier Hans². ¹Medimaps, France, ²Center of Bone diseases, Bone and Joint Department, Lausanne University Hospital, Switzerland
Disclosures: François De Guio, Medimaps, Other Financial or Material Support
- SAT-0693** **Accounting for Confounding Factors Affecting Dual-Energy X-ray Absorptiometry in a Large Clinical Trial**
 Catherine Donlon*¹, Cindy Yu¹, Sharon Chou^{1,2}, Meryl Leboff^{1,2}. ¹Division of Endocrinology, Diabetes and Hypertension, Brigham and Women’s Hospital, United States, ²Harvard Medical School, United States
Disclosures: Catherine Donlon, None

- SAT-0694** **Can DXA-derived 3D measurements at the lumbar spine predict thoracic spine fractures?**
Mirella López Picazo*¹, Ludovic Humbert¹, Silvana Di Gregorio³, Miguel Angel Gonzalez Ballester², Luis Del Rio³. ¹Galgo Medical, Spain, ²BCN MedTech, Universitat Pompeu Fabra, Spain, ³CETIR Grup Mèdic, Spain
Disclosures: Mirella López Picazo, None
- SAT-0695** **Are They Really a Different Population? Comparing Fracture Risk Factors Between Home Care Recipients and Long-Term Care Residents**
Caitlin McArthur*¹, George Ioannidis¹, Micaela Jantzi², Jonathan Adachi³, Lora Giangregorio², John Hirdes², Alexandra Papaioannou¹. ¹McMaster University, GERAS Centre for Aging Research, Canada, ²University of Waterloo, Canada, ³McMaster University, Canada
Disclosures: Caitlin McArthur, None
- SAT-0696** **Common mistakes in the clinical use of bone mineral density testing**
Radamés Leal Freitas*¹, José Seabra Alves-Neto², Amanda Raquel Costa Cruz², Francisco De Assis Pereira¹, Fábio De Souza Santos¹, Lúcio Moraes Lanzieri-Filho¹, Patricia Monique Vila Nova Pereira¹. ¹Universidade Federal de Sergipe, Brazil, ²Universidade Tiradentes, Brazil
Disclosures: Radamés Leal Freitas, None
- SAT-0697** **QCT of the femur: Comparison between QCTPro and MIAF Femur**
Ling Wang*¹, Oleg Museyko², Klaus Engelke², Keenan Brown³, Xiaoguang Cheng¹. ¹Department of Radiology, Beijing Jishuitan Hospital, China, ²Institute of Medical Physics, University of Erlangen, Germany, ³Mindways Software Inc., United States
Disclosures: Ling Wang, None
- SAT-0698** **Comparison between laser scanning confocal microscopy and traditional light microscopy in forensic histo-osteology**
Lelia Watamaniuk*¹, Ashley Smith², Natalie Dion³, Louis Georges Ste Marie³. ¹Department of Anthropology, McMaster University, Canada, ²Department of Anthropology, University of Toronto, Canada, ³CHUM- Centre Hospitalier de l'Université de Montreal, Canada
Disclosures: Lelia Watamaniuk, None
- SAT-0699** **Machine Learned Features and Classifier for Automatic HR-pQCT Cortical and Trabecular Compartment Segmentation**
Bryce A Besler*¹, Nils D Forkert², Lauren A Burt³, Steven K Boyd³. ¹Biomedical Engineering Graduate Program, Canada, ²Hotchkiss Brain Institute, Canada, ³McCaig Institute for Bone and Joint Health, Canada
Disclosures: Bryce A Besler, None
- OSTEOPOROSIS – EPIDEMIOLOGY**
- SAT-0738** **Microvascular Complications and Risk of Incident Hip Fracture in Type 2 Diabetes: A National Cohort**
Po-Yin Chang*¹, Yi-Ting Wang², Rodrigo J. Valderrábano³, Yi-Wen Tsai², Jennifer S. Lee¹. ¹Stanford University School of Medicine, United States, ²National Yang-Ming University Institute of Health and Welfare Policy, Taiwan, ³University of Miami Miller School of Medicine, United States
Disclosures: Po-Yin Chang, None
- SAT-0739** **Cancer Patients who Suffer Fractures are Rarely Assessed or Treated for Osteoporosis: Population-based Data from Manitoba**
Beatrice Edwards*¹, William Leslie², Saeed Al-Azazi², Lin Yan², Lisa Lix², Piotr Czaykowski³, Harminder Singh³. ¹Central Texas Veterans Healthcare System, United States, ²University of Manitoba, Canada, ³University of Manitoba, CancerCare Manitoba, Canada
Disclosures: Beatrice Edwards, None

- SAT-0740 ASBMR 2018 Annual Meeting Young Investigator Award**
Risk Factors for Atypical Femur Fractures in a Large, Prospective Cohort Study: A Multivariable Analysis from the Southern California Osteoporosis Cohort Study (SOCS)
 Erik J. Geiger*¹, Dennis M. Black¹, Bonnie H. Li², Denison S. Ryan², Richard M. Dell², Annette L. Adams². ¹University of California, San Francisco, United States, ²Kaiser Permanente Southern California, United States
Disclosures: Erik J. Geiger, None
- SAT-0741 ASBMR 2018 Annual Meeting Young Investigator Award**
Treatment with Statins Is Associated with Higher Volumetric Bone Mineral Density and Lower Cortical Porosity in Older Women
 Berit Larsson*¹, Anna Nilsson¹, Dan Mellstrom¹, Daniel Sundh¹, Mattias Lorentzon². ¹Department of Geriatric Medicine, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, ²Head of Geriatric Medicine, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden
Disclosures: Berit Larsson, None
- SAT-0742 Osteoporotic Fracture Trends in a Population of US Managed Care Enrollees: 2007-2017**
 E. Michael Lewiecki*¹, Benjamin Chastek², Kevin Sundquist², Setareh A. Williams³, Deane Leader, Jr.³, Richard J. Weiss³, Yamei Wang³, Lorraine A. Fitzpatrick³, Jeffrey R. Curtis⁴. ¹New Mexico Clinical Research & Osteoporosis Center, United States, ²Optum, United States, ³Radius Health, Inc., United States, ⁴UAB Arthritis Clinical Intervention Program, University of Alabama at Birmingham, United States
Disclosures: E. Michael Lewiecki, Radius Health, Inc., Consultant, Merck & Co, Consultant, Eli Lilly and Company, Grant/Research Support, Amgen, Consultant, AbbVie, Consultant, Shire, Consultant, Amgen, Grant/Research Support, Merck & Co, Grant/Research Support, Eli Lilly and Company, Consultant, AgNovos Healthcare, Consultant, Alexion Pharmaceuticals, Consultant, TheraNova, Consultant
- SAT-0743 An Atlas of Human and Murine Genetic Influences on Osteoporosis**
 John Morris*¹, John Kemp², Scott Youtlen³, John Logan⁴, Ryan Chai³, Nicholas Vulpescu⁵, Vincenzo Forgetta⁶, Aaron Kleinman⁷, Sindhu Mohanty³, Marcelo Sergio³, Carolina Medina-Gomez⁸, Katerina Trajanoska⁸, Julian Quinn³, Elena Ghirardello⁴, Natalie Butterfield⁴, Katharine Curry⁴, Victoria Leitch⁴, Penny Sparkes⁴, Laetitia Laurent⁶, Anne-Tounsia Adoum⁴, Naila Mannan⁴, Davide Komla-Ebri⁴, Andrea Pollard⁴, Hannah Dewhurst⁴, Stephen Kaptoge⁹, Paul Baldock³, Cyrus Cooper¹⁰, Jonathan Reeve¹¹, Evangelia Ntzani¹², Evangelos Evangelou¹², Claes Ohlsson¹³, David Karasik¹⁴, Fernando Rivadeneira⁸, Cheryl Ackert-Bicknell¹⁵, Douglas Kiel¹⁴, Jonathan Tobias¹⁵, Celia Gregson¹⁵, Nicholas Harvey¹⁰, David Adams¹⁶, Christopher Lelliott¹⁶, David Hinds⁷, Yi-Hsiang Hsu¹⁴, Matthew Maurano⁵, Peter Croucher³, Graham Williams⁴, Duncan Bassett⁴, David Evans², Brent Richards¹. ¹Department of Human Genetics, McGill University, Canada, ²University of Queensland Diamantina Institute, Translational Research Institute, Australia, ³Garvan Institute of Medical Research, Australia, ⁴Molecular Endocrinology Laboratory, Department of Medicine, Imperial College London, United Kingdom, ⁵Institute for Systems Genetics, New York University Langone Medical Center, United States, ⁶Centre for Clinical Epidemiology, Lady Davis Institute, Jewish General Hospital, Canada, ⁷Department of Research, 23andMe, United States, ⁸Department of Internal Medicine, Erasmus Medical Center, Netherlands, ⁹Department of Public Health and Primary Care, University of Cambridge, United Kingdom, ¹⁰MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ¹¹NIHR Musculoskeletal Biomedical Research Unit, Botnar Research Centre, Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, United Kingdom, ¹²Department of Hygiene and Epidemiology, University of Ioannina Medical School, Greece, ¹³Department of Internal Medicine and Clinical Nutrition, University of Gothenburg, Sweden, ¹⁴Institute for Aging Research, Hebrew SeniorLife, United States, ¹⁵Center for Musculoskeletal Research, Department of Orthopaedics, University of Rochester, United States, ¹⁶Wellcome Trust Sanger Institute, Wellcome Genome Campus, United Kingdom
Disclosures: John Morris, None

- SAT-0744 ASBMR 2018 Annual Meeting Young Investigator Award**
Risk of fracture after bariatric surgery in France: population based, retrospective cohort study
 Julien Paccou*¹, Niels Martignène¹, Eric Lespessailles², Bernard Cortet¹, Grégoire Ficheur¹.
¹Lille University Hospital, France, ²Université d'Orléans, France
Disclosures: Julien Paccou, None
- SAT-0745 Secular trends in the initiation of therapy in secondary fracture prevention: widening treatment gaps in Denmark and Spain**
 Daniel Prieto-Alhambra*¹, Martin Ernst², Katrine Hass Rubin², Daniel Martinez-Laguna³, M Kassim Javaid¹, Cyrus Cooper⁴, Cesar Libanati⁵, Emese Toth⁵, Bo Abrahamsen⁶. ¹Nuffield Department of Orthopaedics, Rheumatology, and Musculoskeletal Sciences (NDORMS), Oxford NIHR Biomedical Research Centre, University of Oxford, United Kingdom, ²OPEN, Institute of Clinical Research, University of Southern Denmark, Denmark, ³GREMPAL Research Group (Idiap Jordi Gol Primary Care Research Institute) and CIBERFes, Universitat Autònoma de Barcelona and Instituto de Salud Carlos III, Spain, ⁴Lifecourse Epidemiology Unit, Southampton University, United Kingdom, ⁵UCB Biopharma Sprl, Belgium, ⁶Holbæk Hospital, Dept of Medicine, Denmark
Disclosures: Daniel Prieto-Alhambra, UCB, Grant/Research Support, Servier, Grant/Research Support, Pharmo Institute, Grant/Research Support, Amgen, Grant/Research Support
- SAT-0746 Temporal Trends and Factors Associated with Bisphosphonate Drug Holidays**
 Jeffrey Curtis*, Rui Chen, Tarun Arora, Shanette Daigle, Robert Matthews, Hui Feng Yun, Nicole Wright, Ayesha Jaleel, Elizabeth Delzell, Kenneth Saag. University of Alabama at Birmingham, United States
Disclosures: Jeffrey Curtis, Radius, Grant/Research Support, Radius, Consultant, Amgen, Grant/Research Support, Amgen, Consultant
- SAT-0747 Type 2 Diabetes and HR-pQCT Parameters in Older Men**
 Ann Schwartz*¹, Neeta Parimi¹, Andrew Burghardt¹, Mary Bouxsein², Elsa Strotmeyer³, Eric Vittinghoff¹, Eric Orwoll⁴, Gina Woods⁵, Dennis Black¹, Nancy Lane⁶, Kristine Ensrud⁸, Nicola Napoli⁷. ¹University of California, San Francisco, United States, ²Harvard Medical School, United States, ³University of Pittsburgh, United States, ⁴Oregon Health and Science University, United States, ⁵University of California, San Diego, United States, ⁶University of California, Davis, United States, ⁷Università Campus Bio-Medico di Roma, Italy, ⁸University of Minnesota and Minneapolis VA Health System, United States
Disclosures: Ann Schwartz, None
- SAT-0748 Cluster Analysis of High Resolution Peripheral Quantitative Computed Tomography Parameters Identifies Bone Phenotypes Associated With High Rates of Prevalent Fracture**
 Kate Ward*, Mark Edwards, Leo Westbury, Cyrus Cooper, Elaine Dennison. MRC Lifecourse Epidemiology, University of Southampton, United Kingdom
Disclosures: Kate Ward, None
- SAT-0749 Serum Estradiol, Follicle Stimulating Hormone and Sex Hormone Binding Globulin Across the Nation (SWAN)**
 Kristine Ruppert*¹, Jane Cauley¹, Yijuan Lian¹, Joel Finkelstein², Carrie Karvonen-Gutierrez³, Sioban Harlow³, Joan Lo⁴, Sherri Burnett-Bowie², Arun Karlamangla⁵, Gail Greendale⁵. ¹University of Pittsburgh, United States, ²Massachusetts General Hospital, United States, ³University of Michigan, United States, ⁴Kaiser Permanente Northern California Division of Research, United States, ⁵University of California, United States
Disclosures: Kristine Ruppert, None

- SAT-0750** **Vertebral fractures cascade: potential etiologies and risk factors**
 Helene Che*¹, Veronique Breuil², Bernard Cortet³, Julien Paccou³, Thierry Thomas⁴, Laure Chapuis⁵, Francoise Debais⁶, Nadia Mehzen Cetre⁷, Rose Marie Javier⁸, Sylvie Loiseau Peres⁹, Christian Roux¹⁰, Karine Briot¹⁰. ¹CHU Lapeyronie Montpellier, Rheumatology department, France, ²CHU L'Archet Nice, Rheumatology department, France, ³CHU Roger Salengro Lille, Rheumatology department, France, ⁴CHU Nord Saint Etienne, Rheumatology department, France, ⁵CH Simone Veil du Vitre, Rheumatology department, France, ⁶CHU La Milettrie Poitiers, Rheumatology department, France, ⁷CHU Pellegrin Bordeaux, Rheumatology department, France, ⁸CHU Hautepierre Strasbourg, Rheumatology department, France, ⁹CHR Orléans, Rheumatology department, France, ¹⁰CHU Paris Cochin, Rheumatology department, France
Disclosures: Helene Che, None
- SAT-0751** **Trabecular Bone Score in Healthy Adult Population of India: Chandigarh Urban Bone Epidemiological Study (CUBES)**
 Abhilasha Garg*¹, Ruban Dhaliwal², Anshita Aggarwal¹, Rimesh Pal¹, Priyanka Singh¹, Niranjan Khandelwal³, Naresh Sachdeva¹, Anil Bhansali¹, Sanjay Kumar Bhadada¹. ¹Department of Endocrinology, Post Graduate Institute of Medical Education and Research, India, ²Endocrinology, Diabetes and Metabolism, Department of Medicine, State University of New York Upstate Medical University, United States, ³Department of Radiodiagnosis, Post Graduate Institute of Medical Education and Research, India
Disclosures: Abhilasha Garg, None
- SAT-0752** **Association between locomotive syndrome and bone mass, vertebral fractures and sarcopenia in the elderly aged 80 years and over.**
 Jane Erika Frazao Okazaki*, Fernanda Martins Gazoni, Daniela Regina Brandao Tavares, Maria Carolyn Fonseca Batista Arbex, Lais Abreu Bastos, Flavia Kurebayashi Fonte, Maysa Seabra Cendoroglo, Fania Cristina Santos. UNIFESP, Brazil
Disclosures: Jane Erika Frazao Okazaki, None
- SAT-0753** **Involvement of lifestyle-related diseases in the development of fragility fracture of the proximal femur**
 Takashi Iwakura*, Atsushi Sakurai, Satoru Sawamura. Awaji Medical Center, Japan
Disclosures: Takashi Iwakura, None
- SAT-0754** **WITHDRAWN**
- SAT-0755** **Longitudinal change of bone quality according to serum adipokine levels in Korean adults: The KoGES- ARIRANG study**
 Jung Soo Lim*¹, Tae-Hwa Go², Dae Ryong Kang³, Sang Baek Koh⁴. ¹Department of Internal Medicine, Yonsei University Wonju College of Medicine, Republic of Korea, ²Center of Biomedical Data Science, Yonsei University Wonju College of Medicine, Republic of Korea, ³Institute of Genomic Cohort, Yonsei University Wonju College of Medicine, Republic of Korea, ⁴Department of Preventive Medicine, Yonsei University Wonju College of Medicine, Republic of Korea
Disclosures: Jung Soo Lim, None
- SAT-0756** **Pain at Multiple Sites Is Associated with Prevalent and Incident Fractures in Older Adults: a 5.1-year Follow-up Study**
 Feng Pan*¹, Jing Tian¹, Dawn Aitken¹, Flavia Cicuttini², Graeme Jones¹. ¹Menzies Institute for Medical Research, University of Tasmania, Australia, ²Department of Epidemiology and Preventive Medicine, Monash University Medical School, Australia
Disclosures: Feng Pan, None

SAT-0757 Vitamin D Insufficiency and Elevated Vitamin D Metabolite Ratios (VMR) are Associated with Increased Risk of Injuries: Results from the British Army Lower Limb Injury Prevention (ALLIP) Study

Jonathan Tang*¹, Sarah Jackson², Rachel Izard³, Samuel Oliver⁴, Isabelle Picc¹, Christopher Washbourne¹, Neil Walsh⁵, Julie Greeves², William Fraser¹. ¹University of East Anglia, United Kingdom, ²Army Personnel and Research Capability, United Kingdom, ³Army Recruiting and Training Division, United Kingdom, ⁴University of Bangor, United Kingdom, ⁵Bangor University, United Kingdom

Disclosures: Jonathan Tang, None

SAT-0758 Greater Bone Marrow Adiposity Predicts Loss of Spine Compressive Strength and Trabecular Bone in Postmenopausal Women from the AGES-Reykjavik Study

Gina Woods*¹, Susan Ewing², Deborah Kado¹, Trisha Hue³, Sigurdur Sigurdsson⁴, Gudny Eiriksdottir⁴, Vilundur Gudnason⁴, Eric Vittinghoff², Thomas Lang², Tamara Harris⁵, Clifford Rosen⁶, Kaipin Xu⁷, Xiaojuan Li⁷, Ann Schwartz². ¹Department of Medicine, UCSD, United States, ²Department of Epidemiology, UCSF, United States, ³Department of Epidemiology and Biostatistics, UCSF, United States, ⁴Icelandic Heart Association, Iceland, ⁵National Institute on Aging, United States, ⁶Maine Medical Center Research Institute, United States, ⁷Program of Advanced Musculoskeletal Imaging, Cleveland Clinic, United States

Disclosures: Gina Woods, None

SAT-0759 Meta-analysis of Lithium use on the Risk of Fracture in Epidemiological Studies

Qing Wu*¹, Bowen Liu¹, Shu Zhang¹. ¹University of Nevada, Las Vegas, United States

Disclosures: Qing Wu, None

OSTEOPOROSIS - HEALTH SERVICES RESEARCH

SAT-0804 ASBMR 2018 Annual Meeting Young Investigator Award

The Long-term Impact of Incident Low-trauma Fractures on Health-related Quality of Life of Older People: The Canadian Multicentre Osteoporosis Study

Asm Borhan*¹, Alexandra Papaioannou¹, Olga Gajic-Veljanoski², Courtney Kennedy¹, George Ioannidis¹, Claudie Berger³, Wilma Hopman⁴, David Goltzman⁵, Robert Josse⁶, Christopher S Kovacs⁷, David A Hanley⁸, Jerilynn C Prior⁹, Suzanne N Morin⁵, Stephanie M Kaiser¹⁰, Angela M Cheung¹¹, Lehana Thabane¹², Jonathan D Adachi¹², The Camos Research Group³. ¹McMaster University & GERAS Centre, Canada, ²GERAS Centre, Canada, ³Camos – McGill University, Canada, ⁴Kingston General Hospital, Canada, ⁵McGill University, Canada, ⁶St. Michael Hospital, Canada, ⁷Memorial University of Newfoundland, Canada, ⁸University of Calgary, Canada, ⁹University of British Columbia, Canada, ¹⁰Dalhousie University, Canada, ¹¹University of Toronto & University Health Network, Canada, ¹²McMaster University & St. Joseph's Healthcare Hamilton, Canada

Disclosures: Asm Borhan, None

SAT-0805 Inappropriate Use of Cost-effectiveness Thresholds as Intervention Thresholds – Potential for Overtreatment of Low Risk Individuals

Eugene McCloskey*¹, Helena Johansson², Nicholas Harvey³, Juliet Compston⁴, Cyrus Cooper³, John Kanis². ¹Mellanby Centre for Bone Research, University of Sheffield, United Kingdom, ²Centre for Metabolic Bone Diseases, University of Sheffield, United Kingdom, ³MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ⁴Department of Medicine, Cambridge Biomedical Campus, United Kingdom

Disclosures: Eugene McCloskey, None

SAT-0806 Bending the Curve with Patient Identification and Treatment in Osteoporosis

E. Michael Lewiecki*¹, Jesse D. Ortendahl², Jacqueline Vanderpuye-Orgle³, Andreas Grauer³, Amanda L. Harmon², Andrea J. Singer⁴. ¹New Mexico Clinical Research & Osteoporosis Center, United States, ²Partnership for Health Analytic Research, LLC, United States, ³Amgen Inc., United States, ⁴Georgetown University Hospital, United States
Disclosures: E. Michael Lewiecki, New Mexico Clinical Research & Osteoporosis Center, Other Financial or Material Support, Mereo, Grant/Research Support, Sandoz, Consultant, PFENex, Grant/Research Support, Ultragenyx, Consultant, Shire, Consultant, Shire, Speakers' Bureau, Amgen, Consultant, Amgen, Grant/Research Support, Radius, Speakers' Bureau, Radius, Consultant, Alexion, Consultant, Alexion, Speakers' Bureau

- SAT-0807** **HIP Mobile: A community-based Monitoring, Rehabilitation and Learning e-system for patients following a Hip Fracture**
 Ahmed Abou-Sharkh*¹, Nancy E. Mayo¹, Michelle Wall¹, Anthony Albers², Stephane Bergeron³, Sonia Jean⁴, Pierre Berube⁵, Edward J. Harvey¹, Suzanne N. Morin¹. ¹Research Institute of McGill University Health Center, Canada, ²St-Mary's Hospital, Canada, ³Jewish General hospital, Canada, ⁴Institut national de sante publique du Quebec, Canada, ⁵Greybox Solutions, Canada
Disclosures: Ahmed Abou-Sharkh, None
- SAT-0808** **Time trends among new users of osteoporosis drugs over 20 years: considerations for pharmacoepidemiologic study design**
 Kaleen Hayes*¹, Joann Ban¹, Grace Athanasiadis¹, Andrea Burden², Suzanne Cadarette¹. ¹University of Toronto, Canada, ²ETH Zurich, Switzerland
Disclosures: Kaleen Hayes, None
- SAT-0809** **Reasons for not-attending the FLS: a survey among non-attenders based on home visits and questionnaires**
 Peter Van Den Berg*¹, Dave Schweitzer¹, Paul Van Haard¹, Joop Van Den Bergh², Piet Geusens³. ¹Reinier de Graaf Gasthuis, Netherlands, ²Maastricht University Medical Center, VieCuri Medical Centre Noord-Limburg, Netherlands, ³Maastricht University Medical Center, Hasselt University, Netherlands
Disclosures: Peter Van Den Berg, None
- SAT-0810** **Improvement in the primary and secondary prevention of osteoporosis by a Fracture Liaison Service: feedback from a single French center care pathway**
 Arthur Vrignaud*¹, Simon Pelletier, Emmanuelle Dernis, Yvon Moui, Bénédicte Haettich. Le Mans General Hospital, France
Disclosures: Arthur Vrignaud, None

OSTEOPOROSIS - NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY

- SAT-0824** **ASBMR 2018 Annual Meeting Young Investigator Award**
The Calgary Vitamin D Study: Safety of Three-Year Supplementation With 400, 4000 or 10000 IU Daily
 Emma O Billington*¹, Lauren A Burt¹, Erin M Davison¹, Marianne S Rose², Sharon Gaudet¹, Michelle Kan¹, Steven K Boyd¹, David A Hanley¹. ¹McCaig Institute for Bone and Joint Health, Cumming School of Medicine, University of Calgary, Canada, ²Research Facilitation, Alberta Health Services, Canada
Disclosures: Emma O Billington, None
- SAT-0825** **Natural history of maternal urinary β -C-terminal telopeptide of type I collagen (CTX) in pregnancy, and response to cholecalciferol supplementation: findings from the MAVIDOS trial**
 Elizabeth Curtis*¹, Camille Parsons¹, Kate Maslin¹, Stefania D'Angelo¹, Rebecca Moon¹, Sarah Crozier¹, Fatma Gossiel², Nicholas Bishop³, Stephen Kennedy⁴, Aris Papageorgiou⁴, Robert Fraser⁵, Saurabh Gandhi⁵, Ann Prentice⁶, Hazel Inskip¹, Keith Godfrey¹, Inez Schoenmakers⁶, M Kassim Javaid⁷, Richard Eastell², Cyrus Cooper¹, Nicholas Harvey¹. ¹MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton, United Kingdom, ²Academic Unit of Bone Metabolism, University of Sheffield, Sheffield, United Kingdom, ³Academic Unit of Child Health, Sheffield Children's Hospital, University of Sheffield, Sheffield, United Kingdom, ⁴Nuffield Department of Women's & Reproductive Health, John Radcliffe Hospital, University of Oxford, Oxford, United Kingdom, ⁵Department of Obstetrics and Gynaecology, Sheffield Hospitals NHS Trust, University of Sheffield, Sheffield, United Kingdom, ⁶MRC Human Nutrition Research, Elsie Widdowson Laboratory, Cambridge, United Kingdom, ⁷National Institute for Health Research (NIHR) Oxford Biomedical Research Centre, University of Oxford, United Kingdom
Disclosures: Elizabeth Curtis, None

- SAT-0826** **The association of breastfeeding, maternal smoking, birth weight and maternal diet with bone density and microarchitecture in young adulthood: a 25-year longitudinal study**
 Yi Yang*¹, Feitong Wu¹, Terry Dwyer², Tania Winzenberg¹, Graeme Jones¹. ¹Menzies Institute for Medical Research, University of Tasmania, Australia, ²The George Institute for Global Health, University of Oxford, United Kingdom
Disclosures: Yi Yang, None
- SAT-0827** **Effect of High-Dose Vitamin D on Bone Microarchitecture assessed via High Resolution Peripheral Quantitative Computed Tomography (HR-pQCT): a Double-Blind RCT**
 Ursina Meyer*¹, Ursula Heilmeyer¹, Robert Theiler², Andreas Egli¹, Heike A. Bischoff-Ferrari². ¹Centre on Aging and Mobility, Department of Geriatrics and Aging Research, University Hospital Zurich and Zurich of University, Switzerland, ²Department of Geriatrics and Aging Research, University Hospital Zurich and Zurich of University, Switzerland
Disclosures: Ursina Meyer, None
- SAT-0828** **Vitamin D Status, Bone Quality and Long-Term Risk for Fracture-related Hospitalization in Older Women**
 Kun Zhu*¹, Joshua Lewis², Marc Sim², Richard Prince³. ¹Department of Endocrinology and Diabetes, Sir Charles Gairdner Hospital, Australia, ²School of Medical and Health Sciences, Edith Cowan University, Australia, ³Medical School, University of Western Australia, Australia
Disclosures: Kun Zhu, None
- SAT-0829** **High dietary calcium intakes in men, not women, are associated with increased all-cause mortality: the Melbourne Collaborative Cohort Study**
 Alexander Rodriguez*¹, David Scott¹, Belal Khan², Allison Hodge³, Dallas English², Graham Giles³, Bo Abrahamsen⁴, Peter Ebeling¹. ¹Monash University, Australia, ²University of Melbourne, Australia, ³Cancer Council Victoria, Australia, ⁴University of Southern Denmark, Denmark
Disclosures: Alexander Rodriguez, None
- SAT-0830** **Response of Common Genetic variants of Vitamin D Binding Protein (DBP) to vitamin D supplementation in Saudi adults**
 Nasser Al-Daghri*. King Saud University, Saudi Arabia
Disclosures: Nasser Al-Daghri, None
- SAT-0831** **Female recruits with the lowest baseline bone strength have the greatest increases in bone strength following 8 weeks of U.S. Army Basic Combat Training**
 Katelyn Guerriere*¹, Julie Hughes¹, Erin Gaffney-Stomberg¹, Kathryn Taylor¹, Kristin Popp², Chun Xu³, Ginu Unnikrishnan³, Mary Bouxsein², Jaques Reifman³. ¹USARIEM, United States, ²MGH, United States, ³BHSAI, United States
Disclosures: Katelyn Guerriere, None
- SAT-0832** **Effect of high impact exercise on femoral neck bone mineral density and T2 relaxation times of articular cartilage in postmenopausal women**
 Chris Hartley*¹, Robert Kerslake², Jonathan Folland¹, Katherine Brooke-Wavell¹. ¹NCSEM, School of Sports and Exercise Science, Loughborough University, United Kingdom, ²Nottingham University Hospital NHS Trust, United Kingdom
Disclosures: Chris Hartley, None
- SAT-0833** **Association of trabecular bone score and bone density with actigraphy-measured physical activity in NHANES 2005-2006**
 Rajesh Jain*¹, Meltem Zeytinoglu², Tamara Vokes². ¹Lewis Katz School of Medicine at Temple University, United States, ²University of Chicago Medicine, United States
Disclosures: Rajesh Jain, None

SAT-0834 Dairy Intake and Its Associations with Bone Mineral Density and Trabecular Bone Score in the VITamin D and Omega-3 Trial (VITAL)
Meryl Leboff^{1,2}, Catherine Donlon¹, Nancy Cook^{2,3,4}, Sharon Chou^{1,2}, Julie Buring^{2,3,4}, Joann Manson^{2,3,4}. ¹Division of Endocrinology, Diabetes and Hypertension, Brigham and Women's Hospital, United States, ²Harvard Medical School, United States, ³Department of Epidemiology, Harvard T.H. Chan School of Public Health, United States, ⁴Division of Preventive Medicine, Brigham and Women's Hospital
Disclosures: Meryl Leboff, None

SAT-0835 Vitamin D status and its associated factors in Taiwanese healthy adults
Yi-Chin Lin*, Yi-Wen Cheng. Department of Nutrition, Chung Shan Medical University, Taiwan
Disclosures: Yi-Chin Lin, None

OSTEOPOROSIS – PATHOPHYSIOLOGY

SAT-0859 A greater weight loss reduces lumbar spine trabecular bone score in the obese, and this is not influenced by vertebral body structural defects
Julia Amariti^{*1}, Stephen Schneider², Karen Hansen³, Yvette Schluskel¹, Sue Shapses¹. ¹Rutgers University, United States, ²Rutgers Robert Wood Johnson Medical School, United States, ³University of Wisconsin School of Medicine and Public Health, United States
Disclosures: Julia Amariti, None

SAT-0860 Identification of Cellular Senescence and Senescent Secretory Markers as Major Etiologies Underlying Radiotherapy Related Bone Damage
Abhishek Chandra*, Joshua Farr, David Monroe, Rebekah Samsonraj, Haitao Wang, Susan Law, Sundeep Khosla, Robert Pignolo. Mayo Clinic, United States
Disclosures: Abhishek Chandra, None

SAT-0861 Identification and Characterization of lncRNA-DBD in Diabetic Bone Metabolism
Zhekai Hu^{*1}, Qisheng Tu¹, Jake Chen^{1,2}. ¹Division of Oral Biology Tufts University School of Dental Medicine, United States, ²Department of Developmental, Molecular and Chemical Biology Sackler School of Graduate Biomedical Sciences Tufts University School of Medicine, United States
Disclosures: Zhekai Hu, None

SAT-0862 Estrogen depletion alters regulation of mineralization at actively forming osteonal surfaces in a monkey animal model
Eleftherios P. Paschalis^{*1}, Sonja Gamsjaeger¹, Stamatia Rokidi¹, Keith Condon², Klaus Klaushofer¹, David Burr². ¹Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK and AUYA Trauma Centre Meidling, 1st Medical Department, Hanusch Hospital, Heinrich Collin Str. 30, A-1140, Austria, ²Indiana University, School of Medicine, United States
Disclosures: Eleftherios P. Paschalis, None

SAT-0863 Bilirubin promotes down-regulation of RUNX2 and up-regulation of RANKL gene expression in bone explants and in osteoblastic and osteocytic cell lines
Silvia Ruiz-Gaspà*, Albert Parés, Andrés Combalia, Pilar Peris, Ana Monegal, Núria Guañabens. Metabolic Bone Diseases and Liver Units, Hospital Clínic, IDIBAPS, CIBERehd, University of Barcelona, Barcelona, Spain
Disclosures: Silvia Ruiz-Gaspà, None

SAT-0864 Effects of hydroxyapatite/collagen complex on bone formation at osteotomy site of proximal tibia after povidone-iodine or ethanol exposure in ovariectomized rats
Itsuki Nagahata*, Naohisa Miyakoshi, Yuji Kasukawa, Yuichi Ono, Manabu Akagawa, Yusuke Yuasa, Chiaki Sato, Yoichi Shimada. Akita University graduate school of medicine, Japan
Disclosures: Itsuki Nagahata, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS

- SAT-0877** **Low bone mineral density remains highly prevalent in adolescents despite height adjustment: results from the Sickle Cell Clinical Research and Intervention Program (SCCRIP) pediatric cohort**
Oyebimpe Adesina*¹, Guolian Kang², Martha Villavicencio³, Jason Hodges³, Wassim Chemaitilly⁴, Sue Kaste⁵, James Gurney⁶, Babette Zemel⁷, Jane Hankins³. ¹Division of Hematology, University of Washington School of Medicine, United States, ²Department of Biostatistics, St. Jude Children's Research Hospital, United States, ³Department of Hematology, St. Jude Children's Research Hospital, United States, ⁴Department of Pediatric Medicine, Division of Endocrinology, St. Jude Children's Research Hospital, United States, ⁵Department of Radiological Sciences, St. Jude Children's Research Hospital, United States, ⁶School of Public Health, University of Memphis, United States, ⁷Division of Gastroenterology, Hepatology and Nutrition, Children's Hospital of Philadelphia, United States
Disclosures: Oyebimpe Adesina, None
- SAT-0878** **Hyponatremia Induced Osteoporosis**
Julianna Barsony*, Qin Xu, Joseph G. Verbalis. Georgetown University, United States
Disclosures: Julianna Barsony, None
- SAT-0879** **Bone histomorphometric effects of HIV infection and Antiretroviral therapy**
Janaina Ramalho*¹, Csw Martins¹, Rmr Pereira¹, Thomas Nickolas², Mt Yin², J Galvão³, Margaret Eira⁴, Lm Reis¹, Luzia Furukawa¹, Vanda Jorgetti¹, Rm Moyses^{1,3}. ¹Universidade de São Paulo, Brazil, ²Columbia University, United States, ³UNINOVE, Brazil, ⁴Instituto de Infectologia Emilio ribas, Brazil
Disclosures: Janaina Ramalho, None
- SAT-0880** **Low daily dose of glucocorticoids induces trabecular and cortical bones impairment at the femur: a 3D analysis using DXA-based modeling.**
Arnau Manasanch Berengué*¹, Renaud Winzenrieth¹, Ludovic Humbert¹, Edward Leib². ¹Galgo Medical SL, Spain, ²Dept. of Medicine, University of Vermont College of Medicine, United States
Disclosures: Arnau Manasanch Berengué, Galgo Medical, Other Financial or Material Support
- SAT-0881** **Absence of Alpha-Synuclein (Snca) Protects Against Ovariectomy-Induced Weight Gain and Bone Loss by Independent Mechanisms.**
Carolina Figueroa*¹, Clifford Rosen¹, Charles Farber², Gina Calabrese², Victoria Demambro¹. ¹Maine Medical Center Research Institute, United States, ²University of Virginia, United States
Disclosures: Carolina Figueroa, None
- SAT-0882** **Low Bone Density and Fragility Fractures as the Initial Presentation of Hemochromatosis: Two Case Reports**
Yi Liu*¹, Joseph Lane¹, Raymond Pastore², Dorothy Fink¹. ¹Hospital for Special Surgery, United States, ²New York Presbyterian Hospital, Weill Cornell Medical College, United States
Disclosures: Yi Liu, None
- SAT-0883** **Effect of Parathyroidectomy versus Antiresorptive Treatment on Bone Mineral Density in Osteoporotic Postmenopausal Women with Primary Hyperparathyroidism**
Tomaz Kocjan*¹, Gaj Vidmar², Andrej Janez¹, Soncka Jazbinsek³, Katarina Remec³, Mojca Jensterle Sever¹. ¹University Medical Centre Ljubljana, Slovenia, ²University Rehabilitation Institute Republic of Slovenia, Slovenia, ³Medical Faculty Ljubljana, Slovenia
Disclosures: Tomaz Kocjan, None

- SAT-0884** **Glucocorticoid-induced osteoporosis induced poor bone quality, low bone mineral density, low muscle mass and high low back pain**
Tomohisa Koyama^{*1}, Masayuki Miyagi¹, Sho Inoue¹, Shuichiro Tajima¹, Kosuke Murata¹, Ayumu Kawakubo¹, Yui Uekusa¹, Yuji Yokozeki¹, Hisako Fujimaki¹, Daisuke Ishi¹, Koji Ishikawa², Seiji Ohtori³, Kazuhide Inage³, Kentaro Uchida¹, Gen Inoue¹, Masashi Takaso¹. ¹Department of Orthopedic Surgery, Kitasato University, School of Medicine, Japan, ²Department of Orthopedic Surgery, Showa University, School of Medicine, Japan, ³Department of Orthopedic Surgery, Chiba University, Graduate School of Medicine, Japan
Disclosures: Tomohisa Koyama, None
- SAT-0885** **BONE STATUS OF PATIENTS WITH CHRONIC KIDNEY DISEASE STAGE 5 (CKD5) WAIT-LISTED FOR KIDNEY TRANSPLANTATION IS POORLY EVALUATED BY DXA**
Vanessa Lapierre^{*1}, Martin Jannot¹, Myriam Normand¹, Pawel Szulc², Elisabeth Sornay-Rendu², Thierry Thomas¹, Christophe Mariat³, Roland Chapurlat², Marie-Hélène Lafage-Proust¹. ¹INSERM 1059, Université de Lyon, France, ²INSERM 1033, Université de Lyon, France, ³NEPHROLOGY DPT, CHU ST-ETIENNE, France
Disclosures: Vanessa Lapierre, None
- SAT-0896** **Skeletal Consequences of Nephropathic Cystinosis**
Pablo Florenzano^{*1,2}, Carlos Ferreira³, Galina Nesterova³, Mary Scott Roberts⁴, Sri Harsha Tella⁴, Luis Fernandez De Castro⁴, Sydney M. Brown⁴, Adom Whitaker⁴, Renata C. Pereira⁵, Dorothy Bulas⁶, Rachel I. Gafni⁴, Isidro B. Salusky⁵, William A. Gahl³, Michael T. Collins⁴. ¹Skeletal Diseases and Mineral Homeostasis Section, National Institute of Dental and Craniofacial Research, NIH, United States, ²Department of Endocrinology, School of Medicine. Pontificia Universidad Catolica de Chile., United States, ³Medical Genetics Branch, National Human Genome Research Institute. NIH, United States, ⁴Skeletal Disorders and Mineral Homeostasis Section, National Institutes of Dental and Craniofacial Research, NIH, United States, ⁵Division of Nephrology, Department of Pediatrics, David Geffen School of Medicine at University of California, Los Angeles, United States, ⁶Division of Radiology, Children's National Health System, United States
Disclosures: Pablo Florenzano, None

OSTEOPOROSIS – TREATMENT

- SAT-0902** **Efficacy of Teriparatide Compared With Risedronate on FRAX®-defined Major Osteoporotic Fractures: A Post-hoc Analysis of the VERO Clinical Trial**
Jean-Jacques Body^{*1}, Fernando Marin², Piet Geusens³, Cristiano Zerbini⁴, Astrid Fahrleitner-Pammer⁵, Ruediger Moericke⁶, Enrique Casado⁷, Jan Stepan⁸, Salvatore Minisola⁹, Eric Lespessailles¹⁰, Pedro López-Romero², David Kendler¹¹. ¹CHU Brugmann, ULB, Belgium, ²Lilly Research Center Europe, Spain, ³Maastricht University Medical Center, Netherlands, ⁴Centro Paulista de Investigaçao Clínica, Brazil, ⁵Division of Endocrinology, Medical University of Graz, Austria, ⁶Institut Präventive Medizin & Klinische Forschung, Germany, ⁷University Hospital Parc Taulí Sabadell (UAB), Spain, ⁸Institute of Rheumatology and Faculty of Medicine 1, Charles University, Czech Republic, ⁹Sapienza Rome University, Italy, ¹⁰Regional Hospital, University of Orleans, France, ¹¹University of British Columbia, Canada
Disclosures: Jean-Jacques Body, Eli Lilly and Company, Grant/Research Support, Amgen, Speakers' Bureau
- SAT-0903** **Association of Alendronate and Risk of Cardiovascular Events in Patients with Hip Fracture**
Ching-Lung Cheung^{*1}, Chor-Wing Sing¹, Angel Wong¹, Douglas Kiel², Elaine Cheung³, Joanne Lam⁴, Tommy Cheung¹, Esther Chan¹, Annie Kung¹, Ian Wong⁵. ¹The University of Hong Kong, Hong Kong, ²Hebrew SeniorLife, Harvard Medical School, United States, ³United Christian Hospital, Hong Kong, ⁴Queen Mary Hospital, Hong Kong, ⁵UCL School of Pharmacy, United Kingdom
Disclosures: Ching-Lung Cheung, None

- SAT-0904 Exploring a Teriparatide and Denosumab Sequencing Option: 18 month Interim Results**
 Felicia Cosman*¹, David Dempster², Donald McMahon², Jeri Nieves^{1,2}. ¹Columbia University, United States, ²Helen Hayes Hospital, United States
Disclosures: Felicia Cosman, Amgen, Grant/Research Support, Radius, Speakers' Bureau, Amgen, Speakers' Bureau, Eli Lilly, Speakers' Bureau, Amgen, Consultant, Eli Lilly, Consultant, Radius, Consultant, Eli Lilly, Grant/Research Support
- SAT-0905 Treatments for Osteoporosis Do Not Reduce Overall Mortality**
 Steven R. Cummings*¹, Li-Yung Lui¹, Douglas C. Bauer², Dennis M. Black². ¹San Francisco Coordinating Center, CPMC Research Institute, United States, ²San Francisco Coordinating Center, University of California San Francisco, United States
Disclosures: Steven R. Cummings, Amgen, Consultant, Amgen, Grant/Research Support
- SAT-0906 Effect of Denosumab Versus Risedronate on Cortical and Trabecular Bone Microarchitecture by High Resolution Peripheral Quantitative Computed Tomography (HR-pQCT) in Glucocorticoid-treated Individuals**
 Piet Geusens*¹, Stefan Goemaere², Nico Pannaciuoli³, Nancy Lane⁴, Eric Lespessailles⁵, Osvaldo D. Messina⁶, Roland Chapurlat⁷, Xiang Yin³, Rachel B. Wagman³, Joop Pw Van Den Bergh¹. ¹Maastricht University Medical Center, Netherlands, ²Ghent University Hospital, Belgium, ³Amgen Inc., United States, ⁴University of California, Davis, United States, ⁵University Hospital Orleans, France, ⁶Cosme Argerich Hospital, Argentina, ⁷Hôpital Edouard Herriot, France
Disclosures: Piet Geusens, Pfizer, Abbott, Lilly, Amgen, MSD, Will, Roche, UCB, BMS, Celgene, Novartis, Grant/Research Support, Amgen, Lilly, Consultant, Pfizer, Abbott, Lilly, Amgen, MSD, Will, Roche, UCB, BMS, Celgene, Novartis, Speakers' Bureau
- SAT-0907 Abaloparatide Effect on Bone Mineral Density and Fracture Incidence in Postmenopausal Women with Osteoporosis Aged 80 Years or Older: Results from the ACTIVEExtend Phase 3 Trial**
 Susan Greenspan*¹, Fitzpatrick Lorraine², Bruce Mitlak², Yamei Wang², Nicholas C. Harvey³, Chad Deal⁴, Felicia Cosman², Mike McClung⁶. ¹University of Pittsburgh, United States, ²Radius Health, Inc., United States, ³MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ⁴Cleveland Clinic Foundation, United States, ⁵Columbia University College of Physicians and Surgeons, United States, ⁶Oregon Osteoporosis Center, United States
Disclosures: Susan Greenspan, NIH, Grant/Research Support, Lilly, Grant/Research Support, Amgen, Grant/Research Support, PCORI, Grant/Research Support
- SAT-0908 Treatment gap following clinical vertebral fracture in the International Cost and Utility Related to Osteoporosis Fractures Study (ICUROS)**
 Mattias Lorentzon*¹, Helena Johansson^{2,3}, Nicholas C Harvey⁴, Anders Odén², Kerrie Sanders⁵, Fredrik Borgström⁶, Axel Svedbom⁷, Eugene McCloskey^{2,8}, John Kanis^{2,3}. ¹Geriatric Medicine, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg and Geriatric Medicine Clinic, Sahlgrenska University Hospital, Mölndal, Sweden, ²Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, UK, Sweden, ³Institute for Health and Aging, Catholic University of Australia, Melbourne, Australia, ⁴MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton and NIHR Southampton Biomedical Research Centre, University of Southampton and University Hospital Southampton NHS Foundation Trust, Southampton, United Kingdom, ⁵Department of Medicine, The University of Melbourne and Western Health, Sunshine Hospital, Melbourne, Australia, ⁶LIME/MMC, Karolinska Institutet, Stockholm, Sweden, ⁷Mapi, Stockholm, Sweden, ⁸Mellanby Centre for bone research, Department of Oncology and Metabolism, University of Sheffield, Sheffield, United Kingdom
Disclosures: Mattias Lorentzon, None

- SAT-0909** **A Pooled Analysis of Fall Incidence from Placebo-controlled Trials of Denosumab**
 Eugene McCloskey*¹, Richard Eastell¹, Michael McClung², Nico Pannacilli³, Christine Wang³, Susan Yue³, Steven R. Cummings⁴. ¹The University of Sheffield, United Kingdom, ²Oregon Osteoporosis Center, United States, ³Amgen Inc., United States, ⁴San Francisco Coordinating Center, United States
Disclosures: Eugene McCloskey, Warner Chilcott, Grant/Research Support, Servier, Grant/Research Support, GSK, Consultant, Consilient Healthcare, Consultant, Synexus, Consultant, Amgen, Consultant, Hologic, Grant/Research Support, Tethys, Grant/Research Support, UCB, Consultant, Sanofi-Aventis, Grant/Research Support, Pfizer, Other Financial or Material Support, Roche, Grant/Research Support, Lilly, Grant/Research Support, AstraZeneca, Other Financial or Material Support, Synexus, Grant/Research Support, Internis, Other Financial or Material Support, Amgen, Other Financial or Material Support, Consilient Healthcare, Other Financial or Material Support, Novartis, Grant/Research Support, Pfizer, Grant/Research Support, IOF, Grant/Research Support, MRC, Grant/Research Support, GSK, Grant/Research Support, ActiveSignal, Grant/Research Support, AR UK, Grant/Research Support, Roche, Other Financial or Material Support, Consilient Healthcare, Grant/Research Support, Medtronic, Grant/Research Support, GSK, Other Financial or Material Support, Internis, Grant/Research Support, Amgen, Grant/Research Support, Servier, Other Financial or Material Support, Lilly, Other Financial or Material Support, Merck, Grant/Research Support, UCB, Grant/Research Support, Hologic, Other Financial or Material Support, AstraZeneca, Grant/Research Support, I3 Innovus, Grant/Research Support, ActiveSignal, Consultant, UCB, Grant/Research Support, Unilever, Grant/Research Support
- SAT-0910** **Teriparatide accelerates proximal humerus fracture consolidation – the TERAFRAP study**
 Christian Muschitz*¹, Judith Haschka¹, Georg Langs², Markus Holzer², Andreas Baierl³, Christoph Pümpel¹, Zora Messner¹, Roland Kocijan¹, Xaver Feichtinger³, Rainer Mittermayr⁴, Jakob E. Schanda⁴, Thomas Hausner⁵, Robert Wakolbinger¹, Jochen Schmidfeld⁶, Christian Fialka⁴, Wolfgang Schima⁷, Heinrich Resch¹. ¹St. Vincent Hospital – Medical Department II – VINFORCE; Academic Teaching Hospital of the Medical University of Vienna, Stumpergasse 13, 1060 Vienna, Austria, ²Medical University of Vienna, Department of Biomedical Imaging and Image-guided Therapy, Computational Imaging Research Lab, Währinger Gürtel 18-20, 1090 Vienna, Austria, ³University of Vienna, Department of Statistics and Operations Research, Oskar-Morgenstern-Platz 1, 1090 Vienna, Austria, ⁴AUVA Trauma Center Meidling, Kundratstrasse 37, 1120 Vienna, Austria, ⁵AUVA Trauma Center Lorenz Böhler, Donaueschingenstraße 13, 1200 Vienna, Austria, ⁶Social Medicine Center East, Department of Traumatology, Langobardenstrasse 122, 1220 Vienna, Austria, ⁷St. Vincent Hospital – Department of Diagnostic and Interventional Radiology; Academic Teaching Hospital of the Medical University of Vienna, Stumpergasse 13, 1060 Vienna, Austria
Disclosures: Christian Muschitz, None
- SAT-0911** **Localization of Prefracture Lesions in Atypical Femoral Fracture on Straight and Bowed Femurs**
 Young Chang Park*¹, Kyu Hyun Yang². ¹International St. Mary's Hospital, Catholic Kwandong University College of Medicine, Republic of Korea, ²Yonsei University College of Medicine, Republic of Korea
Disclosures: Young Chang Park, None
- SAT-0913** **Persistence with Buffered Solution of Alendronate 70mg: Prospective Observational Study**
 Andrea Giusti*¹, Dennis M Black², Antonella Barone³, Josef Hruska⁴, Gerolamo Bianchi¹. ¹La Colletta Hospital, Italy, ²University of California San Francisco, United States, ³Galliera Hospital, Italy, ⁴EffRx Pharmaceuticals, Switzerland
Disclosures: Andrea Giusti, Labatec, Speakers' Bureau, Merck & Co, Consultant, EffRx Pharmaceuticals, Grant/Research Support, Internis Pharma, Speakers' Bureau, Chiesi, Consultant, Abiogen, Consultant
- SAT-0914** **Effect of Prevalent Vertebral Fractures on Incidental Vertebral Fractures and Low Back Pain During Bisphosphonate Treatment for Osteoporosis**
 Yuji Kasukawa*¹, Naohisa Miyakoshi¹, Toshihito Ebina², Michio Hongo¹, Koji Nozaka¹, Yoshinori Ishikawa¹, Hiroyuki Tsuchie¹, Daisuke Kudo¹, Yoichi Shimada¹. ¹Department of Orthopedic Surgery, Akita University Graduate School of Medicine, Japan, ²Department of Orthopedic Surgery, Kakunodate General Hospital, Japan
Disclosures: Yuji Kasukawa, None

- SAT-0915** **The impact of switching once-weekly teriparatide to denosumab in severe osteoporosis patients**
 Masayuki Miyagi*, Kosuke Murata, Tomohisa Koyama, Hisako Fujimaki, Koji Naruse, Gen Inoue, Masashi Takaso. Department of Orthopedic Surgery, Kitasato University School of Medicine, Japan
Disclosures: Masayuki Miyagi, None
- SAT-0916** **Effects of Intravenous Ibandronate among Patients with Insufficient Changes to Bone Resorption Markers after Oral Bisphosphonate Monotherapy**
 Naohisa Miyakoshi*¹, Yuji Kasukawa¹, Michio Hongo¹, Akira Horikawa², Yoichi Shimada¹.
¹Department of Orthopedic Surgery, Akita University Graduate School of Medicine, Japan,
²Igarashi Memorial Hospital, Japan
Disclosures: Naohisa Miyakoshi, None
- SAT-0917** **The Impact of Prior Bisphosphonate Treatment on Weekly Teriparatide for Severe Osteoporosis**
 Kosuke Murata*, Tomohisa Koyama, Sho Inoue, Masayuki Miyagi, Eiki Shirasawa, Shuichiro Tajima, Ayumu Kawakubo, Yui Uekusa, Hiroki Saito, Maho Tsuchiya, Yusuke Mimura, Masahiro Yoneda, Koji Naruse, Kentaro Uchida, Gen Inoue, Masashi Takaso. Department of Orthopedic Surgery, Kitasato University, School of Medicine, Japan
Disclosures: Kosuke Murata, None
- SAT-0918** **Denosumab was superior to teriparatide to improve bone mineral density in patients with rheumatoid arthritis; 18 months of follow-up**
 Tokutaro Okawa*¹, Motomi Okawa¹, Shuhei Ueno², Eri Narita², Tatsuya Koike². ¹Okawa Orthopaedic Surgery Hospital, Japan, ²Search Institute for Bone and Arthritis Disease, Shirahama Foundation for Health and Welfare, Japan
Disclosures: Tokutaro Okawa, None
- SAT-0919** **Comparative Analysis of new adjacent and remote fracture after vertebroplasty: survivorship analysis of 205 patients**
 Ye Soo Park*¹, Jaedong Kim¹, Jin-Sung Park², Woong Hwan Choi³. ¹Hanyang University Guri Hospital, Republic of Korea, ²Korea University Ansan Hospital, Republic of Korea, ³Hanyang University Hospital, Republic of Korea
Disclosures: Ye Soo Park, None
- SAT-0920** **The mechanical properties of human trabecular bone accompanying one to twenty years of bisphosphonate treatment.**
 David Pienkowski*, Constance Wood, Hartmut Malluche. University of Kentucky, United States
Disclosures: David Pienkowski, None
- SAT-0921** **Effectiveness of Monthly Intravenous Ibandronate Injections in a Real-World Setting: Subgroup Analysis of a Post-Marketing Observational Study**
 Yasuhiro Takeuchi*¹, Junko Hashimoto², Hiroyuki Kakihaya², Yosuke Nishida², Michiko Kumagai², Chiemi Yamagiwa². ¹Endocrine Center, Toranomon Hospital, Japan, ²Chugai Pharmaceutical Co. Ltd., Japan
Disclosures: Yasuhiro Takeuchi, Chugai, Daiichi-Sankyo, Teijin Pharma, Grant/Research Support, Chugai, Daiichi-Sankyo, Teijin Pharma, Asahikasei Pharma, Speakers' Bureau
- SAT-0922** **Pharmacogenomics study of denosumab**
 Victoria Ho-Yee Wong*, Vincent Ka-Fai Cheng, Grace Koon-Yee Lee, Ching-Lung Cheung. The University of Hong Kong, Hong Kong
Disclosures: Victoria Ho-Yee Wong, None

PARACRINE REGULATORS

- SAT-0962** **Beta 2 Adrenergic Receptor Gene Deletion Enhances Periosteal Response to Mechanical Stimulation in Senescent Male Mice**
 Sundar Srinivasan*, Dewayne Threet, Philippe Huber, Brandon Ausk, Leah Worton, Ron Kwon, Steve Bain, Ted Gross, Edith Gardiner. University of Washington, United States
Disclosures: Sundar Srinivasan, None

- SAT-0963** **Plasminogen is Critical for Bone Fracture Repair by Promoting the Functions of Mesenchymal Progenitors**
 Luqiang Wang*¹, Zhenqiang He², Duan Hao², Richard Mitteen³, Yanqing Gong⁴, Ling Qin¹. ¹Department of Orthopaedic Surgery, Perelman School of Medicine, University of Pennsylvania, United States, ²Division of Translational Medicine and Human Genetics, Perelman School of Medicine, University of Pennsylvania, United States, ³Radiation Oncology and Neurosurgery, Perelman School of Medicine, University of Pennsylvania, United States, ⁴Division of Translational MHuman Genetics, Perelman School of Medicine, University of Pennsylvania, United States
Disclosures: Luqiang Wang, None
- SAT-0964** **Racially determined, serum-mediated resistance to 25-hydroxyvitamin D induced innate immune responsivity in human macrophages**
 Rene Chun*¹, Carter Gottlieb¹, Kathryn Zavala¹, Albert Shieh¹, Andrea Salinas¹, Vahe Yacoubian¹, Samya Konda¹, Jefferey Wang¹, Martin Hewison², Philip Liu¹, John Adams³. ¹Department of Orthopaedic Surgery, UCLA, United States, ²Institute of Metabolism and Systems Research, University of Birmingham, United Kingdom. ³Departments of Orthopaedic Surgery and Molecular, Cell and Developmental Biology, UCLA, United States
Disclosures: Rene Chun, None
- SAT-0965** **WITHDRAWN**
- PRECLINICAL MODELS: NUTRITION AND PHARMACOLOGY**
- SAT-0973** **Strain-Specific Response of Inbred Mice to PTH Suggests Significant Genetic Control of the Bone Anabolic Response to Drug Therapy**
 Douglas Adams*¹, Olivia Hart², Renata Rydzik¹, Dana Godfrey², Michael Zuscik², Cheryl Ackert-Bicknell². ¹University of Connecticut, United States, ²University of Rochester, United States
Disclosures: Douglas Adams, None
- SAT-0974** **AZP-3404, a Short Peptide Derived from Insulin-like Growth Factor Binding Protein 2 (IGFBP-2), Ameliorates Metabolic Status and Trabecular Bone in Aged-Ovariectomized (OVX) Mice**
 Thomas Delale*¹, Stephane Milano¹, Victoria Demambro², David R Clemmons³, Clifford J Rosen², Thierry Aribat¹. ¹Alize pharma 3, France, ²Maine Medical Center, United States, ³NPT Inc, United States
Disclosures: Thomas Delale, None
- SAT-0975** **AZP-3404, a Short Peptide Derived from Insulin-like Growth Factor Binding Protein 2 (IGFBP-2), Improves Trabecular Bone in Ovariectomized (OVX) Mice**
 Thomas Delale*¹, Stephane Milano¹, David R Clemmons², Clifford J Rosen³, Thierry Aribat¹. ¹Alizé Pharma 3, France, ²NPT Inc, United States, ³Maine Medical Center, United States
Disclosures: Thomas Delale, None
- SAT-0976** **A Novel Bone Anabolic Conjugated Drug (C3) Can Rebuild Bone in an Ovariectomized (OVX) Rat Model: A Novel Approach for Reversing Osteoporotic Bone Loss**
 Marc Grynepas*¹, Zeeshan Sheikh², Robert Young³. ¹Sinai Health System, Canada, ²University of Toronto, Canada, ³Simon Fraser University, Canada
Disclosures: Marc Grynepas, None
- SAT-0977** **Abaloparotide is as Effective as PTH (1-34) in Improving Bone Formation While PTHrP (1-36) Has Less Effect in Mice.**
 Carole Le Henaff*¹, Florante Ricarte², Zhiming He¹, Joshua Johnson¹, Johanna Warshaw¹, Nicola Partridge¹. ¹New York University, college of dentistry, United States, ²Molecular Pharmacology Training Program, Sackler Institute of Graduate Biomedical Sciences, United States
Disclosures: Carole Le Henaff, None

- SAT-0978** **Vanadyl Acetylacetonate Increases Bone Formation and Inhibits Osteoclast Differentiation in a Diabetes-Related Osteoporotic Rat Model**
 Jayenth Mayur*¹, Anthony Lin¹, Maximilian Muñoz¹, Kevin Mesina¹, Atharva Dhole¹, Savannah Roy¹, Daniel Coban¹, Suleiman Sudah², Joseph Benevenia¹, Jessica Cottrell³, David Paglia¹, Sheldon Lin¹. ¹Rutgers New Jersey Medical School, United States, ²Robert Wood Johnson Medical School, United States, ³Seton Hall University, United States
Disclosures: Jayenth Mayur, None
- SAT-0979** **Low-intensity Pulsed Ultrasound (LIPUS) Prevents Development of BRONJ-like Pathophysiology in Rat Alveolar Bone Defect Induced by Tooth Removal after Alendronate and Porphyromonas Gingivalis Challenges**
 Kouki Hidaka*¹, Yuko Mikuni-Takagaki¹, Satoko Wada-Takahashi¹, Makiko Saita², Ryota Kawamata³, Takenori Sato¹, Akira Kawata¹, Chihiro Miyamoto¹, Yojiro Maehata¹, Hiroataka Watabe², Nobuyuki Tani-Ishii², Nobuhiro Hamada¹, Shun-Suke Takahashi¹, Shinji Deguchi⁴, Ryohei Takeuchi⁵. ¹Kanagawa Dental University, Graduate School of Dentistry, Department of Oral Science, Japan, ²Kanagawa Dental University, Graduate School of Dentistry, Department of Oral Interdisciplinary Medicine, Japan, ³Kanagawa Dental University, Graduate School of Dentistry, Department of Dentomaxillofacial Diagnosis and Treatment, Japan, ⁴Professor Emeritus, Kanagawa Dental University, Japan, ⁵Yokosuka City Hospital, Department of Joint Surgery, Japan
Disclosures: Kouki Hidaka, None
- SAT-0980** **A Novel Cathepsin K Inhibitor Specifically Approaching Bone Resorption Surface to Suppress Osteoclastic Bone Resorption**
 Xiaohao Wu*, Jun Lu, Jin Liu, Lei Dang, Aiping Lu, Ge Zhang. Hong Kong Baptist University, Hong Kong
Disclosures: Xiaohao Wu, None
- SAT-0981** **Allosteric or ectosteric inhibition of cathepsin K by an exosite inhibitor**
 Simon Law*, Dieter Bromme. University of British Columbia, Canada
Disclosures: Simon Law, None
- SAT-0982** **Pharmacokinetic Models for Bisphosphonate-Conjugated Drugs**
 Jayesh Shah*¹, Frank H. Ebetino², Lianping Xing³, Robert Boeckman³, Shuting Sun², Parish Sedghizadeh⁴, Michael T Yin¹, Suzanne Lentzsch¹, Graham Russell⁵, Serge Cremers¹. ¹Columbia University Medical Center, United States, ²Biovinc, United States, ³University of Rochester, United States, ⁴University of Southern California, United States, ⁵University of Oxford, United Kingdom
Disclosures: Jayesh Shah, None
- SAT-0983** **Calcilytic, the calcium-sensing receptor antagonist, enhances bone remodeling and increases bone mineral density without increasing urinary calcium excretion**
 Bingzi Dong*¹, Itsuro Endo², Yukiyo Ohnishi², Zhengju Fu¹, Toshio Matsumoto³, Yangang Wang¹. ¹Department of Endocrinology and Metabolism, the Affiliated Hospital of Qingdao University, Qingdao, China, ²Department of Hematology, Endocrinology and Metabolism, Tokushima University Graduate School of Medical Sciences, Japan, ³Fujii Memorial Institute of Medical Sciences, Tokushima University, Japan
Disclosures: Bingzi Dong, None
- SAT-0984** **Influence of Vitamin D Restriction on Bone Strength, Body Composition, and Muscle in Ovariectomized Rats Fed a High-fat Diet**
 Kanae Nakaoka*, Asako Yamada, Seiko Noda, Masae Goseki-Sone. Japan Women's University, Japan
Disclosures: Kanae Nakaoka, None

- SAT-0985** **Propranolol administration has a non-statistically significant positive effect on the osseointegration procedure of stainless steel implants. An experimental study in rats**
Marinos Karanassos*¹, Kyriakos Papavasiliou², Ioannis Mirisidis³, Ioannis Margaritis⁴, Ioannis Sarris², Pericles Papadopoulos⁵, Dimosthenis Tsitouras², Dimitrios Tsatsalis², Fares Sayegh². ¹2nd Dept. of Orthopaedics and Trauma Surgery, 424 General Military Hospital, Thessaloniki, Greece, ²3rd Orthopaedic dept., Aristotle University of Thessaloniki, Papageorgiou General Hospital, Thessaloniki, Greece, ³Dept. of Mechanical Engineering, University of Western Macedonia, Kozani, Greece, ⁴Laboratory of Physiology, Faculty of Veterinary Medicine, School of Health Sciences, Aristotle University of Thessaloniki, Greece, ⁵1st Orthopaedic dept., Aristotle University of Thessaloniki, Papanikolaou General Hospital, Thessaloniki, Greece
Disclosures: Marinos Karanassos, None
- SAT-0986** **Intra-Articular Monosodium Iodoacetate Induced Knee Osteoarthritis: Effects on Bone as Measured by Micro-Computed Tomography in Rats**
Jukka Vaaraniemi*, Jukka Morko, Jaakko Lehtimäki, Zhiqi Peng, Jussi M Halleen. Pharmatest Services Ltd, Finland
Disclosures: Jukka Vaaraniemi, None
- SAT-0987** **Effect of Age and Dietary Phosphorus Intake on Phosphorus Regulatory Hormones and Intestinal Phosphate Transporter Gene Expression**
Colby Vorland*¹, Loretta Aromeh², Pamela Lachcik¹, Sharon Moe², Neal Chen², Kathleen Hill Gallant¹. ¹Department of Nutrition Science, Purdue University, United States, ²Division of Nephrology, Department of Medicine, Indiana University School of Medicine, United States
Disclosures: Colby Vorland, None
- SAT-0988** **Effects of selective estrogen receptor modulator and low-intensity aerobic exercise on bone and fat parameters in ovariectomized rats**
Yusuke Yuasa*, Naohisa Miyakoshi, Yuji Kasukawa, Itsuki Nagahata, Manabu Akagawa, Yuichi Ono, Chiaki Sato, Yoichi Shimada. Department of Orthopedic Surgery, Akita University Graduate School of Medicine, Japan
Disclosures: Yusuke Yuasa, None

RARE BONE DISEASES: CLINICAL

- SAT-1019** **[18F]NaF PET/CT can identify a silent “chronic” state of Fibrodysplasia Ossificans Progressiva**
Esmée Botman*¹, Pieter Raijmakers², Maqsood Yaqub², Bernd Teunissen², Coen Netelenbos¹, Lothar Schwarte³, Wouter Lubbers³, Adriaan Lammertsma², Marelise Eekhoff¹. ¹Department of Internal Medicine, section Endocrinology, Netherlands, ²Department of Nuclear Medicine and Radiology, Netherlands, ³Department of anesthesiology, Netherlands
Disclosures: Esmée Botman, None
- SAT-1020** **Sustained Efficacy and Safety of Burosumab, an Anti-FGF23 Monoclonal Antibody, for 88 Weeks in Children and Early Adolescents with X-Linked Hypophosphatemia (XLH)**
Thomas O. Carpenter*¹, Wolfgang Högl², Erik Imel³, Anthony A. Portale⁴, Annemieke Boot⁵, Agnès Linglart⁶, Raja Padidela⁷, William Van’T Hoff⁸, Gary S. Gottesman⁹, Meng Mao¹⁰, Alison Skrinar¹⁰, Javier San Martin¹⁰, Michael P. Whyte⁹. ¹Yale University School of Medicine, United States, ²Birmingham Children’s Hospital, United Kingdom, ³Indiana University School of Medicine, United States, ⁴University of California, San Francisco, United States, ⁵University of Groningen, Netherlands, ⁶APHP Hôpital Bicêtre Paris Sud, France, ⁷Royal Manchester Children’s Hospital, United Kingdom, ⁸Great Ormond Street Hospital, United Kingdom, ⁹Shriners Hospitals for Children, United States, ¹⁰Ultragenyx Pharmaceutical Inc., United States
Disclosures: Thomas O. Carpenter, Ultragenyx Pharmaceutical Inc., Consultant, Ultragenyx Pharmaceutical Inc., Other Financial or Material Support, Ultragenyx Pharmaceutical Inc., Grant/Research Support

- SAT-1021** **In a Randomized, Placebo-Controlled Trial Of Teriparatide (TPTD) For Premenopausal Idiopathic Osteoporosis (IOP), Tissue-Level Bone Formation Rate at Baseline and 3 Months Predicts Bone Density Response**
 Adi Cohen^{*1}, Stephanie Shiau², Nandini Nair¹, John Williams¹, Robert Recker³, Joan Lappe³, David Dempster¹, Hua Zhou⁴, Mafo Kamanda-Kosseh¹, Mariana Bucovsky¹, Julie Stubby³, Elizabeth Shane¹. ¹Columbia University Medical Center, United States, ²Mailman School of Public Health, United States, ³Creighton University Medical Center, United States, ⁴Helen Hayes Hospital, United States
Disclosures: Adi Cohen, None
- SAT-1022** **ASBMR 2018 Annual Meeting Young Investigator Award**
Age-related Changes and the Effect of Bisphosphonates on Bone Turnover and Disease Progression in Fibrous Dysplasia of Bone
 Pablo Florenzano^{*1,2}, Kristen S Pan^{1,3}, Sydney M Brown¹, Lori C Guthrie¹, Luis Fernandez De Castro¹, Michael T Collins¹, Alison M Boyce¹. ¹Skeletal Diseases and Mineral Homeostasis Section, National Institute of Dental and Craniofacial Research, National Institutes of Health., United States, ²Department of Endocrinology, School of Medicine, Pontificia Universidad Catolica de Chile., United States, ³NIH Medical Research Scholars Program (MRSP), United States
Disclosures: Pablo Florenzano, None
- SAT-1023** **Trabecular Bone Score in Osteogenesis Imperfecta. Is it useful?**
 Helena Florez^{*1}, Africa Muxi², Eva Gonzalez³, Ana Monegal¹, Núria Guañabens¹, Pilar Peris¹. ¹Metabolic Bone Diseases Unit, Department of Rheumatology. Hospital Clinic. University of Barcelona, Spain, ²Department of Nuclear Medicine. Hospital Clinic, University of Barcelona, Spain, ³Department of Immunology. Hospital Clinic, University of Barcelona, Spain
Disclosures: Helena Florez, None
- SAT-1024** **Achondroplasia Natural History: a Large, Ongoing Multi-Center Cohort Study**
 Julie Hoover-Fong^{*1}, Michael Bober², Syed Hashmi³, Jacqueline Hecht³, Janet Legare⁴, Mary Ellen Little², John Mcgready¹, Peggy Modaff², Richard Pauli⁴, David Rodriguez-Buritica³, Kerry Schulze¹, Elena Serna³, Cory Smid⁴, Adekemi Alade¹. ¹Johns Hopkins University, United States, ²AI duPont Hospital for Children, United States, ³University of Texas, United States, ⁴University of Wisconsin, United States
Disclosures: Julie Hoover-Fong, BioMarin, Consultant
- SAT-1025** **The Effect of Burosumab (KRN23), a Fully Human Anti-FGF23 Monoclonal Antibody, on Osteomalacia in Adults with X-Linked Hypophosphatemia (XLH)**
 Karl L. Insogna^{*1}, Frank Rauch², Peter Kamenický³, Nobuaki Ito⁴, Takuo Kubota⁵, Akie Nakamura⁶, Lin Zhang⁷, Matt Mealiffe⁷, Javier San Martin⁷, Anthony A. Portale⁸. ¹Yale School of Medicine, United States, ²McGill University, Canada, ³Université Paris-Sud, France, ⁴University of Tokyo Hospital, Japan, ⁵Osaka University Hospital, Japan, ⁶Hokkaido University Hospital, Japan, ⁷Ultragenyx Pharmaceutical Inc., United States, ⁸University of California, San Francisco, United States
Disclosures: Karl L. Insogna, Ultragenyx Pharmaceutical Inc., Grant/Research Support, Ultragenyx Pharmaceutical Inc., Other Financial or Material Support, Ultragenyx Pharmaceutical Inc., Consultant
- SAT-1026** **An overview of the etiology, clinical manifestations, management strategies and complications of hypoparathyroidism from the Canadian National Hypoparathyroidism Registry**
 Rafik El Werfalli^{*}, Yasser Hakami, Manoela Braga, Adam Millar, Zubin Punthakee, Farhan Tariq, J.E.M. Young, Aliya Khan. McMaster University, Canada
Disclosures: Rafik El Werfalli, None
- SAT-1027** **Bone Remodeling and Bone Mass in Patients with Hypophosphatasemia**
 Laura Lopez-Delgado^{*1}, Leyre Riancho-Zarrabeitia², Maite Garcia-Unzueta¹, Carmen Valero^{1,3}, Jair Tenorio⁴, Marta Garcia-Hoyos¹, Pablo Lapunzina⁴, Jose A. Riancho^{1,3}. ¹Hospital UM Valdecilla, Spain, ²Hospital Sierrallana, Spain, ³Univ Cantabria, IDIVAL, Spain, ⁴Institute of Medical and Molecular Genetics, Spain
Disclosures: Laura Lopez-Delgado, None

- SAT-1028 ASBMR 2018 Annual Meeting Young Investigator Award**
Clinical Features of Patients with Tumoral Calcinosis: The Mayo Clinic Experience
 Jad Sfeir*, Kurt Kennel, Matthew Drake. Mayo Clinic, United States
Disclosures: Jad Sfeir, None
- SAT-1029 Clinical features of Sternocostoclavicular Hyperostosis: a large Single Center Dutch Cohort**
 Ashna Ramautar*, Natasha Appelman-Dijkstra, Shannon Lakerveld, Pieter Valkema, Marieke Snel, Marielle Schroijen, Liesbeth Winter, Neveen Hamdy. LUMC, Netherlands
Disclosures: Ashna Ramautar, None
- SAT-1030 Joint Replacement Procedures in Individuals with Skeletal Dysplasias**
 Kate Citron*, Sobiah Khan, Erin Carter, Mathias Bostrom, Mark Figgie, Cathleen Raggio. Hospital for Special Surgery, United States
Disclosures: Kate Citron, None
- SAT-1031 Introgenic Osteosclerosis in Osteogenesis Imperfecta**
 Vandana Dhiman*¹, Anshita Aggarwal², Nirmal G Raj³, Ruban Dhaliwal⁴, Sanjay Kumar Bhadada⁵, Naresh Sachdeva⁵, Sudhaker D Rao⁶. ¹PhD student, India, ²DM Resident, India, ³Additional Professor, India, ⁴Assistant Professor, United States, ⁵Professor, India, ⁶Professor, United States
Disclosures: Vandana Dhiman, None
- SAT-1032 Childhood Hypophosphatasia: Painful Bone Marrow Edema Mimicking Chronic Recurrent Multifocal Osteomyelitis Improved After Three Months of Asfotase Alfa Enzyme Replacement Therapy**
 Gary S Gottesman*¹, Deborah Wenkert¹, William H Mcalister², Geetika Khanna², Karen Mack¹, Steven Mumm², Michael P Whyte¹. ¹Shriners Hospital for Children - St. Louis, United States, ²Washington University School of Medicine, United States
Disclosures: Gary S Gottesman, None
- SAT-1033 A case report of the novel use of asfotase alfa to improve outcomes after spinal surgery for dystrophic scoliosis related to neurofibromatosis type 1**
 Tasma Harindhanavudhi*¹, Takashi Takahashi¹, Anna Petryk², David Polly¹. ¹University of Minnesota, United States, ²Alexion Pharmaceuticals, United States
Disclosures: Tasma Harindhanavudhi, Alexion Pharmaceuticals, Grant/Research Support
- SAT-1034 A novel TRPS1 mutation in a patient with tricho-rhino-phalangeal syndrome provides further support for the importance of this zinc-finger transcription factor in skeletal development**
 Anara Karaca*¹, Lauren Toyomi Shumate¹, Monica Reyes¹, Isilay Taskaldiran², Tulay Omma², Nese Ersoz Gulcelik³, Murat Bastepe¹. ¹Endocrine Unit, Massachusetts General Hospital and Harvard Medical School, United States, ²Ankara Training and Research Hospital, Endocrinology, Turkey, ³University of Health Sciences, Gulhane Training Hospital, Turkey
Disclosures: Anara Karaca, None
- SAT-1035 Brick Syndrome Variant Lacking Congenital Contractures Due To Novel Compound Heterozygous PLOD2 Mutations**
 Steven Mumm*¹, Gary S. Gottesman², Philippe M. Campeau³, Angela Nenninger², Margaret Huskey¹, Vinieth N. Bijanki², Deborah J. Veis¹, Aileen Barnes⁴, Joan C. Marini⁴, Deborah Wenkert², William H. Mcalister⁵, Michael P. Whyte². ¹Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine, United States, ²Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States, ³Department of Pediatrics, University of Montreal, Canada, ⁴National Institute of Child Health and Human Development, NIH, United States, ⁵Mallinckrodt Institute of Radiology, Washington University School of Medicine at St. Louis Children's Hospital, United States
Disclosures: Steven Mumm, None

- SAT-1036** **Prevalence of Hypophosphatasia in a Reference Hospital in Granada (Spain)**
 Manuel Muñoz-Torres*¹, Cristina García Fontana², Juan Miguel Villa Suarez³, Francisco Andújar-Vera², José María Gómez Vida⁴, Tomás De Haro³, Beatriz García-Fontana García-Fontana⁵. ¹Endocrinology and Nutrition Unit. University Hospital San Cecilio. Department of Medicine. University of Granada. Biomedical Research Institute of Granada. (ibs GRANADA), Spain, ²Biomedical Research Institute of Granada. (ibs GRANADA), Spain, ³Clinical Analyses Unit. University Hospital San Cecilio., Spain, ⁴Pediatric Unit. University Hospital San Cecilio, Spain, ⁵Endocrinology and Nutrition Unit. University Hospital San Cecilio. Biomedical Research Institute of Granada. (ibs GRANADA).CIBERFES. ISCIII., Spain
Disclosures: Manuel Muñoz-Torres, None
- SAT-1037** **Asfotase Alfa: Interference with ALP-detection systems in immunoassays**
 Isabelle Piec*, Beatrice Thompkins, William D. Fraser. University of East Anglia, United Kingdom
Disclosures: Isabelle Piec, Alexion Pharmaceuticals, Inc., Grant/Research Support
- SAT-1038** **Hypophosphatasia: Clinical Presentation**
 Jay R Shapiro*. Uniformed Services University of the Health Sciences, United States
Disclosures: Jay R Shapiro, None
- SAT-1070** **Utility of Optical Coherence Tomography in the Diagnosis of Optic Neuropathy in Fibrous Dysplasia of Bone**
 Kristen S Pan *¹, Alison M Boyce¹, Edmond J Fitzgibbon², Michael T Collins¹, Janice S Lee³. ¹Skeletal Disorders and Mineral Homeostasis Section, National Institute of Dental and Craniofacial Research, National Institutes of Health, United States, ²Laboratory of Sensorimotor Research, National Eye Institute, National Institutes of Health, United States, ³Office of the Clinical Director, National Institute of Dental and Craniofacial Research, National Institutes of Health, United States
Disclosures: Kristen S Pan , None
- RARE BONE DISEASES: TRANSLATIONAL**
- SAT-1077** **Mechanisms Underlying Increased Osteoclastogenesis in the Mouse Model of Osteogenesis Imperfecta Due to Mutation in Collagen Type I**
 Iris Boraschi*¹, Eréne C Niemi², Frank Rauch¹, Mary Nakamura², Svetlana Komarova¹. ¹Shriners Hospital-Canada/ McGill University, Canada, ²University of San Francisco California, United States
Disclosures: Iris Boraschi, None
- SAT-1078** **An antibody against ALK2 extracellular domain reveals a role of dimer formation for signal activation**
 Takenobu Katagiri*¹, Shinnosuke Tsuji², Sho Tsukamoto¹, Mai Kuratani¹, Satoshi Ohte¹, Kiyosumi Takaishi^{2,3}, Yoshihiro Kawaguchi⁴, Jun Hasegawa⁴. ¹Division of Pathophysiology, Research Center for Genomic Medicine, Saitama Medical University, Japan, ²Rare Disease & LCM Laboratories, R&D Division, Daiichi-Sankyo Co., Ltd., Japan, ³Kensuke Nakamura, Modality Research Laboratories, Biologics Division, Daiichi-Sankyo Co., Ltd., Japan, ⁴Modality Research Laboratories, Biologics Division, Daiichi-Sankyo Co., Ltd., Japan
Disclosures: Takenobu Katagiri, Daiichi-Sankyo Co., Ltd., Grant/Research Support
- SAT-1079** **Activation of the pro-fibrotic TGFβ pathway contributes to the multiorgan dysfunctions in the CLCN7-dependent ADO2**
 Antonio Maurizi*, Mattia Capulli, Anna Curle, Rajvi Patel, Nadia Rucci, Anna Teti. University of L'Aquila, Italy
Disclosures: Antonio Maurizi, None
- SAT-1080** **Autologous Regulatory T Cell Transplantation Enhances Bone Repair in a Mouse Model of Osteogenesis Imperfecta**
 Meenal Mehrotra*, Inhong Kang, Shilpak Chatterjee, Uday Baliga, Shikhar Mehrotra. Medical University of South Carolina, United States
Disclosures: Meenal Mehrotra, None

- SAT-1081** **BMP signaling and BMPR dynamics and interactions are restrained by cell surface heparan sulfate, a mechanism likely altered in Hereditary Multiple Exostoses**
Christina Mundy*, Evan Yang, Paul Billings, Hajime Takano, Maurizio Pacifici. The Children's Hospital of Philadelphia, United States
Disclosures: Christina Mundy, None
- SAT-1082** **Gene expression profiling of sclerostin antibody-induced therapeutic response in growing Brl/+ mouse model of osteogenesis imperfecta**
Hsiao Hsin Sung*^{1,2,3}, Rachel Surowiec^{3,4}, Rebecca Falzon³, Lauren Battle³, Chris Stephan³, Michelle S. Caird³, Kenneth M. Kozloff^{3,4}. ¹RIMLS, Department of Rheumatology, Radboudumc, The Netherlands, ²Department of Oral and Maxillofacial Surgery, University of Michigan, United States, ³Department of Orthopaedic Surgery, University of Michigan, United States, ⁴Biomedical Engineering, University of Michigan, United States
Disclosures: Hsiao Hsin Sung, None
- SAT-1083** **FGF23 Regulates Wnt/ β -catenin Signaling-mediated Osteoarthritis in Mice Overexpressing High Molecular Weight FGF2**
Patience Meo Burt*, Liping Xiao, Marja Hurley. UConn Health, United States
Disclosures: Patience Meo Burt, None
- SAT-1084** **Microarray Expression Profile Analysis and its Clinical Implication for the Treatment of Fibrogenesis Imperfecta Ossium**
Sanjay Kumar Bhadada*¹, Vandana Dhiman², Ruban Dhaliwal³, Anil Bhansali¹, Wim Van Hul⁴, Sudhaker D Rao⁵. ¹Professor, India, ²PhD student, India, ³Assistant Professor, United States, ⁴Professor, Belgium, ⁵Professor, United States
Disclosures: Sanjay Kumar Bhadada, None
- SAT-1085** **Whole-cell proteomic profiling of osteoclasts from a mouse model for craniometaphyseal dysplasia**
Jitendra Kanaujia*¹, Jeremy Balsbaugh², Ernst Reichenberger¹, I-Ping Chen¹. ¹University of Connecticut Health, United States, ²University of Connecticut, United States
Disclosures: Jitendra Kanaujia, None
- SAT-1086** **Lack of mature collagen-links is associated with osteomalacia in patients with X-linked hypophosphatemia**
Nadja Fratzl-Zelman*¹, Stamatia Rokidi¹, Stéphane Blouin¹, Pia Plasenzotti², Kamilla Nawrot-Wawrzyniak¹, Katharina Roetzer³, Goekhan Uyanik³, Gabriele Haeusler⁴, Klaus Klaushofer¹, Peter Fratzl⁵, Eleftherios Paschalis¹, Paul Roschger¹, Elisabeth Zwettler^{1,6}. ¹Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK and AUVA Trauma Centre Meidling, 1st Medical Department Hanusch Hospital, Austria, ²1st Medical Department, Hanusch-Hospital, Austria, ³Center for Medical Genetics, Hanusch-Hospital, Austria, ⁴Department of Pediatrics, Medical University of Vienna, Austria, ⁵Max Planck Institute of Colloids and Interfaces, Department of Biomaterials, Germany, ⁶Medical Directorate, Hanusch-Hospital, Austria
Disclosures: Nadja Fratzl-Zelman, None
- SAT-1087** **Patient with resistant oliostotic Paget relapsed after discontinuing long time olpadronate oral treatment. A case-report of protracted drug exposition**
Claudia Gomez Acotto*¹, Susana Moggia¹, Emilio Roldán². ¹Maimonides Univ., Argentina, ²Scientific Direction Gador S.A., Argentina
Disclosures: Claudia Gomez Acotto, None

SAT-1088 Exome sequencing identifies novel variants in GATA3 and MAFA genes associated with isolated hypoparathyroidism in Korean population
Ji Hyun Lee^{*1,2}, Taekyeong Yoo³, Jung Hee Kim¹, Hyung Jin Choi⁴, Kyung Sil Chae¹, A Ram Hong⁵, Sang Wan Kim⁵, Murim Choi³, Chan Soo Shin¹. ¹Department of Internal Medicine, Seoul National University College of Medicine, Republic of Korea, ²Department of Internal Medicine, VHS Medical Center, Republic of Korea, ³Department of Biomedical Sciences, Seoul National University College of Medicine, Republic of Korea, ⁴Department of Anatomy, Seoul National University College of Medicine, Republic of Korea, ⁵Department of Internal Medicine, Seoul National University College of Medicine, Boramae Medical Center, Republic of Korea
Disclosures: Ji Hyun Lee, None

SAT-1089 Molecular Characterization of a Complex Mosaicism in Supernumerary Ring Chromosome 6 Involving Bone-Related Factors in a Proband
Yang Lou^{*1}, Lauren Hurd², John A. Wixted³, Jonathan A.R. Gordon⁴, Katrina A. Conard⁵, Micheal B. Bober², Jane B. Lian⁶. ¹University of Massachusetts Medical School, United States, ²Department of Biomedical Research, Alfred I. duPont Hospital for Children, United States, ³University of Massachusetts Medical Center School, United States, ⁴Department of Biochemistry, University of Vermont, United States, ⁵Department of Pathology, Alfred I. duPont Hospital for Children, United States, ⁶Department of Biochemistry, University of Vermont Medical School, United States
Disclosures: Yang Lou, None

SAT-1090 Lithium-mediated effects on vertebral bone formation in mucopolysaccharidosis I dogs during postnatal growth
Sun Peck^{*}, Yian Khai Lau, Justin Bendigo, Megan Lin, Toren Arginteanu, Jessica Bagel, Patricia O'Donnell, Neil Malhotra, Peter Klein, Eileen Shore, Margret Casal, Lachlan Smith. University of Pennsylvania, United States
Disclosures: Sun Peck, None

SARCOPENIA, MUSCLE AND FALLS

**SAT-1118 ASBMR 2018 Annual Meeting Young Investigator Award
Three months of vitamin D3, 2,800 IU/d has an unfavorable effect on muscle strength and physical performance in vitamin D insufficient, hyperparathyroid women – a randomized placebo controlled trial**
Lise Sofie Bislev^{*1}, Lene Langagergaard Rødbro¹, Lars Rolighed², Tanja Sikjaer¹, Lars Rejnmark¹. ¹Department of Endocrinology and Internal Medicine, Denmark, ²Department of surgery, Denmark
Disclosures: Lise Sofie Bislev, None

SAT-1119 Analyzing Fall Risk using Smart Phone Application in Subjects with Osteoporosis with and without Falls
Krupa Doshi^{*1}, Seong Moon², Michael Whitaker¹, Thurmon Lockhart². ¹Mayo Clinic, AZ, United States, ²Arizona State University, United States
Disclosures: Krupa Doshi, None

SAT-1120 Genetic Basis of Falling Risk Susceptibility
Katerina Trajanoska^{*1}, Felix Day², Carolina Medina-Gomez¹, Andre G. Uitterlinden¹, John Perry², Fernando Rivadeneira¹. ¹Department of Internal Medicine, Erasmus Medical Center, Rotterdam, The Netherlands, Netherlands, ²MRC Epidemiology Unit, University of Cambridge School of Clinical Medicine, Cambridge, United Kingdom
Disclosures: Katerina Trajanoska, None

- SAT-1121** **Effects of Music-based Multitask Exercise (Jaques-Dalcroze Eurhythmics) versus Multicomponent Exercise on Physical Function, Falls and Brain Plasticity in Older Adults: A Randomized Controlled Trial**
 Mélanie Hars*¹, Natalia Fernandez², François Herrmann³, René Rizzoli¹, Gabriel Gold³, Patrik Vuilleumier², Andrea Trombetti¹. ¹Division of Bone Diseases, Department of Internal Medicine Specialties, Geneva University Hospitals and Faculty of Medicine, Switzerland, ²Laboratory for Behavioural Neurology and Imaging of Cognition, Campus Biotech, University of Geneva, Switzerland, ³Division of Geriatrics, Department of Internal Medicine, Rehabilitation and Geriatrics, Geneva University Hospitals and Faculty of Medicine, Switzerland
Disclosures: Mélanie Hars, None
- SAT-1122** **Effect of Vitamin D3 supplementation on muscle strength in HIV+ postmenopausal women**
 Michael Yin*¹, Mariana Bucovsky¹, John Williams¹, Danielle Brunjes¹, Arindam Roychoudhury², Ivelisse Colon¹, David Ferris³, Susan Olender¹, P.Christian Schulz⁴, Anjali Sharma⁵, Cosmina Zeana³, Barry Zingman⁵, Elizabeth Shane¹. ¹Columbia University Medical Center, United States, ²Weill Cornell Medical College, United States, ³BronxCare Health System, United States, ⁴University Hospital Jena, Germany, ⁵Albert Einstein College of Medicine and Montefiore Medical Center, United States
Disclosures: Michael Yin, None
- SAT-1123** **Associations between Educational Attainment and Operational Definitions of Sarcopenia: Data Spanning Six Years from the Tasmanian Older Adult Cohort**
 Sharon Brennan-Olsen*^{1,2}, Sara Vogrin^{1,2}, Saliu Balogun³, David Scott⁴, Graeme Jones³, Alan Hayes⁵, Steven Phu¹, Gustavo Duque¹, Tania Winzenberg³. ¹University of Melbourne, Australia, ²Australian Institute for Musculoskeletal Science, Australia, ³University of Tasmania, Australia, ⁴Monash University, Australia, ⁵Victoria University, Australia
Disclosures: Sharon Brennan-Olsen, None
- SAT-1124** **Sex- and age-related changes in body composition among population-based healthy Chinese in Taiwan**
 Yi-Chien Lu*¹, Wing P. Chan¹, Ying Chin Lin², Ing-Jy Tseng³. ¹Department of Radiology, Wan Fang Hospital, Taipei Medical University, Taiwan, ²Shuang Ho Hospital, Taipei Medical University, Taiwan., Taiwan, ³School of Gerontology Health Management, College of Nursing, Taipei Medical University, Taiwan
Disclosures: Yi-Chien Lu, None
- SAT-1125** **Association of bone mineral density and appendicular lean mass with fracture risk assessed by FRAX for postmenopausal women in the north part of China.**
 Dr Dongmei*. The Second Affiliated hospital of Inner Mongolia Medical University, China
Disclosures: Dr Dongmei, None
- SAT-1126** **Osteosarcopenia phenotype and frailty status by CHS and SOF Criteria**
 Alberto Frisoli*, Angela Paes, Sheila Inghan, Antonio Carlos De Camargo Carvalho. Federal University of Sao Paulo, Brazil
Disclosures: Alberto Frisoli, None
- SAT-1127** **Integrated Women's Health Programme (IWHP): A cross-sectional study of prevalence & correlates for sarcopenia in midlife Singaporean women**
 Win Pa Pa Thu*¹, Susan Jane Sinclair Logan¹, E.L Yong¹, Jane A. Cauley². ¹Department of Obstetrics & Gynaecology, National University of Singapore, Singapore, ²Department of Epidemiology, Graduate School of Public Health, University of Pittsburgh, United States
Disclosures: Win Pa Pa Thu, None

LATE-BREAKING POSTERS I

12:30 pm - 2:30 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

ADULT METABOLIC BONE DISORDERS

LB SAT - 1147 Exploration of an epidemiological association between air pollutant exposure and the development of T2DM. A systematic review.

Marilena Marzia*. Freelance Professional Nutritionist, Italy
Disclosures: Marilena Marzia, None

BIOMECHANICS AND BONE QUALITY

LB SAT - 1150 Distribution of Stress on the Distal Femur in Advanced Osteoarthritis

Kwangkyoun Kim*. Konyang University, Republic of Korea
Disclosures: Kwangkyoun Kim, None

LB SAT - 1151 Atypical Femur Fractures: Influence of the Femoral Neck Shaft Angle and Lateral Bowing on Maximum Principal Strains within the Femur

Michael Reimeringer^{*1}, Natalia Nuno¹, Suzanne Morin². ¹Laboratoire de recherche en imagerie et orthopédie, École de technologie supérieure, Canada, ²Department of Medicine, McGill University, Canada
Disclosures: Michael Reimeringer, None

LB SAT - 1152 Strength of Vertebral Bodies with Metastatic Lesions Can be Assessed by Finite Element Analysis

Marc Stadelmann^{*1}, Christopher Lenherr¹, Benjamin Voumard¹, Ghislain Maquer¹, Jasmin Wandel², Ron Alkalay³, Philippe Zysset¹. ¹University of Bern, Switzerland, ²Bern University of Applied Sciences, Switzerland, ³Harvard Medical School, United States
Disclosures: Marc Stadelmann, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS

LB SAT - 1157 Sleep Duration and Timing Predicts Bone Mineral Density Among Adolescents

Jonathan Mitchell^{*1}, David Dinges², Knashawn Morales², Nicholas Huffnagle¹, Struan Grant¹, Babette Zemel¹. ¹Children's Hospital of Philadelphia, United States, ²University of Pennsylvania, United States
Disclosures: Jonathan Mitchell, None

BONE INTERACTIONS WITH MUSCLE AND OTHER TISSUES

LB SAT - 1160 Rescuing age-associated decline in muscle mass by inhibition of the receptor for advanced glycosylation end products, RAGE

Alyson Essex^{*1,2}, Hannah Davis^{1,2}, Fabrizio Pin^{2,3}, Lilian Plotkin^{1,2,4}, Andrea Bonetto^{1,2,3}. ¹Department of Anatomy & Cell Biology, Indiana University School of Medicine, ²Indiana Center for Musculoskeletal Health, United States, ³Department of Surgery, Indiana University School of Medicine, ⁴Roudebush Veterans Administration Medical Center, United States
Disclosures: Alyson Essex, None

LB SAT - 1163 Short-Term Intermittent PTH (1-34) Administration, Angiogenesis, and Matrix Metalloproteinase-9 in Femora of Mature and Middle-Aged C57BL/6 Mice

Seungyong Lee*, Rhonda Prisby. The University of Texas at Arlington, United States
Disclosures: Seungyong Lee, None

BONE TUMORS AND METASTASIS

LB SAT - 1164 Bone metastatic growth was not inhibited by anti-PD-1 blockage in a humanized mouse model of triple-negative breast cancer – difference in responses between primary and bone metastatic tumors

Tiina E Kähkönen*¹, Mari I Suominen¹, Jenni Mäki-Jouppila¹, Jussi M Halleen¹, Teppo Haapaniemi², Azusa Tanaka³, Michael Seiler³, Jenni Bernoulli¹. ¹Pharmatest Services, Finland, ²BioSiteHisto Ltd, Finland, ³Taconic Biosciences, United States

Disclosures: Tiina E Kähkönen, None

LB SAT - 1165 Exosomal release of L-plastin by breast cancer cells facilitates metastatic bone osteolysis

Kerstin Tiedemann*¹, Gulzhakhan Sadvakassova¹, Nicolas Mikolajewicz¹, Michal Juhas¹, Zarina Sabirova¹, Sebastien Tabaries¹, Jan Gettemans², Peter M. Siegel¹, Svetlana V. Komarova¹. ¹McGill University, Canada, ²Gent University, Belgium

Disclosures: Kerstin Tiedemann, None

ENERGY METABOLISM, BONE, MUSCLE AND FAT

LB SAT - 1172 1,25(OH)D3 abrogates palmitic acid-induced lipotoxicity in normal human osteoblasts in vitro

Ahmed Al Saedi*, Damian Myers, Steven Phu, Gustavo Duque. Australian Institute for Musculoskeletal Science (AIMSS), The University of Melbourne and Western Health, St. Albans, VIC, Australia

Disclosures: Ahmed Al Saedi, None

LB SAT - 1173 Changes In Bone Marrow Adipose Tissue Composition Are Associated With Metabolic Improvements After Gastric Bypass-Induced Weight Loss

Tiffany Kim*¹, Ann Schwartz¹, Xiaojuan Li², Kaipin Xu², Galatea Kazakia¹, Carl Grunfeld¹, Robert Nissenson¹, Dolores Shoback¹, Anne Schafer¹. ¹University of California, San Francisco, United States, ²Cleveland Clinic, United States

Disclosures: Tiffany Kim, None

HORMONAL REGULATORS

LB SAT - 1178 KDM6B Regulates Estrogen-Mediated Osteogenic Differentiation of Human DMSCs

Zhenqing Liu*¹, Chang-Ryul Lee¹, Zhongkai Cui¹, Michael Zhou², Hye-Lim Lee³, Min Lee¹, Cun-Yu Wang¹, Christine Hong¹, Tara Aghaloo¹. ¹University of California, Los Angeles, United States, ²University of California, Berkeley, United States, ³University of California, Irvine, United States

Disclosures: Zhenqing Liu, None

MECHANOBIOLOGY

LB SAT - 1180 Effects of bone marrow regeneration on mechanoadaptation in aged bone

Judith Piet*¹, Roland Baron², Sandra Shefelbine¹. ¹Northeastern University, United States, ²Harvard School of Dental Medicine, United States

Disclosures: Judith Piet, None

MUSCULOSKELETAL DEVELOPMENT

LB SAT - 1184 Dietary Inflammatory Index and Cortical Bone Outcomes in Healthy Adolescent Children

Lauren Coheley*¹, Emma Laing¹, Nitin Shivappa², James Hebert³, Richard Lewis⁴.

¹Department of Foods and Nutrition, University of Georgia, United States, ²Cancer Prevention and Control Program, University of South Carolina, United States, ³Cancer Prevention and Control Program, Epidemiology and Biostatistics, University of South Carolina, United States, ⁴Department of Foods and Nutrition, University of Georgia, United States

Disclosures: Lauren Coheley, None

LB SAT - 1185 Prickle1 is Required for Chondrocyte Polarity and Terminal Differentiation during Endochondral Ossification

Yong Wan*, Heather Szabo-Rogers. University of Pittsburgh, United States

Disclosures: Yong Wan, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION

LB SAT - 1187 Circulating cells of the osteoblast lineage are increased in breast cancer patients with bone metastasis and could represent a novel biomarker for diagnosis and monitoring of tumor progression

Jiarong Li*, Karine Sellin, Louis Dore Savard, Richard Kremer. Research Institute of MUHC, Canada

Disclosures: Jiarong Li, None

OSTEOBLASTS

LB SAT - 1191 PERK activity in osteoblast lineage does not contribute to skeletal homeostasis in mice

Srividhya Iyer*, Alexander Harb, Christian Melendez-Suchi, Aaron Warren, Ha-Neui Kim, Maria Almeida. University of Arkansas for Medical Sciences, United States

Disclosures: Srividhya Iyer, None

LB SAT - 1192 Deletion of menin early in the osteoblast lineage reduces mineralization of dense collagen gels by primary osteoblasts

Ildi Troka*, Gabriele Griffanti², Showan N. Nazhat², Geoffrey N. Hendy¹. ¹Division of Experimental Medicine, McGill University, Canada, ²Department of Mining and Materials Engineering, McGill University, Canada

Disclosures: Ildi Troka, None

LB SAT - 1193 Adiponectin Receptor Agonist AdipoRon Increases Mitochondrial Fusion and Biogenesis in Diabetic Bone Cells

Xiaoxuan Wang*^{1,2}, Xingwen Wu¹, Qisheng Tu¹, Jake Chen^{1,3}. ¹Division of Oral Biology, Tufts University School of Dental Medicine, Boston, Massachusetts, United States, ²Department of Periodontology, Peking University School of Stomatology, United States, ³Department of Developmental, Molecular and Chemical Biology Sackler School of Graduate Biomedical Sciences, Tufts University School of Medicine, Boston, Massachusetts, United States

Disclosures: Xiaoxuan Wang, None

OSTEOCLASTS

LB SAT - 1198 Osteoclasts serve as an intracellular niche for replicating Staphylococcus aureus

Anna Ballard*, Jennifer L. Krauss¹, Pei Ying Ng², Linda Cox¹, Emily Goering¹, Nathan J. Pavlos², Deborah J. Veis¹. ¹Division of Bone and Mineral Diseases, Washington University School of Medicine, United States, ²School of Biomedical Sciences, University of Western Australia, Australia

Disclosures: Anna Ballard, None

LB SAT - 1199 Ciliogenesis is inherent to osteoclastogenesis and IFT proteins drive osteoclast formation

Vishwa Deepak*, Shuying Yang. University of Pennsylvania School of Dental Medicine, United States

Disclosures: Vishwa Deepak, None

LB SAT - 1200 Bone Cell Effects of Mono-unsaturated Palmitoleic Acid

Jian-Ming Lin*, Karen E Callon, Jillian Cornish. Department of Medicine, University of Auckland, New Zealand

Disclosures: Jian-Ming Lin, None

OSTEOPOROSIS - ASSESSMENT

LB SAT - 1207 Fracture Risk Assessment in Patients on a Drug Holiday

Michael Morkos*^{1,2}, Paul Mahrous¹, Alessandra Casagrande¹, Muriel Tania Go², Hasan Husni², Mirette Hanna¹, Sara Bedrose², Dingfeng Li², Monica Tawfic¹, Yu-Chien Cheng^{1,2}, Sanford Baim¹. ¹Rush University Medical Center, United States, ²John H. Stroger, Jr. Hospital of Cook County, United States

Disclosures: Michael Morkos, None

OSTEOPOROSIS - EPIDEMIOLOGY

LB SAT - 1211 Lower total hip BMD and 25OHD levels are associated with the presence of abdominal aortic calcification in the Canadian Multicentre Osteoporosis Study (CaMos)

Claudie Berger*¹, Alexandre Semionov², Brian C. Lentle³, Christopher S Kovacs⁴, David A Hanley⁵, Stephanie M Kaiser⁶, Robert G Josse⁷, Jerilynn C Prior³, Jonathan D Adachi⁸, Wojciech Olszynski⁹, K Shawn Davison¹⁰, Nancy Kreiger¹¹, Suzanne N Morin¹², David Goltzman¹². ¹Research Institute of the McGill University Health Centre, Canada, ²McGill University Health Centre, Canada, ³University of British Columbia, Canada, ⁴Memorial University, Canada, ⁵University of Calgary, Canada, ⁶Dalhousie University, Canada, ⁷St. Michael's Hospital, Canada, ⁸McMaster University, Canada, ⁹University of Saskatchewan, Canada, ¹⁰CaMos, Canada, ¹¹University of Toronto, Canada, ¹²McGill University, Canada

Disclosures: Claudie Berger, None

OSTEOPOROSIS - NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY

LB SAT - 1214 Determinants of Bone Microarchitecture Assessed by HR-pQCT in Adults with Long-Term HIV Infection

Sarah Foreman*¹, Po Hung Wu¹, Ruby Kuang¹, Malcolm John², Phyllis Tien², Thomas Link¹, Roland Krug¹, Galatea Kazakia¹. ¹Department of Radiology and Biomedical Imaging, UCSF, United States, ²Department of Medicine, UCSF, United States

Disclosures: Sarah Foreman, None

LB SAT - 1215 Definition of Vitamin D Deficiency based on Free 25OH Vitamin D Concentrations

Nicolas Heures*¹. DIAsource Immunoassays, Belgium

Disclosures: Nicolas Heures, None

OSTEOPOROSIS - PATHOPHYSIOLOGY

LB SAT - 1218 Mechanisms of Bone Loss Associated with Inflammatory Bowel Disease

Christopher Peek*¹, Caleb Ford¹, Nicole Putnam¹, Jacob Curry², Blanca Piazuelo¹, Keith Wilson^{1,2}, Jim Cassat^{1,2}. ¹Vanderbilt University, United States, ²Vanderbilt University Medical Center, United States

Disclosures: Christopher Peek, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS

LB SAT - 1221 Long-term risk of bone loss and fracture in rheumatoid arthritis and inflammatory bowel disease in the population-based Canadian Multicentre Osteoporosis Study (CaMos)

Dana Bliuc*¹, Thach Tran¹, Tineke Van Geel², Jonathan Adachi³, Claudie Berger⁴, Joop Van Den Bergh⁵, John Eisman¹, Piet Geusens², David Goltzman³, David Hanley⁶, Robert Josse⁷, Stephanie Kaiser⁸, Christopher Kovacs⁹, Lisa Langsetmo¹⁰, Jerilynn Prior¹¹, Tuan Nguyen¹, Jacqueline Center¹. ¹Bone Biology Garvan Institute of Medical Research, Australia, ²University of Maastricht, Netherlands, ³Department of Medicine, McMaster University, Canada, ⁴McGill University, Canada, ⁵Maastricht University, Netherlands, ⁶University of Calgary, Canada, ⁷University of Toronto, Canada, ⁸Dalhousie University, Canada, ⁹Memorial University, Canada, ¹⁰University of Minnesota, United States, ¹¹University of British Columbia, Canada

Disclosures: Dana Bliuc, None

OSTEOPOROSIS – TREATMENT

- LB SAT - 1224 AFFs with Bisphosphonate Therapy (BP): Real Rare Side-Effect or Bad Medicine?**
David B. Karpf*¹, Frederick Singer², Kathleen Cody³. ¹Stanford University, United States,
²John Wayne Cancer Institute, United States, ³American Bone Health, United States
Disclosures: David B. Karpf, None

PRECLINICAL MODELS: NUTRITION AND PHARMACOLOGY

- LB SAT - 1232 Hydroxyapatite Nanoparticles Doped with Silver and Gold for Enhanced Bone Regeneration**
Deepak Kumar Khajuria*, David Karasik. The Musculoskeletal Genetics Laboratory, The Azrieli Faculty of Medicine, Bar-Ilan University, Safed-1311502, Israel
Disclosures: Deepak Kumar Khajuria, None
- LB SAT - 1233 Activation of guanylyl cyclase-B increases long bone mass, density and strength**
Jerid Robinson*¹, Nicholas Blixt¹, Gordon Warren², Andrew Benton², Zhou Ye¹, Conrado Aparicio¹, Kim Mansky¹, Lincoln Potter¹. ¹University of Minnesota, United States, ²Georgia State University, United States
Disclosures: Jerid Robinson, None

RARE BONE DISEASES: CLINICAL

- LB SAT - 1236 The A242T Mutation in the Low-density Lipoprotein Receptor-related Protein 5 Gene in Korean Family with Osteopetrosis**
Eunheui Kim*, Yunkyung Jeon, Injoo Kim. Pusan National University Hospital, Republic of Korea
Disclosures: Eunheui Kim, None
- LB SAT - 1237 Asfotase Alfa in Adults – Functional Outcome in a Real World Setting**
Lothar Seefried*, Silke Achtziger, Franca Genest. Wuerzburg University, Germany
Disclosures: Lothar Seefried, Alexion, Grant/Research Support, Alexion, Speakers' Bureau, Alexion, Consultant

RARE BONE DISEASES: TRANSLATIONAL

- LB SAT - 1241 An Aevr1[R258G] “Conditional On” Mouse Model of Atypical Fibrodysplasia Ossificans Progressiva (FOP) is Activin A dependent**
Sarah J. Hatsell*, Lily Huang, Chris Schoenherr, Lili Wang, Xialing Wen, Joyce Mcclain, Vincent Idone, Kalyan C. Nannuru, Andrew J. Murphy, Aris N. Economides. Regeneron Pharmaceuticals Inc, United States
Disclosures: Sarah J. Hatsell, None

SARCOPENIA, MUSCLE AND FALLS

- LB SAT - 1243 Percent total body fat is negatively associated with muscle strength and jump test performance in older men and women, independent of age, height, and muscle mass.**
Bethany Moore*, Harshvardhan Singh, Gary Hunter. University of Alabama at Birmingham, United States
Disclosures: Bethany Moore, None
- LB SAT-1245 FGF-inhibition of NPR2-mediated Cyclic cGMP Production in Growth Plate Chondrocytes Is Reversed by the Phosphatase Inhibitor LB-100**
Leia C Shuhaibar*, Giulia Vigone, Laurinda A Jaffe. Department of Cell Biology, University of Connecticut Health Center, United States
Disclosures: Leia C Shuhaibar, None

POSTER SESSION II AND POSTER TOURS

12:30 pm - 2:30 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

ADULT METABOLIC BONE DISORDERS

- SUN-0019** **2018 Phoebe Leboy Professional Development Award**
High Frequency of Bone Mineral Density (BMD) Abnormalities in Women with Symptoms Typical of Thyroid Dysfunction and Normal Thyroid Hormones
Georgia Antoniou*¹, Stelios Kasikis², Charis Chourpiliadis², Dimintra Bantouna², Panagiota Koukoutsidi², Juan Carlos Jaume³, Rodis D Pappadodis⁴. ¹Agia Sofia General Pediatric Hospital, Greece, ²University of Patras Medical School, Greece, ³Division of Endocrinology, Diabetes and Metabolism and Center for Diabetes and Endocrine Research (CeDER), University of Toledo, United States, ⁴Division of Endocrinology Diabetes and Metabolism and Center for Diabetes and Endocrine Research (CeDER) University of Toledo, Greece
Disclosures: Georgia Antoniou, None
- SUN-0020** **Renal Function Change in Chronic Hypoparathyroidism Patients Treated With Recombinant Human Parathyroid Hormone (1-84) (rhPTH[1-84]) and in a Historical Control Cohort Treated With Standard Therapy**
Kristina Chen*¹, Mishaela Rubin², Fan Mu³, Elyse Swallow³, Jing Zhao³, Jessie Wang³, Alan Krasner¹, Nicole Sherry¹, James Signorovitch³, Markus Ketteler⁴, John Bilezikian². ¹Shire Human Genetic Therapies, Inc., United States, ²Columbia University College of Physicians and Surgeons, United States, ³Analysis Group Inc., United States, ⁴Division of Nephrology, Klinikum Coburg, Germany
Disclosures: Kristina Chen, Shire, Other Financial or Material Support
- SUN-0021** **Treatment of Tertiary Hyperparathyroidism After Renal Transplant**
Chee Kian Chew*¹, Jennifer Hill², Robert Wermers², Tricia Veglahn², Hatem Amer², Matthew Hathcock². ¹Tan Tock Seng Hospital, Singapore, ²Mayo Clinic, United States
Disclosures: Chee Kian Chew, None
- SUN-0022** **Premenopausal women with idiopathic osteoporosis (PreMenIOP) and low bone formation have decreased responsiveness to teriparatide (TPTD) and evidence of IGF-1 resistance in skeletal and non-skeletal tissues**
Adi Cohen*¹, Nandini Nair¹, Stephanie Shiao¹, Robert R. Recker², Joan M. Lappe², David W. Dempster^{1,3}, Hua Zhou³, Binsheng Zhao¹, Xiaotao Guo¹, Mafo Kamanda-Kosseh¹, Mariana Bucovksy¹, Julie Stubby², Elizabeth Shane¹. ¹Columbia University Medical Center, United States, ²Creighton University, United States, ³Helen Hayes Hospital, United States
Disclosures: Adi Cohen, None
- SUN-0023** **Functional outcomes of nonoperatively treated LC-1 pelvic ring fractures: a retrospective study**
Aidan Hadad*¹, Matthew Cohn², Rehan Saiyed¹, Omer Or³, Eric Marty¹, Gülce Askin⁴, Joseph Lane¹. ¹Hospital for Special Surgery, United States, ²Rush University Medical Center, United States, ³Hebrew University Hadassah Medical Center, Israel, ⁴Weill Cornell Medical College, United States
Disclosures: Aidan Hadad, None
- SUN-0024** **Magnetic Resonance Imaging (MRI) Evidence that Trabecular Bone Structure and Marrow Adipose Tissue (MAT) Are not Affected in Type 2 Diabetes Mellitus (T2D)**
Iana De Araujo*¹, Carlos Salmon², Carlo Rondinoni¹, Marcello Nogueira-Barbosa¹, Francisco De Paula¹. ¹Ribeirao Preto Medical School-University of Sao Paulo, Brazil, ²Faculty of Philosophy, Sciences and Arts – University of Sao Paulo, Brazil
Disclosures: Iana De Araujo, None

- SUN-0025** **Bone loss in hepatitis B virus-infected patients is associated with greater osteoclastic activity independently of the retroviral use**
Renata Dessordi*¹, Rodrigo Carvalho De Santana², Elen Almeida Romão², Anderson Marliere Navarro². ¹Sao Paulo State University, Brazil, ²University of Sao Paulo, Brazil
Disclosures: Renata Dessordi, None
- SUN-0026** **Bone Tissue Composition in Post-menopausal Women Varies with Glycemic Control**
Heather B. Hunt*¹, Nicholas A. Miller¹, Kimberly J. Hemmerling¹, Maho Koga¹, Kelsie A. Lopez¹, Kendall F. Moseley², Eve Donnelly^{1,3}. ¹Department of Materials Science and Engineering, Cornell University, United States, ²Division of Endocrinology, Johns Hopkins University School of Medicine, United States, ³Research Division, Hospital for Special Surgery, United States
Disclosures: Heather B. Hunt, None
- SUN-0027** **The Effect of TransCon PTH on Bone Markers in a Phase 1 Trial**
David B. Karpf*¹, Susanne Pihl², Aimee Shu¹, Eva Mortensen¹, Jonathan A. Leff¹. ¹Ascendis Pharma Inc., United States, ²Ascendis Pharma A/S, Denmark
Disclosures: David B. Karpf, Ascendis Pharma, Other Financial or Material Support
- SUN-0028** **The Relationship of Trabecular Bone Score (TBS) with Vitamin D in Older African-American Women**
John Aloia*, Mageda Mikhail. NYU Winthrop hospital, United States
Disclosures: John Aloia, None
- SUN-0029** **A Rare Case of Bilateral Maxillary Brown Tumors in a Patient with Primary Hyperparathyroidism**
Sapna Patel*, Uma Gunasekaran. University of Texas Southwestern Medical Center, United States
Disclosures: Sapna Patel, None
- SUN-0030** **Effect of Renal Transplantation on Bone Microstructure and Strength Assessed by MRI**
Catherine Reilly*, Mary Leonard, Wenli Sun, Chamith Rajapakse, Felix Wehrli. University of Pennsylvania, United States
Disclosures: Catherine Reilly, None
- SUN-0031** **Total Alkaline Phosphatase is an unreliable marker of relapse in treated Paget's Disease of the Bone**
Rebecca Sagar*, Stephen Orme, Afroze Abbas. Leeds Centre for Diabetes and Endocrinology, Leeds Teaching Hospitals Trust, United Kingdom
Disclosures: Rebecca Sagar, None
- SUN-0032** **Cardiovascular Autonomic Neuropathy as a new complication of chronic hypoparathyroidism**
Gaia Tabacco*¹, Anda Mihaela Naciu¹, Roberto Cesareo², Claudio Pedone³, Gianluigi Gaspa², Assunta Santonati⁴, Daniela Bosco⁴, Daria Maggi¹, Nicola Napoli¹, Paolo Pozzilli¹, Silvia Manfrini¹, Andrea Palermo¹. ¹Unit of Endocrinology and Diabetes, Dept. of Medicine, University Campus Bio-Medico, Italy, ²Thyroid Disease Center, "S. M. Goretti" Hospital, Italy, ³Unit of Geriatrics, University Campus Bio-Medico, Italy, ⁴Department of Endocrinology, San Giovanni Addolorata Hospital, Italy
Disclosures: Gaia Tabacco, None
- SUN-0033** **Cognitive and Emotional Deficits in Hypoparathyroidism and Their Relation to Undercarboxylated Osteocalcin**
Mishaela Rubin*, Gaia Tabacco, Rukshana Majeed, Beatriz Omeragic, Maximo Gomez, Elzbieta Dworakowski, Christiane Hale, Adam Brickman. Columbia University, United States
Disclosures: Mishaela Rubin, None

- SUN-0034** **A Unique Longitudinal Cohort of Hypoparathyroidism Treated for 8 Continuous Years with rhPTH (1-84)**
 Donovan Tay*¹, Gaia Tabacco¹, Natalie Cusano², John Williams¹, Beatriz Omeragic¹, Rukshana Majeed¹, Maximo Gomez Almonte¹, John Bilezikian¹, Mishaela Rubin¹.
¹Columbia University Medical Center, United States, ²Lenox Hill Hospital Department of Medicine, United States
Disclosures: Donovan Tay, None
- SUN-0035** **Survival in primary hyperparathyroidism over five decades (1965-2010)**
 Robert Wermers*¹, Marcio Griebeler², Euijung Ryu¹, Prabin Thapa¹, Matthew Hathcock¹, Ann Kearns¹. ¹Mayo Clinic, United States, ²Cleveland Clinic, United States
Disclosures: Robert Wermers, None

BIOMECHANICS AND BONE QUALITY

- SUN-0072** **Disuse Alters the Size of Osteocyte Lacunar Voids**
 Mohammed Akhter*, Diane Cullen, Robert Recker. Creighton University, United States
Disclosures: Mohammed Akhter, None
- SUN-0073** **Assessing Correlates of Fracture Toughness using Nanoindentation**
 Faisal Almeahimid*, Chelsea M Heveran, Bhavya Senwar, Virginia L Ferguson. University of Colorado, Boulder, United States
Disclosures: Faisal Almeahimid, None
- SUN-0074** **The effects of age and sex on viscoelastic bone properties in mice**
 Ingo Grafe*¹, Ian Tomkinson², Heather Haerberle², Yi-Chien Lee¹, Xiaohong Bi³, Brendan Lee¹, Catherine G. Ambrose². ¹Department of Molecular and Human Genetics, Baylor College of Medicine, United States, ²Department of Orthopaedic Surgery, UTHSC-Houston, United States, ³Department of Precision Biomedicine, UTHSC-Houston, United States
Disclosures: Ingo Grafe, None
- SUN-0075** **SERUM 25-HYDROXYVITAMIN D AND ITS METABOLISM IN BONE TISSUE IS ASSOCIATED WITH IMPROVED BONE QUALITY IN ELDERLY HIP FRACTURE PATIENTS**
 Deepti Sharma*¹, Rebecca Sawyer¹, Roumen Stamenkov², Thomas Robertson³, Catherine Stapledon³, Gerald Atkins³, Peter Clifton¹, Lucian Solomon², Morris Howard¹, Paul Anderson¹. ¹University of South Australia, Australia, ²Royal Adelaide Hospital, Australia, ³University of Adelaide, Australia
Disclosures: Deepti Sharma, None
- SUN-0076** **Ultra-low dose MDCT allows accurate assessment of vertebral fracture risk: a finite element study**
 D. Anitha*¹, Kai Mei², Felix Kopp², Peter Noel², Thomas Baum², Karupppasamy Subburaj¹. ¹Singapore University of Technology and Design, Singapore, ²Technical University of Munich, Germany
Disclosures: D. Anitha, None
- SUN-0077** **Alterations in Bone Matrix Composition During Estrogen-deficiency Induced Bone Loss are Influenced by Genetic Background**
 Michael-John Beltejar*, Dana A. Godfrey, Robert D. Maynard, Cheryl L. Ackert-Bicknell. Center for Musculoskeletal Research, University of Rochester Medical Center, United States
Disclosures: Michael-John Beltejar, None
- SUN-0078** **Damage under Anterior Bending is Associated with Vertebral Body Structural Organization, but not Donor Characteristics**
 Travis D. Eliason*¹, Ellen E. Quillen², Donald E. Moravits¹, Roberto J. Fajardo³, Karl J. Jepsen⁴, Todd L. Bredbenner⁵. ¹Materials Engineering, Southwest Research Institute, United States, ²Molecular Medicine, Wake Forest School of Medicine, United States, ³Clinically Applied Science Education, University of the Incarnate Word School of Osteopathic Medicine, United States, ⁴Orthopedic Surgery, University of Michigan, United States, ⁵Mechanical and Aerospace Engineering, University of Colorado Colorado Springs, United States
Disclosures: Travis D. Eliason, None

- SUN-0079** **Differential Effects of Zoledronic Acid and Teriparatide on Microdamage Across Bone Sites. A Study at the Femoral Diaphysis, Neck, Lumbar Vertebra and Iliac Crest in Ewes**
 Nathalie Portero-Muzy*, Pascale Chavassieux, Roland Chapurlat. INSERM UMR 1033, Université de Lyon, France
Disclosures: Nathalie Portero-Muzy, None
- SUN-0080** **Peripheral neuropathy is associated with diabetes-induced bone fragility**
 Clarissa S Craft*¹, Madison R Mcmanus¹, Madelyn R Lorenz¹, Amy Stickland¹, Kristann Magee L¹, Natalie K Wee², Eric D Hilker¹, Sungjae Park¹, Zhaohua Wang¹, Yusuf Bekirov¹, Aaron Diantonio¹, Jeff Milbrandt¹, Erica L Scheller¹. ¹Washington University in St. Louis, United States, ²University of Connecticut, United States
Disclosures: Clarissa S Craft, None
- SUN-0081** **ASBMR 2018 Fund for Research and Education Young Investigator Award in Honor of Adele L. Boskey
 Bone Mechanical Properties (nanoindentation) and Microarchitecture (micro-CT) in Type 2 Diabetes**
 Ruban Dhaliwal*¹, Jagadeesh Bose², Navin Kumar², Praveer Sihota³, Ram Naresh Yadav³, Vijay Goni⁴, Sameer Agarwal⁴, Sudhaker D. Rao⁵, Sanjay Kumar Bhadada². ¹Endocrinology, Diabetes and Metabolism, Department of Medicine, State University of New York Upstate Medical University, United States, ²Department of Endocrinology, Postgraduate Institute of Medical Education and Research, India, ³Department of Mechanical Engineering, Indian Institute of Technology Ropar, India, ⁴Department of Orthopedics, Postgraduate Institute of Medical Education and Research, India, ⁵Bone and Mineral Research Laboratory, Henry Ford Hospital, United States
Disclosures: Ruban Dhaliwal, None
- SUN-0082** **Local, but Not Global, CT-Based Texture Analysis Improves the Prediction of Femoral Strength**
 Fjola Johannesdottir*, Mary L. Bouxsein. Beth Israel Deaconess Medical Center and Harvard Medical School, United States
Disclosures: Fjola Johannesdottir, None
- SUN-0083** **MRI-Based Assessment of Proximal Femur Compared to Direct Mechanical Testing**
 Daniel Kargilis*¹, Gregory Chang², Jae Lee¹, Alexander Farid¹, Sneha Shetye¹, Michael Hast¹, Chamith Rajapakse¹. ¹University of Pennsylvania, United States, ²New York University, United States
Disclosures: Daniel Kargilis, None
- SUN-0084** **Exercise driven changes in subchondral bone thickness and distribution**
 John Polk*, Munsur Rahman, Mariana Kersh. University of Illinois at Urbana-Champaign, United States
Disclosures: John Polk, None
- SUN-0085** **Lower Limb Geometry in Individuals With Atypical Femoral Fractures as Compared to Typical Fracture and Unfractured Controls**
 Van Krueger*¹, Marjolein Van Der Meulen^{2,3}, Jeri Nieves^{4,5}, Elizabeth Foley², Eric Marty³, Amelia Ni³, Jordan Troy², Abigail Campbell³, Douglas Mintz³, Jingyan Yang⁵, Joseph Lane³. ¹Brown University, United States, ²Cornell University, United States, ³Hospital for Special Surgery, United States, ⁴Helen Hayes Hospital, United States, ⁵Columbia University, United States
Disclosures: Van Krueger, None
- SUN-0086** **Osseointegrated implants for trans femoral amputees: radiographic evaluation of bone remodeling**
 Seamus Thomson*¹, William Lu¹, Munjed Al Muderis². ¹The University of Sydney, Australia, ²The Osseointegration Group of Australia, Australia
Disclosures: Seamus Thomson, Osseointegration International, Grant/Research Support

- SUN-0087** **The role of MEK1/2 and MEK5 on melatonin-mediated effects on bone microarchitecture, mechanical strength, osteogenic and metabolic protein expression in intact female Balb(c) mice**
 Fahima Munmun^{*1}, Van Hoang², Matthew Burow², Bruce Bunnell³, Paula Witt-Enderby¹.
¹Duquesne University Division of Pharmaceutical, Administrative and Social Sciences, United States, ²Tulane University School of Medicine Department of Pharmacology, United States, ³Tulane University School of Medicine Cancer Research Center, United States
Disclosures: Fahima Munmun, None
- SUN-0088** **The Relationship of Whole Bone Strength across Cadaveric Diaphyseal and Cortical-Cancellous Sites**
 Daniella Patton^{*1}, Erin Bigelow¹, Stephen Schlecht², Todd Bredbenner³, Karl Jepsen¹.
¹Department of Orthopedic Surgery, University of Michigan, United States, ²Mechanical Engineering, University of Michigan, United States, ³Department of Mechanical and Aerospace Engineering, University of Colorado Colorado Springs, United States
Disclosures: Daniella Patton, None
- SUN-0089** **Comparative effect of deproteinized bovine bone, bioglass and synthetic hydroxyapatite on bone repair**
 Andrea Mattiuzzi^{*1}, Miguel Angel Pellegrini¹, Macarena Gonzales-Chaves¹, Ricardo Orzuza², Susana N Zeni¹, Gretel G Pellegrini¹. ¹CONICET-Universidad de Buenos Aires. Instituto de Inmunología, Genética y Metabolismo (INIGEM). Facultad de Farmacia y Bioquímica-Hospital de Clínicas “José de San Martín”, Buenos Aires, Argentina., Argentina, ²Universidad de Buenos Aires, Facultad de Odontología. Cátedra de Bioquímica Gral y Bucal, Buenos Aires, Argentina., Argentina
Disclosures: Andrea Mattiuzzi, None
- SUN-0090** **High Resolution pQCT Micro-Architectural Parameters to Predict Bone Failure in the Case of a Forward Fall**
 Martin Revel^{*}, François Duboeuf, François Bermond, Jean-Paul Roux, David Mitton, Hélène Follet. Univ Lyon, INSERM, UMR1033, France
Disclosures: Martin Revel, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS

- SUN-0119** **Impact of Sex and Maturation on Trabecular and Cortical Microarchitecture in Children and Young Adults**
 Tandy Aye^{*1}, Kyla Kent¹, Jin Long¹, Jessica Whalen¹, Ariana Strickland¹, Andrew Burghardt², Mary B. Leonard¹. ¹Stanford University School of Medicine, United States, ²University of California San Francisco, United States
Disclosures: Tandy Aye, None
- SUN-0120** **Healing rickets: Lessons from the Vienna Studies 1921-1923**
 David Ayoub^{*}. Southern Illinois University School of Medicine, United States
Disclosures: David Ayoub, None
- SUN-0121** **Irisin Levels Are Positively Associated with Bone Mineral Density and Better Glycemic Control in Healthy and Type 1 Diabetes Children**
 Graziana Colaianni^{*1}, Giacomina Brunetti², Maria Felicia Faienza³, Lorenzo Sanesi¹, Monica Celi⁴, Laura Piacente³, Gabriele D'Amato³, Giorgio Mori⁵, Silvia Colucci², Maria Grano¹. ¹Department of Emergency and Organ Transplantation, University of Bari, Italy, ²Department of Basic Medical Sciences, Neuroscience and Sense Organs, University of Bari, Italy, ³Department of Biomedical Science and Human Oncology, Paediatric Unit, University of Bari, Italy, ⁴Tor Vergata, University of Rome, Italy, ⁵Department of Clinical and Experimental Medicine, University of Foggia, Italy
Disclosures: Graziana Colaianni, None
- SUN-0122** **Safety and Effectiveness of Stoss Therapy in the Treatment of Vitamin D Deficiency.**
 Paul Tannous^{*1}, Melissa Fiscoletti¹, Chris Cowell¹, Nicholas Wood¹, Yvonne Zurynski², John Coakley¹, Philip Britton¹, Hasantha Gunasekera¹, Andrew Biggin¹, Craig Munns¹.
¹Children's hospital at Westmead, Australia, ²Australian Pediatric Surveillance Unit, Australia
Disclosures: Paul Tannous, None

- SUN-0123** **Larger muscle area is a positive predictor of bone strength while subcutaneous fat is a negative predictor of bone strength: A pQCT and HR-pQCT study of boys and girls**
 Saija Kontulainen*, Amy Bunyamin², Chantal Kawalilak², Kelsey Bjorkman², Jd Johnston².
¹University of Saskatchewan, UofS, Canada, ²UofS, Canada
Disclosures: Saija Kontulainen, None
- SUN-0124** **Is adiposity increased in children with achondroplasia and hypochondroplasia?**
 Takuo Kubota*¹, Yukako Nakano¹, Kei Miyata¹, Kenichi Yamamoto¹, Shinji Takeyari¹, Hirofumi Nakayama^{1,2}, Takeshi Kimura¹, Yasuhisa Ohata^{1,3}, Taichi Kitaoka¹, Keiichi Ozono¹.
¹Department of Pediatrics, Osaka University Graduate School of Medicine, Japan, ²The Japan Environment and Children's Study, Osaka unit center, Japan, ³The 1st. Department of Oral and Maxillofacial Surgery, Osaka University Graduate School of Dentistry, Japan
Disclosures: Takuo Kubota, None
- SUN-0125** **Racial Differences in Bone Histomorphometry within Children and Young Adults on Dialysis.**
 Marciana Laster*, Renata Pereira, Isidro Salusky. UCLA, United States
Disclosures: Marciana Laster, None
- SUN-0126** **Multimodality Study of Glucocorticoid Induced Osteoporosis in Pediatric Crohn's Disease**
 Jin Long*¹, Dale Lee², Rita Herskovitz³, Babette Zemel⁴, Mary Leonard⁵. ¹Department of Medicine, Stanford University, Stanford, United States, ²Department of Pediatrics, Seattle Children's Hospital, Seattle, WA, United States, ³Department of Pediatrics, The Children's Hospital of Philadelphia, Philadelphia, PA, United States, ⁴Division of GI, Hepatology & Nutrition, The Children's Hospital of Philadelphia, Philadelphia, PA, United States, ⁵Department of Pediatrics, Stanford University, Stanford, CA, United States
Disclosures: Jin Long, None

BONE INTERACTIONS WITH MUSCLE AND OTHER TISSUES

- SUN-0147** **WITHDRAWN**
- SUN-0148** **Measured Cortical Bone Strain during Muscle Contraction in a Mouse Model of Osteogenesis Imperfecta**
 Alycia Berman*¹, Rachel Surridge², Joseph Wallace². ¹Weldon School of Biomedical Engineering, Purdue University, United States, ²Department of Biomedical Engineering, Indiana University - Purdue University Indianapolis, United States
Disclosures: Alycia Berman, None
- SUN-0149** **Reactive oxygen species (ROS) accumulate in skeletal muscle with age, and ROS stimulates the release of exosomes from myoblasts that can induce senescence-like changes in bone marrow derived stem cells (BMSCs)**
 Sadanand Fulzele*, Bharati Mendhe, Carlos Isales, William Hill, Meghan Mcgee-Lawrence, Kanglun Yu, Mark Hamrick. Augusta University, United States
Disclosures: Sadanand Fulzele, None
- SUN-0150** **Prx1-derived muscle interstitial cells contribute to bone repair and cause fibrosis in musculoskeletal trauma**
 Anais Julien*¹, Anuya Kanagalingam¹, Oriane Duchamp De Lageneste¹, Jerome Megret², Frédéric Relaix³, Céline Colnot¹. ¹INSERM U1163, Imagine Institute, Paris Descartes University, France, ²INSERM US24 - CNRS UMS3633 Cytometry Platform, Paris Descartes University, France, ³INSERM IMRB U955, Paris Est-Créteil University, France
Disclosures: Anais Julien, None
- SUN-0151** **The bone anabolic effects of irisin are through preferential stimulation of aerobic glycolysis**
 Sung Kil Lim*. College of Medicine, Yonsei University, Republic of Korea
Disclosures: Sung Kil Lim, None

- SUN-0152** **Risedronate could rescue podocyte injury in Pit-1 overexpressing transgenic rats**
 Atsushi Masuda*¹, Takeshi Takayanagi¹, Yohei Asada¹, Shogo Nakayama¹, Eisuke Tomatsu¹, Yasumasa Yoshino¹, Sahoko Sekiguchi-Ueda¹, Megumi Shibata¹, Eishin Yaoita², Atsushi Suzuki¹. ¹Department of Endocrinology and Metabolism, Fujita Health University, Japan, ²Department of Structural Pathology, Institute of Nephrology, Niigata University Graduate School of Medical and Dental Sciences, Japan
Disclosures: Atsushi Masuda, None
- SUN-0153** **A Direct LC-MS/MS Method for the Simultaneous Quantification of Isomeric Aminobutyric Acids in Biological Fluids and Its Application in Bone-Muscle Studies**
 Chenglin Mo*¹, Zhiying Wang¹, Liangqiao Bian², Janalee Isaacson³, Robert Recker⁴, Joan Lappe⁵, Lynda Bonewald⁶, Marco Brotto¹. ¹College of Nursing and Health Innovation, the University of Texas-Arlington, Arlington, TX, United States, ²Shimadzu Center for Advanced Analytical Chemistry, the University of Texas at Arlington, Arlington, TX, United States, ³School of Nursing & Human Physiology, Gonzaga University, Spokane, WA, United States, ⁴School of Medicine Osteoporosis Research Center, Creighton University, Omaha, NE, United States, ⁵School of Nursing, Creighton University, Omaha, NE, United States, ⁶Department of Anatomy, Cell Biology and Orthopedics, Indiana Center for Musculoskeletal Health, School of Medicine, Indiana University, IN, United States
Disclosures: Chenglin Mo, None
- SUN-0154** **Anti-Nerve Growth Factor Therapy Attenuates Cutaneous Hypersensitivity and Musculoskeletal Discomfort in Mice with Osteoporosis**
 Miyako Suzuki*¹, Magali Millecamps¹, Seiji Ohtori², Laura S. Stone¹. ¹The Alan Edwards Centre for Research on Pain, Faculty of Dentistry, McGill University, Canada, ²Department of Orthopaedic Surgery, Graduate School of Medicine Chiba University, Japan
Disclosures: Miyako Suzuki, None
- SUN-0155** **Advanced Age Leads to Aberrant Wnt Pathway Expression and Bone Turnover in a Murine Model of Chronic Kidney Disease**
 Elizabeth Terhune*, Ryan Clark, William Schroeder, Karen King. Department of Orthopedics, University of Colorado Anschutz Medical Campus, United States
Disclosures: Elizabeth Terhune, None
- SUN-0156** **Oncostatin M is a key effector of heterotopic ossification following spinal cord injuries**
 Hsu-Wen Tseng*¹, Kylie Alexander¹, Irina Kulina¹, Marjorie Salga^{2,3}, Beulah Jose¹, François Genet^{2,3}, Frédéric Torossian⁴, Bernadette Guerton⁴, Adrienne Anginot⁴, Whitney Fleming¹, Susan Millard¹, Allison Pettit¹, Natalie Sims⁵, Jean-Jacques Lataillade^{4,6}, Marie-Caroline Le Bousse-Kerdilès⁴, Jean Pierre Levesque¹. ¹Mater Research Institute-The University of Queensland, Brisbane, Queensland, Australia, ²Service de Médecine Physique et de Réadaptation, Raymond Poincaré Hospital, Garches, France, ³END:ICAP U1179 INSERM, UFR des Sciences de la Santé-Simone Veil, Université Versailles Saint Quentin en Yvelines, Montigny le Bretonneux, France, ⁴Inserm UMR-S-MD1197, Paris 11 University, Paul Brousse Hospital, Villejuif, France., France, ⁵St. Vincent's Institute of Medical Research and Department of Medicine, St. Vincent's Hospital, The University of Melbourne, Fitzroy, Victoria, Australia, ⁶Centre de Transfusion Sanguine des Armées, L'Institut de Recherche Biomédicale des Armées, Clamart, France
Disclosures: Hsu-Wen Tseng, None
- SUN-0157** **Osteocyte markers and vascular health in kidney transplantation**
 Yue Pei Wang*, Aboubacar James Sidibé, Roth-Visal Ung, Karine Marquis, Mohsen Agharazii, Fabrice Mac-Way. CHU de Québec Research Center, L'Hôtel-Dieu de Québec Hospital, Endocrinology and Nephrology Unit, Faculty and Department of Medicine, Université Laval, Canada
Disclosures: Yue Pei Wang, None

BONE MARROW MICROENVIRONMENT AND NICHES

- SUN-0175** **Enhanced bone growth with lipoxinA4**
 Amy Koh*, Justin Do, Hernan Roca, Laurie Mccauley. University of Michigan, United States
Disclosures: Amy Koh, None

- SUN-0176** **In vivo Intramedullary Pressure Measurements and Femoral Bone Microarchitecture and Cortical Thickness in Young and Old Male Fischer-344 Rats**
David Lee*¹, Sunggi Noh¹, Jeong-Bong Lee², Rhonda Prisby¹. ¹University of Texas, Arlington, United States, ²University of Texas, Dallas, United States
Disclosures: David Lee, None
- SUN-0177** **Primary Perturbations in the Myeloid Lineage, Including Neutrophils and the OsteoMac, Contribute to Cystic Fibrosis-Related Bone Disease**
John Stabley*¹, Jessica Hook², Shadaan Abid¹, Li Li¹, Megan Mead¹, Abraham Behrmann¹, Jessica Moreland², Dwight Towler¹, Raksha Jain¹. ¹Department of Internal Medicine, UT Southwestern Medical Center, United States, ²Department of Pediatrics, UT Southwestern Medical Center, United States
Disclosures: John Stabley, None
- SUN-0178** **Human obesity is associated with enhanced insulin signaling and accelerated differentiation of bone marrow stromal stem cell leading to premature skeletal aging**
Michaela Tencerova*^{1,2}, Morten Frost¹, Florence Figeac¹, Anders Kristian Haakonsson¹, Jens-Jacob Lauterlein¹, Tina Kamilla Nielsen¹, Dalia Ayesh Hafez Ali¹, Kurt Højlund^{1,2}, Moustapha Kassem^{1,2}. ¹Department of Molecular Endocrinology, KMEB, University of Southern Denmark and Odense University Hospital, DK-5000 Odense C, Denmark, ²Danish Diabetes Academy supported by the Novo Nordisk Foundation, Denmark
Disclosures: Michaela Tencerova, None
- SUN-0179** **Gene Expression Profiles Associated with Angiogenesis in Human Site-Specific Bone Marrow Stromal Cells (hBMSCs)**
Yifei Du *¹, Weina Zhou^{2,3}, Hongbin Jiang¹, Qisheng Tu², Jinkun Chen^{2,4}. ¹Jiangsu Key Laboratory of Oral Diseases, Nanjing Medical University, Department of Oral and Maxillofacial Surgery, Affiliated Hospital of Stomatology, Nanjing Medical University, Nanjing, China, China, ²Division of Oral Biology, Tufts University School of Dental Medicine, Boston, Massachusetts, United States, ³Jiangsu Key Laboratory of Oral Disease, Nanjing Medical University, Nanjing, China, ⁴Department of Developmental, Molecular and Chemical Biology Sackler School of Graduate Biomedical Sciences Tufts University School of Medicine, United States
Disclosures: Yifei Du , None
- SUN-0180** **Osteal Macrophage Regulation of the Plasminogen System in Bone**
Laura Zweifler*, Amy Koh, Benjamin Sinder, Megan Michalski, Hernan Roca, Yuji Mishina, Laurie Mccauley. University of Michigan, United States
Disclosures: Laura Zweifler, None

BONE TUMORS AND METASTASIS

- SUN-0200** **The Extracellular Matrix Protein Spondin-2 Induces Osteomimicry in Prostate Tumor Cells via Primary Cilia Activation**
Juan Ardura*, Bethan Kitchen, Irene Gutierrez-Rojas, Luis Álvarez-Carrión, Arancha R Gortazar, Veronica Alonso. Bone Physiopathology Laboratory, Departamento de Ciencias Médicas Básicas, Universidad San Pablo CEU. CEU Universities, Madrid (Spain), Spain
Disclosures: Juan Ardura, None
- SUN-0201** **LIGHT/TNFSF14 and RANKL: biomarkers and therapeutic targets of bone disease in multiple myeloma patients experiencing therapeutic regimens**
Giacomina Brunetti*¹, Rita Rizzi², Giuseppina Storlino³, Sara Bortolotti³, Graziana Colaianni³, Lorenzo Sanesi³, Luciana Lippo³, Maria Grano³, Silvia Colucci¹. ¹Department of Basic and Medical Sciences, Neurosciences and Sense Organs, Section of Human Anatomy and Histology, University of Bari, Bari, Italy, ²Department of Emergency and Organ Transplantation, Section of Hematology with Transplantation, University of Bari, Bari, Italy, ³Department of Emergency and Organ Transplantation, Section of Human Anatomy and Histology, University of Bari, Bari, Italy
Disclosures: Giacomina Brunetti, None

- SUN-0202 HDAC Inhibitors Synergize with Standard-of-Care MAP Chemotherapeutics to Block Growth of Osteosarcoma Sarcospheres**
Leah Everitt*, Christopher Collier, Gabrielle Knafler, Deep Gandhi, James Buschbach, Patrick Getty, Edward Greenfield. Case Western Reserve University Department of Orthopaedics, United States
Disclosures: Leah Everitt, None
- SUN-0203 Estrogen receptor alpha is a novel tumor suppressor in osteosarcoma**
Susan Krum*, Gustavo Miranda-Carboni, Maria Angeles Lillo Osuna. UTHSC, United States
Disclosures: Susan Krum, None
- SUN-0204 Parathyroid hormone-related protein (PTHrP) regulates CSC/EMT in a human breast cancer model and administration of anti-PTHrP therapeutic monoclonal antibodies reduces tumor burden in bone**
Jiarong Li*, Louis Dore Savard, Guoming Xiong, Richard Kremer. RI MUHC, Canada
Disclosures: Jiarong Li, None
- SUN-0205 Runx2 promotes autophagy through enhancing cytoskeletal stability in bone metastatic breast cancer cells.**
Ahmad Othman*¹, Manish Tandon², Jitesh Pratap¹. ¹Rush University Medical Center, United States, ²KBI Biopharma, United States
Disclosures: Ahmad Othman, None
- SUN-0206 The JNKs/XBP1s Signaling Cascade Regulates Bone Microenvironmental Support to the Progression of Myeloma Bone Disease**
Risheng Chen*¹, Guoshuang Xu¹, Wissam Beaino¹, Kai Liu¹, Xuemei Zeng¹, Nathan Yates¹, Rong Chong¹, Konstantinos Verdelis¹, G Roodman², Denise Toscani³, Nicola Giuliani³, Yan Lin¹, Carolyn Anderson¹, Hongjiao Ouyang⁴. ¹University of Pittsburgh, United States, ²Indiana University School of Medicine, United States, ³University of Parma, Italy, ⁴Texas A&M University, United States
Disclosures: Risheng Chen, None
- SUN-0207 Effect of Extracellular Vesicles Derived from Osteotropic Tumors on Bone Resident Cells**
Riccardo Paone*¹, Alexander Loftus¹, Christopher George¹, Kirsty Shefferd¹, Argia Ucci¹, Simona Delle Monache¹, Alfredo Cappariello^{1,2}, Maurizio Muraca³, Anna Maria Teti¹, Nadia Rucci¹. ¹Department of Biotechnological and Applied Clinical Sciences, University of L'Aquila, Italy, ²Bambino Gesù Children Hospital, Rome, Italy, ³Department of Women's and Children's Health, University of Padua, Italy
Disclosures: Riccardo Paone, None
- SUN-0208 RANKL Increases Resistance to TRAIL Induced Cell Death in Oral Squamous Cell Carcinoma Tumor Cells**
Purushoth Ethiraj*, Yuvaraj Sambandam, Jessica Hathaway-Schrader, Azizul Haque, Chad Novince, Sakamuri Reddy. Medical University of South Carolina, United States
Disclosures: Purushoth Ethiraj, None
- SUN-0209 CD44 Intracellular Domain interaction with RUNX2 regulates metastasis of prostate cancer cells to the bone.**
Linda T. Senbanjo*, Meenakshi A. Chellaiah. University of Maryland Dental School, United States
Disclosures: Linda T. Senbanjo, None
- SUN-0210 Paracrine Actions of FGF23 on Bone-Metastatic Prostate Cancer**
Attaya Suvannasankha*, Douglas Tompkins, Colin Crean, John Chirgwin. Indiana University School of Medicine, United States
Disclosures: Attaya Suvannasankha, None
- SUN-0211 Targeting the Wnt/beta-catenin pathway in human osteosarcoma cells**
Jianning Tao*^{1,2}, Fang Fang¹, Ashley Vanleave¹, Ralph Helmuth¹, Jing Zhao¹, Kirby Rickel¹, Erliang Zeng². ¹Sanford Research, United States, ²University of South Dakota, United States
Disclosures: Jianning Tao, None

- SUN-0212 Remineralization of Bone Lytic Lesions in high risk myeloma patients enrolled on total therapy five protocol (TT5); the Arkansas experience.**
Maurizio Zangari*¹, Shivang Desai¹, Meera Mohan¹, Frits Van Rhe¹, Sharmilan Thanendrarajan¹, Carolina Schinke¹, Faith Davies¹, Gareth Morgan¹, Larry Suva², Donghoon Yoon¹, Leo Rasche¹, Niels Weinhold¹, Shobhit Sharma¹, Manoj Kumar¹. ¹University of Arkansas for Medical Sciences, United States, ²College of Veterinary Medicine and Biomedical Sciences Texas A&M University, United States
Disclosures: Maurizio Zangari, None

CHONDROCYTES

- SUN-0236 BMP2 signaling is required for postnatal maintenance of osteochondral tissues of the temporomandibular joint and knee**
Eliane Dutra*, Mara O'Brien, Po-Jung Chen, Sumit Yadav. University of Connecticut Health, United States
Disclosures: Eliane Dutra, None
- SUN-0237 Novel TNFR2 Signaling in Osteoarthritis**
Wenyu Fu*, Young-Su Yi, Jyoti Joshi Mundra, Aubryanna Hettinghouse, Chuanju Liu. New York University Medical Center, United States
Disclosures: Wenyu Fu, None
- SUN-0238 Lin28a overexpression promotes chondrocyte reprogramming and protects from osteoarthritis in mice**
Yohan Jouan*^{1,2}, Joanna Sanna^{1,2}, Augustin Latourte^{1,2,3}, Pascal Richette^{1,2,3}, Hang-Korng Ea^{1,2,3}, Martine Cohen-Solal^{1,2}, Eric Hay^{1,2,3}. ¹Paris Diderot University, Paris, France, ²Inserm 1132, Paris, France, ³Hopital Lariboisière, Paris, France
Disclosures: Yohan Jouan, None
- SUN-0239 NFI-C is Required for Chondrocyte Proliferation in Growth Plate during Postnatal Cartilage Development**
Joo-Cheol Park*, Dong-Seol Lee, Yeoung-Hyun Park, Chul Son. Seoul National University, Republic of Korea
Disclosures: Joo-Cheol Park, None
- SUN-0240 Downregulation of Sox9 in growth plate hypertrophic zone promotes chondrocyte-osteoblast transdifferentiation**
Julian Lui*, Shanna Yue, Audrey Lee, Kevin Barnes, Jeffrey Baron. Section on Growth and Development, United States
Disclosures: Julian Lui, None
- SUN-0241 Glutamine and Glucose Metabolism Controls Chondrocyte Function during Endochondral Ossification**
Steve Stegen*¹, Kjell Laperre¹, Guy Eelen², Gianmarco Rinaldi³, Sophie Torrekens¹, Sarah-Maria Fendt³, Peter Carmeliet², Geert Carmeliet¹. ¹Clinical and Experimental Endocrinology, KU Leuven, Belgium, ²Angiogenesis and Vascular Metabolism, Vesalius Research Center, VIB/KU Leuven, Belgium, ³Cellular Metabolism and Metabolic Regulation, Vesalius Research Center, VIB/KU Leuven, Belgium
Disclosures: Steve Stegen, None
- SUN-0242 Salmon calcitonin exerts more preventive effects than celecoxib on cartilage degeneration, subchondral bone microarchitecture deterioration and tactile allodynia in a rat model of lumbar facet joint osteoarthritis**
Faming Tian*¹, Yu Gou², Liu Zhang². ¹Medical Research Center, North China University of Science and Technology, China, ²Department of Orthopedic Surgery, Hebei Medical University, China
Disclosures: Faming Tian, None
- SUN-0243 NFAT1 Protects Articular Cartilage Against Osteoarthritis by Directly Regulating Transcription of Specific Anabolic and Catabolic Genes**
Mingcai Zhang*, Qinghua Lu, Theodore Budden, Jinxi Wang. Harrington Laboratory for Molecular Orthopedics, Department of Orthopedic Surgery, University of Kansas Medical Center, United States
Disclosures: Mingcai Zhang, None

- SUN-0244** **Effect of Doxycycline on Osteochondral Graft Chondrocyte Viability Ex Vivo**
Brett Owens*, Li Yue. Brown University Alpert Medical School, United States
Disclosures: Brett Owens, None
- SUN-0245** **Hajdu Cheney Syndrome Mutants are Susceptible to Osteoarthritis**
Stefano Zanotti*, Jennifer Wolf², David Bridgewater¹, Ernesto Canalis¹. ¹UConn Health, United States, ²University of Chicago, United States
Disclosures: Stefano Zanotti, None

ENERGY METABOLISM, BONE, MUSCLE AND FAT

- SUN-0269** **Associations between Circulating Osteoprogenitor (COP) cells, Parathyroid Hormone, Vitamin D and function in older adults**
Ahmed Al Saedi *¹, Steven Phu², Gustavo Duque ¹. ¹Australian Institute for Musculoskeletal Science (AIMSS), The University of Melbourne and Western Health, St. Albans, VIC, Australia, ²Department of Medicine-Western Health, Melbourne Medical School, The University of Melbourne, Australia
Disclosures: Ahmed Al Saedi , None
- SUN-0270** **Total adiposity as reflected in body weight, rather than specific fat compartments, predicts incident low-trauma fractures in healthy non-osteoporotic post-menopausal women**
Emmanuel Biver*, Jessica Pepe, Alessandro De Sire, Thierry Chevalley, René Rizzoli, Serge Ferrari. Division of Bone Diseases, Geneva University Hospitals and Faculty of Medicine, University of Geneva, Switzerland
Disclosures: Emmanuel Biver, None
- SUN-0271** **Overexpression of MitoNEET in osteoblasts leads to impaired bone mass and energy metabolism in mice**
Phuong Le*, Sheila Bornstein, Victoria Demambro, Clifford Rosen, Anyonya Guntur. MMCRI, United States
Disclosures: Phuong Le, None
- SUN-0272** **Energy metabolism in the bone is associated with histomorphometric changes in rats with hyperthyroidism**
Liao Cui*, Zhuoqing Hu, Minqun Du, Yajun Yang. Department of pharmacology, Guangdong Medical University, China
Disclosures: Liao Cui, None
- SUN-0273** **Deficiency of Long Non-Coding RNA ADPC Impairs Bone and Adipose Tissue Metabolism**
Yao Liu*^{1,2}, En Luo ², Junxiang Lian^{1,2}, Qisheng Tu¹, Zoe(Xiaofang) Zhu^{1,3}, Jake(Jinkun) Chen^{1,4}. ¹Division of Oral Biology Tufts University School of Dental Medicine, Boston, MA, United States, ²State Key Laboratory of Oral Diseases, National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu, China, ³Shanghai Jiaotong University, China, ⁴Department of Developmental, Molecular and Chemical Biology Sackler School of Graduate Biomedical Sciences Tufts University School of Medicine, Boston, MA, United States
Disclosures: Yao Liu, None
- SUN-0274** **Differentiation of Japanese Black Bears' Adipose-Derived Stem Cells to Osteoblasts**
Alireza Nasoori*¹, Yuko Okamatsu-Ogura², Woongchul Shin², Michito Shimozuru¹, Mohamed Abdallah Mohamed Moustafa¹, Toshio Tsubota¹. ¹Laboratory of Wildlife Biology and Medicine, Department of Environmental Veterinary Science, Graduate School of Veterinary Medicine, Hokkaido University, Japan, ²Department of Biomedical Sciences, Graduate School of Veterinary Medicine, Hokkaido University, Japan
Disclosures: Alireza Nasoori, None

- SUN-0275** **Uc-dpMGP is associated with body composition and BMD in type 2 diabetes mellitus**
 Natascha Schweighofer*¹, Christoph Haudum¹, Michaela Goschnik², Ewald Kolesnik³, Ines Mursic¹, Albrecht Schmidt³, Thomas R Pieber¹, Barbara Obermayer-Pietsch¹. ¹Div. Endocrinology and Diabetology, Medical University Graz, Austria, ²Endocrinology Lab Platform, Medical University Graz, Austria, ³Div. Cardiology, Medical University Graz, Austria
Disclosures: Natascha Schweighofer, None
- SUN-0276** **AdipoRon Alleviates Diabetic Bone Disorders via Suppressing Inflammation**
 Wei Qiu*¹, Jake Chen², Qisheng Tu², Xingwen Wu², Xuedong Zhou¹, Junxiang Lian². ¹West China School of Stomatology, Sichuan University, China, ²Tufts Univ.School of Dental Medicine, United States
Disclosures: Wei Qiu, None
- SUN-0277** **Lipid Droplets Contribute to the Bioenergetic Capacity of Osteoblasts by Supplying Endogenous Fatty Acids for Mitochondrial Respiration**
 Elizabeth Rendina-Ruedy*¹, Ron Helderma¹, Michael Czech², Clifford Rosen¹. ¹Maine Medical Center Research Institute, United States, ²Program in Molecular Medicine, University of Massachusetts Medical School, United States
Disclosures: Elizabeth Rendina-Ruedy, None
- SUN-0278** **Complex Role for PPAR γ in Bone, Inflammation and Immune function in Aging Animals**
 Raysa Rosario*, Ashwin Ajith, Kehong Ding, Ranya Elsayed, Yun Su, Anatolij Horuzsko, Mohammed Elsalanty, Meghan Mcgee Lawrence, Carlos Isales, Xing-Ming Shi. medical college of georgia, United States
Disclosures: Raysa Rosario, None
- SUN-0279** **Mouse Model of Severe Osteogenesis Imperfecta is Protected Against High-Fat Diet Induced Obesity but not against High-Fat Diet Induced Insulin Resistance**
 Josephine T. Tauer*, Iris Boraschi-Diaz, Svetlana Komarova. Shriners Hospital for Children and Faculty of Dentistry, McGill University, Canada
Disclosures: Josephine T. Tauer, None
- SUN-0280** **FSH is Positively Associated with Vertebral Bone Marrow Adiposity in Postmenopausal Women from the AGES-Reykjavik Cohort**
 Annegreet G. Veldhuis-Vlug*¹, Gina N. Woods², Sigurdur Sigurdsson³, Susan K Ewing⁴, Phuong T. Le⁵, Trisha F. Hue⁴, Eric Vittinghoff³, Kaipin Xu⁶, Vilundur Gudnason⁷, Gunnar Sigurdsson⁷, Deborah M. Kado⁹, Gudny Eiriksdottir³, Tamara Harris⁸, Xiaojuan Li⁶, Clifford J Rosen⁵, Ann V. Schwartz¹. ¹Academic Medical Center dept of Endocrinology and Center for Clinical and Translational Research, Maine Medical Center Research Institute, United States, ²Dept. Medicine, University of California San Diego and VA San Diego Healthcare System, United States, ³Icelandic Heart Association, Iceland, ⁴Department of Epidemiology and Biostatistics, University of California San Francisco, United States, ⁵Center for Clinical and Translational Research, Maine Medical Center Research Institute, United States, ⁶Program of Advanced Musculoskeletal Imaging (PAMI), Cleveland Clinic, United States, ⁷Icelandic Heart Association Faculty of Medicine, University of Iceland, Iceland, ⁸National Institute on Aging, National Institutes of Health (NIA, NIH), United States, ⁹Dept of Medicine and Department of Family Medicine and Public Health, University of California, United States
Disclosures: Annegreet G. Veldhuis-Vlug, None
- SUN-0281** **Network analysis of skeletal muscle during spaceflight in male mice**
 David Waning*¹, Paul Childress², Raina Kumar³, George Dimitrov³, Bintu Sowe⁴, Aarti Gautam⁵, Nabaran Chakraborty⁶, Rasha Hammamieh⁵, Melissa Kacena². ¹Penn State College of Medicine, United States, ²Indiana University School of Medicine, United States, ³Advanced Biomedical Computing Center, NCI, United States, ⁴ORISE, US Army Center for Environmental Health Research, United States, ⁵Integrative Systems Biology, US Army Center for Environmental Health Research, United States, ⁶Geneva Foundation, US Army Center for Environmental Health Research, United States
Disclosures: David Waning, None

GENETIC MODELS OF MUSCULOSKELETAL DISEASES

- SUN-0305 High Fidelity of Mouse Models Mimicking Human Genetic Skeletal Disorders Resulting from Mutations in 316 Genes (Skeletal Dysplasia Society 2015 Nosology Update)**
Robert Brommage*, Claes Ohlsson. Centre for Bone and Arthritis Research, Sahlgrenska Academy, University of Gothenburg, Sweden
Disclosures: Robert Brommage, None
- SUN-0306 Spontaneous Knee Osteoarthritis Caused by 1,25(OH)2D Deficiency Is Corrected by Overexpression of Sirt1 in Mesenchymal Stem Cells**
Jie Chen*¹, Na Lu¹, Lulu Chen¹, David Goltzman², Dengshun Miao¹. ¹Nanjing Medical University, China, ²McGill University, Canada
Disclosures: Jie Chen, None
- SUN-0307 Effects of Alzheimer's Disease and high-fat diet on bone quality and quantity in mice**
Ryenne Chitjian*¹, Anthony Capellino², Lisa S Robison³, Olivia J Gannon³, Abigail E Salinero³, Kristen L Zuloaga³, David E Komatsu². ¹Stony Brook University, Department of Biomedical Engineering, United States, ²Stony Brook University, Department of Orthopaedics, United States, ³Albany Medical College, Department of Neuroscience & Experimental Therapeutics, United States
Disclosures: Ryenne Chitjian, None
- SUN-0308 Investigating Zbtb40 as a Determinant of Osteoblast Function and Commitment**
Madison Doolittle*¹, Robert Maynard¹, Gina Calabrese², Charles Farber², Cheryl Ackert-Bicknell¹. ¹University of Rochester, United States, ²University of Virginia, United States
Disclosures: Madison Doolittle, None
- SUN-0309 Short Truncation of the C-terminus Tail of Connexin43 in Mice Causes Metaphyseal Dysplasia, Stunted Growth and Low Bone Mass**
Francesca Fontana*, Marcus Watkns, Roberto Civitelli. Washington University School of Medicine, United States
Disclosures: Francesca Fontana, None
- SUN-0310 Aberrant Endo-lysosomal-mitochondrial System in Skeletal Progenitors Causes Inordinate Bone Growth**
Xianpeng Ge*¹, Lizhi He², Haibo Liu³, Guangchuang Yu⁴, Bradford Tremblay³, Ben Zhang⁵, Cole Haynes³, Jaehyuck Shim¹. ¹Department of Medicine, Division of Rheumatology, University of Massachusetts Medical School, United States, ²Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, United States, ³Department of Molecular, Cell and Cancer Biology, University of Massachusetts Medical School, United States, ⁴State Key Laboratory of Emerging Infectious Diseases, School of Public Health, The University of Hong Kong, China, ⁵Department of Orthopedics, University of Massachusetts Medical School, United States
Disclosures: Xianpeng Ge, None
- SUN-0311 Identification of putative variants underlying human hip bone geometry using murine functional epigenomics data**
Terence D. Capellini*¹, Yi-Hsiang Hsu², Mariel Young¹, Douglas P. Kiel², David Karasik². ¹Human Evolutionary Biology, Harvard University, United States, ²Institute for Aging Research Hebrew SeniorLife, United States
Disclosures: Terence D. Capellini, None
- SUN-0312 Distinct subsets of non-coding RNAs, including miRNAs, are associated with BMD in stressed and unstressed bone**
Kaare M. Gautvik*¹, Clara-Cecilie Günther², Mazyar Yazdani³, Einar Lindalen¹, Haldor Valland⁴, Vigdis T. Gautvik¹, Ole K. Olstad³, Marit Holden², Tor P. Utheim³, Sjur Reppe¹. ¹Lovisenberg Diakonale Hospital, Norway, ²Norwegian Computing Center, Norway, ³Oslo University Hospital, Norway, ⁴Diakonhjemmet Hospital, Norway
Disclosures: Kaare M. Gautvik, None

SUN-0313 **An evolving classification system for the range of skeletal phenotypes encountered in IMPC mice.**
David Rowe*¹, Douglas Adams², Hong Seung-Hyun³, Caibin Zhang⁴, Shin Dong-Guk³, Sundberg John⁵, Cheryl Ackert-Bicknell⁶. ¹School of Dental Medicine, University of Connecticut, United States, ²School of Medicine, University of Connecticut Health, United States, ³School of Engineering, University of Connecticut, United States, ⁴School of Dental Medicine, University of Connecticut Health, United States, ⁵The Jackson Laboratory, United States, ⁶University of Rochester School of Medicine, United States
Disclosures: David Rowe, None

SUN-0314 **Male specific low bone mass phenotype in Down Syndrome humans and mouse models**
Diarra Williams*¹, Alexis Mitchell¹, Alyssa Falck¹, Shannon Huggins¹, Kent Mckelvey², Dana Gaddy¹, Larry Suva¹. ¹Texas A&M University, United States, ²University of Arkansas for Medical Sciences, United States
Disclosures: Diarra Williams, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE

SUN-0331 **Metabolomic signatures of high fruit and vegetable intake and reduced prevalence of osteoporosis: The Boston Puerto Rican Osteoporosis Study**
Kelsey Mangano*¹, Sabrina Noel¹, Chao Qiang Lai², Laurence Parnell², Jose Ordovas², Katherine Tucker¹. ¹University of Massachusetts, Lowell, United States, ²Nutrition and Genomics Laboratory, Jean Mayer U.S. Department of Agriculture Human Nutrition Research Center on Aging, Tufts University, Boston, MA, United States
Disclosures: Kelsey Mangano, None

SUN-0332 **Exercise preconditioning promotes bone anabolism in hind-limb suspended mice via miR-152-3p-TFAM signaling dependent mitochondrial DNA replication**
Jyotirmaya Behera*, Suresh C Tyagi, Kimberly E Kelly, Neetu Tyagi, Nicholas Theilen. University of Louisville, United States
Disclosures: Jyotirmaya Behera, None

SUN-0333 **Transcriptional Profiling of Two Mechanisms of Bone Fracture Repair**
Brandon Coates*, Jennifer Mckenzie, Evan Buettmann, Matthew Silva. Washington University in St. Louis, United States
Disclosures: Brandon Coates, None

SUN-0334 **Using Co-expression Network Analysis to Inform GWAS for Bone Mineral Density**
Olivia Sabik*¹, Gina Calabrese¹, Cheryl Ackert-Bicknell², Charles Farber¹. ¹University of Virginia, United States, ²University of Rochester Medical Center, United States
Disclosures: Olivia Sabik, None

SUN-0335 **WITHDRAWN**

SUN-0336 **Genetic Variants Associated with Circulating Parathyroid Hormone among Patients with Chronic Kidney Disease**
Cassianne Robinson-Cohen*¹, Farzana Perwad², Myles S. Wolf³, Ian H. De Boer⁴, Bryan Kestenbaum⁴, Loren Lipworth¹, Adriana Hung¹, T. Alp Ikizler¹. ¹Vanderbilt University Medical Center, United States, ²University of California San Francisco, United States, ³Duke University, United States, ⁴University of Washington, United States
Disclosures: Cassianne Robinson-Cohen, None

HORMONAL REGULATORS

SUN-0360 **PTEN REGULATION ALLEVIATES THE ALCOHOL-INDUCED OSTEOPENIA IN RAT VIA AKT/GSK-3B/B-CATENIN PATHWAY IN BMSCS**
Yi-Xuan Chen*, You-Shui Gao, Chang-Qing Zhang. Shanghai Sixth People hospital, China
Disclosures: Yi-Xuan Chen, None

SUN-0361 **WITHDRAWN**

- SUN-0362** **Megalin-Mediated 25-hydroxyvitamin D Actions in Human Mesenchymal Stem Cells**
Yuan Gao*, Simon Luu, Shuanhu Zhou, Julie Glowacki. Brigham and Women's Hospital, United States
Disclosures: Yuan Gao, None
- SUN-0363** **Phosphorylation of S122 in ERα is Dispensable for the Physiological Regulation of the Skeleton in Female Mice**
Karin Gustafsson*¹, Helen Farman¹, Petra Henning¹, Vikte Lionikaite¹, Sofia Movérare-Skrtic¹, Klara Sjögren¹, Pierre Chambon², Claes Ohlsson¹, Marie Lagerquist¹. ¹Centre for Bone and Arthritis Research at the Institute of Medicine, Sahlgrenska Academy at University of Gothenburg, Sweden, ²Institut de Génétique et de Biologie Moléculaire et Cellulaire Centre National de la Recherche Scientifique, National de la Santé et de la Recherche Médicale, ULP, Collège de France, Illkirch-Strasbourg, France
Disclosures: Karin Gustafsson, None
- SUN-0364** **Glucocorticoid receptor dimerization is deleterious in trauma-induced compromised fracture healing**
Yasmine Hachemi*¹, Anna E. Rapp², Ann-Kristin Picke¹, Anita Ignatus³, Jan Tuckermann¹. ¹Institute of Comparative Molecular Endocrinology, Ulm University, Germany, ²German Rheumatism Research Centre, Germany, ³Institute of Orthopedic Research and Biomechanics, Center for trauma research, Ulm University Medical Center, Germany
Disclosures: Yasmine Hachemi, None
- SUN-0365** **Relaxin Accelerates Rat Midpalatal Suture Expansion and Subsequent Bone Formation**
Hiroyuki Kamimoto*, Yukiho Kobayashi, Keiji Moriyama. Department of Maxillofacial Orthognathics, Division of Maxillofacial and Neck Reconstruction, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University, Japan
Disclosures: Hiroyuki Kamimoto, None
- SUN-0366** **Skeletal Effects of Non-Genomic Thyroid Hormone Receptor (TR) β1 Signaling in Mice**
Richard Lindsey*^{1,2}, Catrina Godwin¹, Subburaman Mohan^{1,2}. ¹Musculoskeletal Disease Center, VA Loma Linda Healthcare System, United States, ²Department of Medicine, Loma Linda University, United States
Disclosures: Richard Lindsey, None
- SUN-0367** **Parathyroid Hormone is Anabolic for Bone due to Progenitor Recruitment and Adipogenic Lipolysis**
David Maridas*¹, Elizabeth Rendina-Ruedy², Ron Helderman², Victoria Demambro², Daniel Brooks³, Anyonya Guntur², Vicki Rosen¹, Beate Lanske¹, Mary Bouxsein³, Clifford Rosen². ¹Harvard School of Dental Medicine, United States, ²Maine Medical Center Research Institute, United States, ³Center for Advanced Orthopaedic Studies, Beth Israel Deaconess Medical Center, United States
Disclosures: David Maridas, None
- SUN-0368** **Propranolol treatment reduced sympathetic tone and prevented PTH-induced resorption in C57BL/6J mice**
Annika Treyball*¹, Hina Hashmi¹, Daniel Brooks², Kenichi Nagano³, Deborah Barlow⁴, Karen Houseknecht⁴, Roland Baron³, Mary Bouxsein², Anyonya Guntur¹, Katherine Motyl¹. ¹Maine Medical Center Research Institute, United States, ²Beth Israel Deaconess Medical Center, United States, ³Harvard School of Dental Medicine, United States, ⁴University of New England, United States
Disclosures: Annika Treyball, None
- SUN-0369** **WITHDRAWN**
- SUN-0370** **A Novel Long-Acting PTH(1-34) Analog Containing a Palmitoylated C-Terminal Tag**
Hiroshi Noda*, Ashok Khatri, Thomas J Gardella. Massachusetts General Hospital and Harvard Medical School, United States
Disclosures: Hiroshi Noda, Chugai Pharmaceutical Co., Ltd., Other Financial or Material Support

- SUN-0371 Standardizing 25-Hydroxyvitamin D Concentrations Does Not Change the Number of Infants Classified as Vitamin D Deficient**
 Sharina Patel*¹, Sherry Agellon¹, Paula Lavery¹, Catherine A. Vanstone¹, Nora Shero¹, Nathalie Gharibeh¹, Maryam Razaghi¹, Shuqin Wei², Hope A. Weiler¹. ¹School of Human Nutrition, McGill University, Canada, ²Department of Obstetrics and Gynecology, Sainte Justine Hospital, University of Montreal, Canada
Disclosures: Sharina Patel, None
- SUN-0372 Hypocalcemia from Hypoparathyroidism after Harvoni treatment for Hepatitis C**
 Puspalatha Sajja*, Catherine Anastasopoulou, Nissa Blocher. Einstein Medical Center, United States
Disclosures: Puspalatha Sajja, None
- SUN-0373 FGF Receptor 1c Works as a Phosphate-Sensor to Regulate FGF23 Production**
 Yuichi Takashi*¹, Yuka Kinoshita², Nobuaki Ito², Shun Sawatsubashi¹, Hidetaka Kosako¹, Masahiro Abe¹, Munehide Matsuhisa¹, Toshio Matsumoto¹, Seiji Fukumoto¹. ¹Tokushima University, Japan, ²The University of Tokyo Hospital, Japan
Disclosures: Yuichi Takashi, None
- SUN-0374 Effects of Biliopancreatic Diversion on Bone Turnover Markers and Association with Hormonal Factors in Patients with Severe Obesity**
 Anne-Frederique Turcotte*¹, Thomas Grenier-Larouche², Roth-Visal Ung¹, David Simonyan³, Anne-Marie Carreau², André Carpentier², Fabrice Mac-Way¹, Claudia Gagnon¹. ¹Laval University, Canada, ²Sherbrooke University, Canada, ³Chu de Quebec, Canada
Disclosures: Anne-Frederique Turcotte, None
- SUN-0375 The Kruppel-like transcription factor 6 (KLF6/CPBP) plays a critical role in Colony Stimulating Factor 1-dependent transcriptional activation of the SPHK1 gene**
 Gang Qing Yao*, Karl Insogna. Yale university, United States
Disclosures: Gang Qing Yao, None
- MECHANOBIOLOGY**
- SUN-0401 Specific modulation of vertebral marrow adipose tissue by physical activity**
 Daniel Belavy*¹, Matthew Quittner¹, Nicola Ridgers¹, Adnan Shiekh², Timo Rantalainen³, Guy Trudel². ¹Deakin University, Australia, ²University of Ottawa, Canada, ³University of Jyväskylä, Finland
Disclosures: Daniel Belavy, None
- SUN-0402 The role of acetylcholine receptor signaling in bone mechanotransduction**
 Karl J Lewis*, Alexander G Robling. Indiana University School of Medicine, United States
Disclosures: Karl J Lewis, None
- SUN-0403 Expression pattern of the mechanoresponsive piezo2 ion channel during skeletal development and growth**
 Jerahme Martinez*, Ashutosh Parajuli, Sucharitha Parthasarathy, Padma Srinivasan, Catherine Kirn-Safran, Liyun Wang. University of Delaware, United States
Disclosures: Jerahme Martinez, None
- SUN-0404 Substantial Repair of Diffuse Damage in Bone In-Vitro Can Occur Through Physicochemical Mechanisms.**
 Leila Mehraban Alvandi*, Donna Chen, Samuel Stephen, Zeynep Seref-Ferlengez, Robert J Majeska, Mitchell B. Schaffler. Department of Biomedical Engineering, City College of New York, United States
Disclosures: Leila Mehraban Alvandi, None
- SUN-0405 Bone Properties and the Endocannabinoid System Observed with Neurectomy and Hibernation in Marmots (Marmota flaviventris)**
 Emily Mulawa*, Rebecca Packer, Jay Kirkwood, Lisa Wolfe, Samantha Wojda, Jessica Prenni, Gregory Florant, Seth Donahue. Colorado State University, United States
Disclosures: Emily Mulawa, None

- SUN-0406** **The Role of Panx1 and P2X7R in Inflammation-induced Diabetic Bone Dysfunction**
Zeynep Seref-Ferlengez*¹, Marcia Urban-Maldonado¹, Herb Sun¹, Mitchell Schaffler², Sylvia Suadicani¹, Mia Thi¹. ¹Albert Einstein College of Medicine, United States, ²City College of New York, United States
Disclosures: Zeynep Seref-Ferlengez, None
- SUN-0407** **Exercise in Calorie Restricted Mice fails to Increase Bone Quantity, despite suppression of Marrow Adipose Tissue (MAT)**
Cody Mcgrath*¹, Jeyantt Sankaran¹, Negin Misaghian-Xanthos¹, Buer Sen¹, Zhihui Xie¹, Martin A Styner², Xiaopeng Zong³, Maya Styner¹. ¹Division of Endocrinology and Metabolism, Department of Medicine, UNC-Chapel Hill, United States, ²Departments of Computer Science and Psychiatry, UNC, United States, ³Biomedical Research Imaging Center, UNC, United States
Disclosures: Cody Mcgrath, None
- SUN-0408** **Mechanical signals activate YAP and TAZ in part via Piezo 1**
Xuehua Li*, Charles O'Brien, Jinhu Xiong. University of Arkansas for Medical Sciences, United States
Disclosures: Xuehua Li, None
- SUN-0409** **Disruption of Nucleo-Cytoskeletal Connectivity Impairs Mechanical Competence of MDA-MB-231 Cells and Regulates Responses to Low Magnitude Mechanical Forces**
Xin Yi*¹, Laura Wright¹, Gabriel Pagnotti¹, Gunes Uzer², Clinton Rubin³, Uma Sankar¹, Katherine Powell¹, Joseph Wallace¹, Khalid Mohammad¹, Theresa Guise¹, William Thompson¹. ¹Indiana University, United States, ²Boise State University, United States, ³Stony Brook University, United States
Disclosures: Xin Yi, None

MUSCULOSKELETAL AGING

- SUN-0426** **Defining the Role of BMP Signaling in the Development of Degenerative Disc Disease**
Avionna Baldwin*¹, Roman Eliseev¹, Addisu Mesfin¹, Noriaki Yokogawa², Alex Hollenberg¹. ¹University of Rochester School of Medicine and Dentistry, United States, ²Kanazawa University, Japan
Disclosures: Avionna Baldwin, None
- SUN-0427** **Age-related changes in bone strength of male radii depend on outer bone size**
Erin M.R. Bigelow*¹, Daniella M. Patton¹, Gurjit Mandair¹, Ferrous S. Ward¹, Stephen H. Schlecht¹, Michael D. Morris¹, David Kohn¹, Todd L. Bredbenner², Karl J. Jepsen¹. ¹University of Michigan, United States, ²University of Colorado Colorado Springs, United States
Disclosures: Erin M.R. Bigelow, None
- SUN-0428** **Adult vs. Middle-Aged Bone Responses to Hindlimb Unloading in Males and Females**
Rihana Bokhari*¹, Corinne Metzger¹, Alexandra Marich¹, Emily Sturgell¹, Matthew Allen², Alyssa Flack¹, Larry Suva¹, Susan Bloomfield¹. ¹Texas A&M University, United States, ²Indiana University of Medicine, United States
Disclosures: Rihana Bokhari, None
- SUN-0429** **Tomographic and biomechanical differences in trabecular bone in the early stage of male osteoporosis**
Ruei-Ming Chen*, Wei-Hua Chang. Taipei Medical University, Taiwan
Disclosures: Ruei-Ming Chen, None
- SUN-0430** **The Decline of Osteoprogenitor Number and Loss of Bone Mass with Old Age in Mice is Attenuated by Repleting NAD+ with Nicotinamide Riboside Administration**
Ha-Neui Kim*^{1,2}, Li Han^{1,2}, Srividhya Iyer¹, Jianhui Chang¹, Aaron Warren^{1,2}, Julie Crawford^{1,2}, Daohong Zhou¹, Stavros Manolagas^{1,2}, Maria Almeida^{1,2}. ¹University of Arkansas for Medical Sciences, United States, ²Central Arkansas Veterans Healthcare System, United States
Disclosures: Ha-Neui Kim, None

- SUN-0431** **Microstructural analysis of human whole spine vertebrae by using HR-pQCT**
Narihiro Okazaki^{*1}, Shuta Yamada¹, Ko Chiba¹, Toshiyuki Tsurumoto², Makoto Osaki¹.
¹Department of Orthopaedic Surgery, Nagasaki University Hospital, Japan, ²Department of
Macroscopic Anatomy, Nagasaki University Graduate School of Biomedical Sciences, Japan
Disclosures: Narihiro Okazaki, None

MUSCULOSKELETAL DEVELOPMENT

- SUN-0448** **Role of Discoidin Domain Receptor 2 in Bone Regeneration**
Abdulaziz Binrayes^{*}, Renny Franceschi. University of Michigan, United States
Disclosures: Abdulaziz Binrayes, None
- SUN-0449** **Cartilage-like microfiber/hydrogel composite scaffold for articular cartilage therapy and regeneration**
Young Hun Jeong^{*}, Cheol Woo Park, Gyu Man Kim, Moon Kyu Kwak. Kyungpook National University, Republic of Korea
Disclosures: Young Hun Jeong, None
- SUN-0450** **Pin1 suppression rescued impaired endochondral ossification in Fgfr2 S252W/+ Apert mouse model**
Bong-Soo Kim^{*}, Hye-Rim Shin, Han-Sol Bae, Woo-Jin Kim, Hee-In Yoon, Won-Jun Yoon, Hyun-Mo Ryoo. Seoul National University, Republic of Korea
Disclosures: Bong-Soo Kim, None
- SUN-0451** **Adult Ece1 Ablation in Mice Causes Pulmonary Dysfunction and Pectus Excavatum**
Jasmin Kristianto^{*1}, Michael Johnson², Abigail Radcliff², Robert D Blank¹. ¹Medical College of Wisconsin, United States, ²University of Wisconsin Madison, United States
Disclosures: Jasmin Kristianto, None
- SUN-0452** **A Survey of Skeletal Adaptations in Young Male Mice after Four Weeks of Microgravity Aboard the International Space Station**
Kevin Maupin^{*1}, Paul Childress¹, Riley Gorden¹, Alexander Brinker¹, Elliott Beckner¹, Rachel Mannfeld¹, Faisal Khan¹, Matthew Allen^{1,2}, Nabarun Chakraborty³, Aarti Gautam⁴, Rasha Hammamieh⁴, Melissa Kacena^{1,2}. ¹Indiana University School of Medicine, United States, ²Richard L. Roudebush VA Medical Center, United States, ³Geneva Foundation, US Army Center for Environmental Health Research, United States, ⁴US Army Center for Environmental Health Research, United States
Disclosures: Kevin Maupin, None
- SUN-0453** **Beginning Maternal Vitamin D Supplementation Before Pregnancy is Associated with Higher Serum Vitamin D Status in Neonates**
Maryam Razaghi^{*1}, Sharina Patel¹, Nathalie Gharibeh¹, Nora Shero¹, Sherry Agellon¹, Catherine Vanstone¹, Shugin Wei², Hope Weiler¹. ¹McGill University, Canada, ²Hôpital Sainte-Justine (Montréal), Canada
Disclosures: Maryam Razaghi, None
- SUN-0454** **Effect of extracellular high phosphate on myogenesis of C2C12 myoblasts**
Eisuke Tomatsu^{*1}, Hidehito Inagaki², Tsukasa Kawakami¹, Yohei Asada¹, Shogo Nakayama¹, Izumi Hiratsuka¹, Yasumasa Yoshino¹, Sahoko Sekiguchi-Ueda¹, Megumi Shibata¹, Takeshi Takayanagi¹, Yoshihisa Sugimura¹, Hiroki Kurahashi², Atsushi Suzuki¹.
¹Department of Endocrinology and Metabolism, Fujita Health University, Japan, ²Division of Molecular Genetics, Institute for Comprehensive Medical Science, Fujita Health University, Japan
Disclosures: Eisuke Tomatsu, None
- SUN-0455** **Delayed tooth eruption in Runx2+/- mice is rescued by HDAC inhibitors.**
Heein Yoon^{*}, Han-Sol Bae, Hye-Rim Shin, Bong-Soo Kim, Jeong-Hwa Baek, Yun-Sil Lee, Kyung-Mi Woo, Hyun-Mo Ryoo. Seoul National University, Republic of Korea
Disclosures: Heein Yoon, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION

- SUN-0477** **Toll-like Receptors 3 and 4 are Critical Regulators of Bone Formation even in the Absence of Infection**
Alan Davis*. Baylor College of Medicine, United States
Disclosures: Alan Davis, None
- SUN-0478** **Discoidin Domain Receptor 2 Controls Skeletal Stem Cell Lineage**
Chunxi Ge^{*1}, Fatma Mohamed², Yi Tang³, Stephan Weiss³, Renny Franceschi¹. ¹Dept of Periodontics & Oral Medicine, University of Michigan School of Dentistry, United States, ²Dept of Periodontics & Oral Medicine, Univ. of Michigan School of Dentistry, United States, ³Life Sciences Institute, University of Michigan, United States
Disclosures: Chunxi Ge, None
- SUN-0479** **Sost KO mice cannot rescue the conditional knockout of the Bmp2 gene Using the Osterix-CreERT2 or aSMA-CreERT2 model**
Stephen E Harris^{*1}, Jelica Gluhak-Heinrich¹, Marie A Harris¹, Jian Feng², Yong Cui¹, Ivo Kalajzic³. ¹uthscsa, United States, ²texas a and m Dental School, United States, ³Uconn Health, United States
Disclosures: Stephen E Harris, None
- SUN-0480** **Exposure of Nutrient-stressed Bone-derived Mesenchymal Stem Cells to the Tryptophan Metabolite Kynurenine Inhibits Autophagy and Promotes Cell Death**
Robert Bragg^{*1}, Thomas Barrett², Ahmed Elmansi², Khaled Hussein², Tanner Mobley¹, Wendy Bollag³, Sadanand Fulzele⁴, Xingming Shi⁵, Meghan Mcgee-Lawrence², Mark Hamrick², Carlos Isales⁶, William Hill^{2,7}. ¹Medical College of Georgia, Augusta University, United States, ²Dept Cellular Biology & Anatomy, Medical College of Georgia, Augusta University, United States, ³Department of Physiology and Endocrinology, Medical College of Georgia, Augusta University, United States, ⁴Department of Orthopedic Surgery, Medical College of Georgia, Augusta University, United States, ⁵Dept of Neuroscience and Regenerative Medicine, Medical College of Georgia, Augusta University, United States, ⁶Dept of Medicine Endocrinology, Medical College of Georgia, Augusta University, United States, ⁷Charlie Norwood VAMC, United States
Disclosures: Robert Bragg, None
- SUN-0481** **The role of the RhoGTPase cdc42 in the differentiation of mesenchymal stromal cells to osteoblasts and adipocytes**
Katrin Huck^{*1}, Carla Sens-Albert², Inaam Nakchbandi¹. ¹Max-Planck Institute for Medical Research, Germany, ²University of Heidelberg, Germany
Disclosures: Katrin Huck, None
- SUN-0482** **Cartilage tissue engineering using poly(PCL/PTHF urethane)/collagen nanofibers via blocking NF- κ B signaling pathway**
Tongmeng Jiang^{*}, Xianyuan Huang, Shujun Heng, Li Zheng, Jinmin Zhao. Guangxi Engineering Center in Biomedical Materials for Tissue and Organ Regeneration & Guangxi Collaborative Innovation Center for Biomedicine, The First Affiliated Hospital of Guangxi Medical University, China
Disclosures: Tongmeng Jiang, None
- SUN-0483** **A Long Intergenic Noncoding RNA in Macrophages and Mesenchymal Stem Cells Regulates in vivo Trabecular Bone Formation**
Coralee E. Tye^{*1}, Jonathan A.R. Gordon¹, Kristiaan Finstad¹, Roland Elling², Kate A. Fitzgerald², Janet L. Stein¹, Gary S. Stein¹, Jane B. Lian¹. ¹Department of Biochemistry, University of Vermont Larner College of Medicine, United States, ²Department of Medicine, University of Massachusetts Medical School, United States
Disclosures: Coralee E. Tye, None

- SUN-0484 Autograft ligament-tendon tissues formed a “new knee” in the damaged knee surface**
Chi Ma*¹, Chuanju Liu², Lei Zhang¹, Hu Zhao³, Xiaohua Liu³, Yan Jing³, Jian Q. Feng².
¹Postdoctoral Fellow, United States, ²Professor, United States, ³Assistant Professor, United States
Disclosures: Chi Ma, None
- SUN-0485 Characterizing Osteogenic Deficiency in Neurofibromatosis Type 1 at Single-Cell Resolution**
Nandina Paria*¹, Jinyan Chan², Jingua Gu², Carol Wise¹, Jonathan Rios¹. ¹Texas Scottish Rite Hospital for Children, United States, ²Baylor Research Institute, United States
Disclosures: Nandina Paria, None
- SUN-0486 βcatenin preserves stem state of MSC through activation of EZH2**
Buer Sen*¹, Zhihui Xie¹, Jeyantt S Sankaran¹, Amel Dudakovic², Gunes Uzer³, Maya Styner¹, Mark B Meyer⁴, Andre J Van Wijnen², Janet Rubin¹. ¹University of North Carolina, United States, ²Mayo Clinic, United States, ³Boise State University, United States, ⁴University of Wisconsin, United States
Disclosures: Buer Sen, None
- SUN-0487 Extracellular lipid availability determines skeletal progenitor cell fate**
Nick Van Gastel*^{1,2,3}, Steve Stegen^{1,2}, Guy Eelen^{4,5}, Sandra Schoors^{4,5}, Aurelie Carlier^{2,6,7}, Veerle Daniels⁴, Maarten Depypere^{8,9}, Pieter-Jan Stiers^{1,2}, Riet Van Looveren¹, Sophie Torrekens¹, Patrizia Agostinis¹⁰, Frederik Maes^{8,9}, Johan Swinnen⁴, Liesbet Geris^{2,6,7}, Hans Van Oosterwyck^{2,6}, Peter Carmeliet^{4,5}, David Scadden^{3,11}, Geert Carmeliet^{1,2}. ¹Department of chronic diseases, metabolism and ageing, KU Leuven, Belgium, ²Prometheus, Division of Skeletal Tissue Engineering, KU Leuven, Belgium, ³Department of Stem Cell and Regenerative Biology, Harvard University, Cambridge, MA, United States, ⁴Department of Oncology, KU Leuven, Belgium, ⁵Center for Cancer Biology, VIB, Belgium, ⁶Department of Mechanical Engineering, KU Leuven, Belgium, ⁷Biomechanics Research Unit, GIGA In Silico Medicine, University of Liege, Belgium, Netherlands, ⁸Medical Imaging Research Center, KU Leuven, Belgium, ⁹Department of Electrical Engineering, KU Leuven, Belgium, ¹⁰Department of Cellular and Molecular Medicine, KU Leuven, Belgium, ¹¹Center for Regenerative Medicine, Massachusetts General Hospital, Boston, MA, United States
Disclosures: Nick Van Gastel, None
- SUN-0488 Nestin+ Mesenchymal Stem/Progenitor Cells essential for Type H Vessels Formation in Coupling Osteogenesis**
Liang Xie*¹, Xiao Wang², Manman Gao², Changjun Li², Hui Xie³, Lingling Xian⁴, Mei Wan⁵, Qianming Chen¹, Xu Cao². ¹State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, China, ²Department of Orthopedic Surgery, School of Medicine, Johns Hopkins University, United States, ³Department of Sports Medicine, Xiangya Hospital, Central South University, China, ⁴Division of Hematology, Department of Medicine, The Johns Hopkins University School of Medicine, United States, ⁵Department of Orthopaedic Surgery, Johns Hopkins University School of Medicine, United States
Disclosures: Liang Xie, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS

- SUN-0513 RNA-Seq Based Comparative Transcriptome Profiling To Decipher The Role Of Glycogen Synthase Kinase 3 Signaling In Cartilage Biology**
Supinder Kour Bali*¹, Lauren Solomon², Dawn Bryce¹, Frank Beier¹. ¹Department of Physiology and Pharmacology, The University of Western Ontario, Canada, ²Department of Pathology and Laboratory Medicine, The University of Western Ontario, Canada
Disclosures: Supinder Kour Bali, None
- SUN-0514 The Rare Disease, Alkaptonuria, Reveals New Mechanisms of Joint Destruction, Subchondral Cracking and HDMP Formation, that may be Prevalent in Osteoarthritis**
J A Gallagher*¹, N P Thomas¹, N Jeffery¹, L R Ranganath¹, A Boyde². ¹University of Liverpool, United Kingdom, ²Queen Mary University of London, United Kingdom
Disclosures: J A Gallagher, None

- SUN-0515 Porous Tantalum Rods Implantation for Osteonecrosis of Femoral Head: Longitudinal Follow-up of 40 hips**
 Mincong He*¹, Qiushi Wei², Wei He², Yi-Xian Qin³. ¹First School of Clinical Medicine, Guangzhou University of Chinese Medicine, China, ²Department of Orthopaedics Surgery, The First Affiliated Hospital of Guangzhou University of Chinese Medicine, China, ³Department of Biomedical Engineering, Stony Brook University, United States
Disclosures: Mincong He, None
- SUN-0516 TGF- β Signaling Plays an Important Role in Chondrocyte Senescence after Oxidative Stress**
 Jie Jiang*, Tieshi Li, Alessandra Esposito, Lai Wang, Xin Jin, Joseph Temple, Arnavaз Hakimiyan, Susan Chubinskaya, Anna Spagnoli. Department of Pediatrics, Rush University medical Center, United States
Disclosures: Jie Jiang, None
- SUN-0517 Clinical symptoms, quality of life (QOL), function and gait in community dwelling Seniors: Comparing those with and without osteoarthritic (OA) knee pain.**
 Angela Juby*¹, Christopher Davis¹, Justin Lewicke². ¹University of Alberta, Canada, ²Glenrose Rehabilitation Hospital, Canada
Disclosures: Angela Juby, None
- SUN-0518 Biochemical Profiling of MRI-detected Bone Marrow Lesions in Knee Osteoarthritis Patients: Altered Mineralization of the Subchondral Bone Matrix**
 Julia Kuliwaba*, Yea-Rin Lee, Dzenita Muratovic, David Findlay. Adelaide Medical School, The University of Adelaide, Australia
Disclosures: Julia Kuliwaba, None
- SUN-0519 Subchondral tibial bone texture is related with knee replacement surgery**
 Thomas Janvier*¹, Guillaume Odri², Rachid Jennane¹, Hechmi Toumi¹, Eric Lespessailles³. ¹University of Orléans, I3MTO Laboratory, France, ²Hospital Lariboisière, Orthopedics, France, ³Hospital of Orléans, Rheumatology, France
Disclosures: Thomas Janvier, None
- SUN-0520 Older adults with greater severity of lumbar disc height narrowing and facet joint osteoarthritis have higher lumbar volumetric BMD, independently of body weight: Framingham QCT Study**
 Elizabeth Samelson*¹, Mohamed Jarraya², Michelle Yau³, Elise Morgan⁴, Brett Allaire⁵, Mary Bouxsein⁶, Marian Hannan³, Douglas Kiel³, Thomas Travison³, Pradeep Suri⁶, Ali Guermazi⁷. ¹Institute for Aging Research, Hebrew SeniorLife, Harvard Medical School, United States, ²Mercy Catholic Medical Center, United States, ³Institute for Aging Research, Hebrew SeniorLife, United States, ⁴Boston University, United States, ⁵Beth Israel Deaconess Medical Center, United States, ⁶University of Washington, United States, ⁷Boston Medical Center, United States
Disclosures: Elizabeth Samelson, None
- SUN-0521 Postmenopausal Women Have Increased Risk of Periprosthetic Fracture After Total Knee Arthroplasty**
 Blossom Samuels*¹, Josue Santana², Alexander Dash¹, Yi Liu¹, Alana Serota¹, David Mayman¹, Kaitlin Carroll¹, Michael Pitta¹, Timothy Wright¹, Emily Stein¹. ¹Hospital for Special Surgery, United States, ²Cornell University, United States
Disclosures: Blossom Samuels, None
- SUN-0522 CaMKK2-AMPK-p38MAPK Axis Regulates the Onset of Post-Traumatic Osteoarthritis**
 Uma Sankar*¹, Elsa Mevel¹, Yong Li¹, Ushashi Dadwal¹, William Thompson¹, Diane Wagner², Stephen Trippel¹, Matthew Allen², David Burr¹. ¹Indiana University School of Medicine, United States, ²Indiana University Purdue University of Indianapolis, United States
Disclosures: Uma Sankar, None

- SUN-0523 Targeting the IGF-1 Signaling Pathway for the Prevention of Post-Traumatic Osteoarthritis (PTOA)**
Yongmei Wang*¹, Long Le², Tianlu Wang¹, Tejal Desai², Daniel Bikle¹. ¹Endocrine Unit, University of California, San Francisco and San Francisco VA Health Care System, United States, ²Department of Bioengineering and Therapeutic Sciences, University of California, San Francisco, United States
Disclosures: Yongmei Wang, None
- SUN-0524 A Standardized Approach to Quantifying Pathological Parameters of Osteoarthritis in a Preclinical Model**
Gregory Young*, Fadia Kamal, Vengadesh Karrupagounder, William Pinamont, Reyad Elbarbary. Department of Orthopedics and Rehabilitation, Penn State University, College of Medicine, Hershey PA., United States
Disclosures: Gregory Young, None

OSTEOBLASTS

- SUN-0557 Pro-Osteoporotic mir-320a Induces Oxidative Stress and Impairs Osteoblast Function**
Natalia Garcia-Giralt*¹, Laura De-Ugarte², Susana Balcells³, Xavier Nogues¹, Daniel Grinberg³, Adolfo Diez-Perez¹. ¹IMIM (Hospital del Mar Medical Research Institute), CIBERFES, Spain, ²IMIM (Hospital del Mar Medical Research Institute), Spain, ³Universitat de Barcelona, CIBERER, Spain
Disclosures: Natalia Garcia-Giralt, None
- SUN-0558 Role of Methylsulfonylmethane (MSM) as an osteoinductive material in the osteogenesis of stem cells from human exfoliated deciduous teeth (SHED)**
Hanan Aljohani*, Meenakshi A. Chellaiah. University of Maryland- Dental School, United States
Disclosures: Hanan Aljohani, None
- SUN-0559 FGF23 Counters Osteoblast Differentiation in Human Mesenchymal Stem Cells by Inhibiting Vitamin D Signaling and Metabolism**
Christopher Bertucci*, Fangang Meng, Shuanhu Zhou, Julie Glowacki. Brigham and Women's Hospital, United States
Disclosures: Christopher Bertucci, None
- SUN-0560 Developmental contribution of growth plate-derived hedgehog signal-responsive cells in growing bone**
Ryuma Haraguchi*¹, Riko Kitazawa², Yuuki Imai³, Sohei Kitazawa¹. ¹Department of Molecular Pathology, Ehime University Graduate School of Medicine, Japan, ²Department of Diagnostic Pathology, Ehime University Hospital, Japan, ³Proteo-Science Center, Ehime University, Japan
Disclosures: Ryuma Haraguchi, None
- SUN-0561 The role of Fam20C on the bone and tooth formation**
Katsutoshi Hirose*¹, Yu Usami¹, Kaori Oya¹, Sunao Sato¹, Toshihisa Komori², Satoru Toyosawa¹. ¹Osaka University Graduate School of Dentistry, Japan, ²Nagasaki University Graduate School of Biomedical Sciences, Japan
Disclosures: Katsutoshi Hirose, None
- SUN-0562 Adenosine Receptors A2A and A3 are crucial in Pulsed-Electromagnetic-Field Induced Pre-Osteoblast Cell Differentiation**
Niladri S. Kar*¹, Daniel Ferguson², Nianli Zhang³, Erik I. Waldorff³, James T. Ryaby³, Joseph A. Didonato¹. ¹Cleveland Clinic, United States, ²Washington University in St. Louis, United States, ³Orthofix, United States
Disclosures: Niladri S. Kar, None
- SUN-0563 The epigenetic regulator and H3K9me2 demethylase encoded by the Hairless (Hr) gene controls osteoblast differentiation**
Farzaneh Khani*, Roman Thaler, Christopher Paradise, Amel Dudakovic, Andre Vanwijnen. Department of Orthopedic Surgery, Mayo Clinic, United States
Disclosures: Farzaneh Khani, None

- SUN-0564** **Salt-inducible kinase 1 regulates bone metabolism by affecting proliferation of osteoblast precursors and differentiation of osteoblasts**
 Min Kyung Kim*, Hong-Hee Kim. Department of Cell and Developmental Biology, Seoul National University, Republic of Korea
Disclosures: Min Kyung Kim, None
- SUN-0565** **Osteoblast-Specific Cell-Surface Antigen Regulating Osteoclastogenesis and Calcification: A Possible Unique Modulator of Bone Remodeling**
 Tamer Badawy*¹, Yukari Kyumoto-Nakamura¹, Norihisa Uehara¹, Akiko Kukita², Toshio Kukita¹. ¹Molecular Cell Biology & Oral Anatomy, Faculty of Dental Science, Kyushu University, Japan, ²Microbiology, Faculty of Medicine, Saga University, Japan
Disclosures: Tamer Badawy, None
- SUN-0566** **Osteoblast-specific overexpression of Gas or Ga11 leads to differential fracture healing responses.**
 Kathy Kyungeun Lee*¹, Jane Mitchell¹, Marc Grynpas². ¹University of Toronto, Canada, ²Lunenfeld-Tanenbaum Research Institute, Canada
Disclosures: Kathy Kyungeun Lee, None
- SUN-0567** **Analysis of osteoblast-specific histone-modifying enzymes Mof reveals novel epigenetic basis of osteoblast differentiation**
 Xiangzhi Li*¹, Jianmei Chen¹, Di Liu², Minqi Li³, Yang Yang¹, Shuang Gao¹, Meng Wang¹, Shiguo Yan⁴. ¹Department of Cell Biology, Shandong University School of Basic Medical Sciences, China, ²Department of Prosthodontics, Shandong Provincial Key Laboratory of Oral Tissue Regeneration, School of Stomatology Shandong University, China, ³Department of Bone Metabolism, School of Stomatology Shandong University, China, ⁴Department of Periodontology, School of Stomatology Shandong University, China
Disclosures: Xiangzhi Li, None
- SUN-0568** **Plasticizer Di(2-ethylhexyl)phthalate Interferes with Osteoblastogenesis and Adipogenesis in vitro and in vivo**
 Rong-Sen Yang*, Chen-Yuan Chiu, Ding-Cheng Chan, Shing-Hwa Liu. National Taiwan University, Taiwan
Disclosures: Rong-Sen Yang, None
- SUN-0569** **TRAPPC9 Regulates BMP2-mediated Osteoblast Differentiation and Bone Regeneration through Down-Regulation of NF-κB Activation**
 Thomas Mbimba*¹, Gregory Sondag¹, Fouad Moussa¹, Fayeze Safadi². ¹Musculoskeletal Research Group, NEOMED, United States, ²Musculoskeletal Research Group, NEOMED, Akron Children Hospital, United States
Disclosures: Thomas Mbimba, None
- SUN-0570** **Role of Hp1 family proteins Cbx1, Cbx3, and Cbx5 during osteoblastic differentiation**
 Christopher R. Paradise*¹, Pengfei Zan¹, Roman Thaler¹, Farzaneh Khani¹, Merel O. Mol², Esther Liu¹, Guodong Li³, Peter Kloen², Marianna Kruithof-De Julio⁴, Simon M. Cool⁵, David R. Deyle¹, Amel Dudakovic¹, Andre J. Van Wijnen¹. ¹Mayo Clinic, United States, ²University of Amsterdam, Netherlands, ³Tongji University, China, ⁴University of Bern, Switzerland, ⁵Agency for Science, Technology and Research, A(*)STAR, Singapore
Disclosures: Christopher R. Paradise, None
- SUN-0571** **Role of Pre-proenkephalin 1 in the response of bone to mechanical unloading and in osteoblast differentiation**
 Nadia Rucci*, Antonio Maurizi, Isabella Baldini, Mattia Capulli, Anna Teti. University of L'Aquila, Italy
Disclosures: Nadia Rucci, None

- SUN-0572 Iron Involves in the Regulatory Effect of High Static Magnetic Field on Osteoblasts and Osteoclasts**
 Jiancheng Yang*^{1,2}, Jian Zhang^{1,2}, Dandan Dong^{1,2}, Shenghang Wang^{1,2}, Peng Shang^{2,3}.
¹School of Life Sciences, Northwestern Polytechnical University, China, ²Key Laboratory for Space Bioscience and Biotechnology, Institute of Special Environment Biophysics, Northwestern Polytechnical University, China, ³Research & Development Institute in Shenzhen, China
Disclosures: Jiancheng Yang, None
- SUN-0573 The sulforaphane-sensitive Tet2 enzyme controls osteoblast differentiation and bone homeostasis by regulating active DNA demethylation**
 Roman Thaler*, Farzaneh Khani, Chris Paradise, Oksana Pichurin, Amel Dudakovic, Andre J Van Wijnen. Mayo Clinic, United States
Disclosures: Roman Thaler, None
- SUN-0574 Notch activation augments bone morphogenetic protein mediated human osteoblast differentiation**
 Yadav Wagley*¹, Matthew Johnson², Sumei Lu², Andrew Wells^{2,3}, Alessandra Chesi², Struan F.A. Grant^{2,4}, Kurt Hankenson¹. ¹Department of Orthopaedic Surgery, University of Michigan Medical School, United States, ²Center for Spatial and Functional Genetics and Division of Human Genetics, The Children's Hospital of Philadelphia, United States, ³Department of Pathology and Laboratory Medicine, University of Pennsylvania Perelman School of Medicine, United States, ⁴Department of Pediatrics, Perelman School of Medicine, University of Pennsylvania, United States
Disclosures: Yadav Wagley, None
- SUN-0575 Gi signaling regulates the fate of murine bone marrow mesenchymal progenitor cells**
 Liping Wang*, Linh Ho, Theresa Roth, Robert Nissenson. Endocrine Research Unit, San Francisco VA Medical Center, and Departments of Medicine and Physiology, University of California, United States
Disclosures: Liping Wang, None
- SUN-0576 Calmodulin dependent protein kinase kinase-2 (CamKK2) activates AMPK at an early stage which is required for osteoblast differentiation**
 Susan D'Costa*, Gang Xi, David Clemmons. University of North Carolina at Chapel Hill, United States
Disclosures: Susan D'Costa, None
- OSTEOCLASTS**
- SUN-0616 Snx10 and PIKfyve are Required for Lysosome Formation in Osteoclasts**
 Weimin Liu*¹, Gabriela Picotto², Leslie Morse³, Megan Summers³, Ricardo Battaglini¹. ¹UC Denver, United States, ²U de Cordoba, Argentina, ³Craig Hospital, United States
Disclosures: Weimin Liu, None
- SUN-0617 Biodegradable Polymeric Nanoparticles Encapsulated with Small Molecular Weight L-Plastin Peptides Reduces Resorption Activity of Osteoclasts**
 Sunipa Majumdar*¹, Aniket Wadajkar², Anthony Kim², Meenakshi Chellaiah¹. ¹Department of Oncology and Diagnostics, University of Maryland, School of Dentistry, United States, ²Departments of Neurosurgery and Pharmacology, University of Maryland School of Medicine, United States
Disclosures: Sunipa Majumdar, None
- SUN-0618 HDAC4-ERK Crosstalk Regulates Osteoclast Function**
 Bora Faulkner*, Nicholas Blixt, Rajaram Gopalakrishnan, Eric Jensen, Kim Mansky. University of Minnesota, United States
Disclosures: Bora Faulkner, None
- SUN-0619 MEF2C positively regulates osteoclastogenesis by controlling c-Fos expression**
 Takayuki Fujii*, Lionel Ivashkiv, Kyung Parkmin, Ye Ji Lee, Seyon Bae, Sehwan Mun, Kaichi Kaneko, Carmen Chai, Eric Sohn. Arthritis and Tissue Degeneration Program, David Z. Rosensweig Genomics Research Center, Hospital for Special Surgery, United States
Disclosures: Takayuki Fujii, None

- SUN-0620 Osteoporosis and dementia common pathways and targets: Investigating the effect of acetylcholine esterase inhibitors on bone. A Mouse Model.**
Charles Inderjeeth^{*1}, Dian Teguh², Warren Raymond¹, Jennifer Tickner², Jiake Xu². ¹Sir Charles Gairdner Hospital and University of WA, Australia, ²University of WA, Australia
Disclosures: Charles Inderjeeth, None
- SUN-0621 Ion-doped hydroxyapatite nanoparticles designed for bone regeneration affect osteoclastogenesis in vitro**
Carina Kamplleitner^{*1}, Montserrat Espanol², Maria-Pau Ginebra², Michelle Epstein³, Oskar Hoffmann¹. ¹Dept. Pharmacology and Toxicology, University of Vienna, Austria, ²Universitat Politècnica de Catalunya, Spain, ³Dept. Dermatology, Medical University of Vienna, Austria
Disclosures: Oskar Hoffman, None
- SUN-0622 Estrogen-Related Receptor Gamma Negatively Regulates Osteoclastogenesis and Protects Against Inflammatory Bone Loss**
Hyun-Ju Kim^{*}, Hye-Jin Yoon, Woo Youl Kang, Sook Jin Seong, Young-Ran Yoon.
Kyungpook National University, Republic of Korea
Disclosures: Hyun-Ju Kim, None
- SUN-0623 G Protein-Coupled Receptor 120 Signaling Inhibited Osteoclast Formation and Bone Resorption**
Akiko Kishikawa^{*1}, Keisuke Kimura¹, Masahiko Ishida¹, Kazuhiro Shima¹, Saika Ogawa¹, Jiawei Qi¹, Wei-Ren Shen², Fumitoshi Ohori¹, Takahiro Noguchi¹, Aseel Marahleh¹, Hideki Kitaura¹. ¹Division of Orthodontics and Dentofacial Orthopedics, Department of Translational Medicine, Tohoku University Graduate School of Dentistry, Japan, ²Division of Orthodontics and Dentofacial Orthopedics, Tohoku University Graduate School of Dentistry, 4-1 Seiryomachi, Aoba-ku, Sendai 980-8575, Japan
Disclosures: Akiko Kishikawa, None
- SUN-0624 Local Regulator Dvl1 Inhibits Bone-resorption via Suppression of Wnt5a-Ror2 Signaling Axis**
Tomoki Maekawa^{*1}, Yasuhiro Kobayashi², Hisanori Domon¹, Hikaru Tamura¹, Takumi Hiyoshi¹, Takeyasu Maeda¹, Yutaka Terao¹, George Hajishengallis³. ¹Niigata University, Japan, ²Matsumoto Dental University, Japan, ³University of Pennsylvania, United States
Disclosures: Tomoki Maekawa, None
- SUN-0625 Fine tuning of calcium oscillations by ITAM receptors regulates RANKL-induced osteoclast differentiation**
Hiroyuki Okada^{*1}, Hiroshi Kajiya², Jun Hirose¹, Takumi Matsumoto¹, Koji Okabe², Takeshi Miyamoto³, Sakae Tanaka¹. ¹Department of Orthopaedic Surgery, The University of Tokyo, Japan, ²Department of Physiological Science and Molecular Biology, Fukuoka Dental College, Japan, ³Department of Orthopaedic Surgery, Keio University School of Medicine, Japan
Disclosures: Hiroyuki Okada, None
- SUN-0626 Molecular and cellular analyses of BMP-dependent coupling signals between osteoclasts and osteoblasts during bone remodeling**
Maiko Omi^{*1}, Ce Shi², Yuji Mishina¹. ¹Department of Biologic and Materials Sciences, University of Michigan, School of Dentistry, United States, ²Department of Oral Pathology, School and Hospital of Stomatology, Jilin University, China
Disclosures: Maiko Omi, None
- SUN-0627 The Effect of Retention Period and an Anti-c-Fms Antibody On Orthodontic Relapse In a Mouse Model**
Jiawei Qi^{*}, Keisuke Kimura, Masahiko Ishida, Akiko Kishikawa, Kazuhiro Shima, Saika Ogawa, Wei-Ren Shen, Fumitoshi Ohori, Takahiro Noguchi, Aseel Marahleh, Hideki Kitaura. Division of Orthodontics and Dentofacial Orthopedics, Department of Translational Medicine, Tohoku University Graduate School of Dentistry, Japan
Disclosures: Jiawei Qi, None

- SUN-0628** **DPP-4 Inhibitor Inhibits LPS-induced Osteoclast Formation and Bone Resorption In Vivo Through Downregulating TNF- α Expression of Macrophages**
 Wei-Ren Shen*, Masahiko Ishida, Keisuke Kimura, Akiko Kishikawa, Kazuhiro Shima, Saika Ogawa, Jiawei Qi, Fumitoshi Otori, Takahiro Noguchi, Aseel Marahleh, Hideki Kitaura. Division of Orthodontics and Dentofacial Orthopedics, Department of Translational Medicine, Tohoku University Graduate School of Dentistry, Japan
Disclosures: Wei-Ren Shen, None
- SUN-0629** **Deletion of the gene encoding Nupr1/p8, a regulator of autophagy, attenuates osteoclastogenesis but increases trabecular bone mass by enhancing osteoblast differentiation**
 Makoto Shiraki*¹, Hirohito Hirata², Asana Kamohara², Juan Iovanna³, Toshio Kukita⁴, Masaaki Mawatari¹, Akiko Kukita². ¹Department of Orthopaedic Surgery, Faculty of Medicine, Saga University, Japan, ²Department of Pathology and Microbiology, Faculty of Medicine, Saga University, Japan, ³Center de Recherche en Cancérologie de Marseille, INSERM U1068, France, ⁴Department of Molecular Cell Biology & Oral Anatomy, Faculty of Dentistry, Kyushu University, Japan
Disclosures: Makoto Shiraki, None
- SUN-0630** **Carbon Monoxide Releasing Molecule 3 Inhibits Osteoclastogenic Differentiation of RAW264.7 Cells by Heme Oxygenase 1**
 Hui Song*, Fenghe Zhang. School of Dentistry Shandong University, China
Disclosures: Hui Song, None
- SUN-0631** **The Role of G alpha 12 In Osteoclast**
 Min-Kyoung Song*, Hong-Hee Kim. Department of Cell and Developmental Biology, BK21 Program and Dental Research Institute, Seoul National University, Republic of Korea
Disclosures: Min-Kyoung Song, None
- SUN-0632** **Fusion and Hemagglutinin Proteins of Canine Distemper Virus Support Osteoclast Formation Through NF- κ B Dependent and Independent Mechanisms in Paget's disease**
 Wei Wang*, Dongfang Li, Minqi Li. Department of Bone Metabolism, School of Stomatology Shandong University, Shandong Provincial Key Laboratory of Oral Tissue Regeneration, Jinan, China
Disclosures: Wei Wang, None
- SUN-0633** **Mutual restriction between p38/NFATc1 and p38/Pax6 axis during osteoclastogenesis**
 Ziang Xie*, Shunwu Fan. Sir Run Run Shaw Hospital, School of Medicine, Zhejiang University, China
Disclosures: Ziang Xie, None
- SUN-0634** **LRP1 suppresses bone resorption in mice by inhibiting the RANKL-stimulated NF κ B and p38 pathways during osteoclastogenesis**
 Di Lu*, Jianshuang Li, Huadie Liu, Gabrielle Foxa, Bart Williams, Tao Yang. Van Andel Research Institute, United States
Disclosures: Di Lu, None
- SUN-0635** **Nuclear Factor of Activated T Cells 2 Is Required for Osteoclast Differentiation and Function in vitro**
 Jungeun Yu*, Stefano Zanotti, Lauren Schilling, Ernesto Canalis. UConn Health, United States
Disclosures: Jungeun Yu, None

OSTEOCYTES

- SUN-0664 Osteocytes Are the Major Source of Circulating FGF23 During Acute Inflammation**
Guillaume Courbon*¹, Claire Gerber¹, Samantha Neuburg¹, Maralee Capella¹, Xueyan Wang¹, Corey Dussold¹, Lixin Qi¹, Wenhan Chang², Myles Wolf³, Aline Martin¹, Valentin David¹. ¹Division of Nephrology and Hypertension, Department of Medicine, and Center for Translational Metabolism and Health, Institute for Public Health and Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, United States, ²Division of Endocrinology and Metabolism, UCSF, San Francisco, CA, United States, ³Division of Nephrology and Hypertension, Duke University, Durham, NC, United States
Disclosures: Guillaume Courbon, None
- SUN-0665 Sclerostin regulates adipocyte fate and mediates paracrine and endocrine signaling between osteocytes and fat.**
Jessica H. Nelson*¹, Hannah M. Davis², Kevin Mcandrews², Meloney D. Cregor², William R. Thompson³, Lilian I. Ptkokin², Alexander G. Robling², Teresita Bellido², Jesus Delgado-Calle¹. ¹Indiana University School of Medicine, Dept. of Medicine, Hematology/Oncology, United States, ²Indiana University School of Medicine, Dept. of Anatomy and Cell Biology, United States, ³School of Health and Rehabilitation Sciences, Dept. of Physical Therapy, United States
Disclosures: Jessica H. Nelson, None
- SUN-0666 Connexin 43 Hemichannels Protect Bone Loss during Estrogen Deficiency**
Rui Hua*¹, Liang Ma¹, Hongyun Cheng¹, Roberto Fajardo², Joseph Pearson³, Teja Guda³, Daniel Shropshire¹, Sumin Gu¹, Jean X. Jiang¹. ¹Department of Biochemistry, UT Health San Antonio, United States, ²Department of Orthopaedics, UT Health San Antonio, United States, ³Department of Biomechanical Engineering, University of Texas at San Antonio, United States
Disclosures: Rui Hua, None
- SUN-0667 Mechanical Regulation of Breast Cancer Bone Metastasis via Osteocytes' Signaling to Endothelial Cells**
Yu-Heng Vivian Ma*¹, Liangchen Xu, Xueting Mei, Lidan You. University of Toronto, Canada
Disclosures: Yu-Heng Vivian Ma, None
- SUN-0668 Stretch-stimulus activates the mechano-signaling via opening of the mechano-sensitive channel, Piezo1 and the subsequent calcium influx in osteocyte-like cells.**
Takuya Notomi*¹, Akiko Hiyama¹, Tadashige Nozaki¹, Masaki Noda². ¹Osaka Dental University, Japan, ²Yokohama City Minato Red Cross Hospital, Japan
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- SUN-0669 Nfat Transcription Factors are Key Regulators of Osteocyte Function Independent of c-fos**
Matt Prideaux*¹, Lynda Bonewald. Indiana University, United States
Disclosures: Matt Prideaux, None
- SUN-0670 PINCH regulates bone homeostasis through its expression in osteocytes**
Yishu Wang*¹, Qinnan Yan¹, Yiran Zhao¹, Yiming Lei¹, Liting Ma¹, Simin Lin¹, Yumei Lai², Huiling Cao¹, Chuanyue Wu¹, Guozhi Xiao¹. ¹Department of Biology and Guangdong Provincial Key Laboratory of Cell Microenvironment and Disease Research, Southern University of Science and Technology, China, ²Department of Orthopedic Surgery, Rush University Medical Center, United States
Disclosures: Yishu Wang, None
- SUN-0671 Validated analyses of osteocyte-mediated bone remodeling using in vivo and in vitro methods**
Cristal S. Yee*¹, Tamara Alliston. UCSF, United States
Disclosures: Cristal S. Yee, None

OSTEOPOROSIS - ASSESSMENT

- SUN-0700** **In Vivo Analysis of Fracture Healing by HR-pQCT: The Effect of Osteosynthesis Plate on Image Quality**
Ko Chiba*, Makoto Era, Yuichiro Nishino, Takashi Miyamoto, Narihiro Okazaki, Makoto Osaki. Department of Orthopedic Surgery, Nagasaki University Graduate School of Biomedical Sciences, Japan
Disclosures: Ko Chiba, None
- SUN-0701** **Opportunistic screening for osteoporosis using abdominopelvic CT: Direct comparison of asynchronous QCT with DXA and TBS in older healthy Chinese**
Wing P. Chan*¹, Yi-Chien Lu¹, Ying Chin Lin². ¹Department of Radiology, Wan Fang Hospital, Taipei Medical University, Taiwan, ²Shuang Ho Hospital, Taipei Medical University, Taiwan
Disclosures: Wing P. Chan, None
- SUN-0702** **Trabecular Bone Score in aged postmenopausal women with type 2 diabetes without fragility fracture history**
Dong Jin Chung*, Jin Ook Chung, Dong Hyeok Cho, Min Young Chung. Chonnam National University Medical School, Republic of Korea
Disclosures: Dong Jin Chung, None
- SUN-0703** **TBS VALUE IN POSTMENOPAUSAL WOMEN WITH AND WITHOUT FRACTURES**
Edward Czerwinski*¹, Maja Warzecha², Malgorzata Berwecka², Anna Kumorek³, Jaroslaw Amarowicz², Didier Hans⁴. ¹Krakow Medical Centre, Poland, ²Department of Bone and Joint Diseases Jagiellonian University Medical College, Poland, ³Healthy Statistic, Poland, ⁴Center of Bone Diseases Bone and Joint Department, Switzerland
Disclosures: Edward Czerwinski, None
- SUN-0704** **Trabecular Bone Score (TBS) ex-vivo performance study for the GE Healthcare ARIA system**
Franck Michelet*, François De Guio, Christophe Lelong. Medimaps, France
Disclosures: Franck Michelet, Medimaps, Other Financial or Material Support
- SUN-0705** **Trabecular microstructure is influenced by race and sex in young adults**
Julie Hughes*¹, Kristin Popp², Chun Xu³, Amy Yuan², Ginu Unnikrishnan³, Jaques Reifman³, Mary Bouxsein². ¹USARIEM, United States, ²MGH, United States, ³BHSAI, United States
Disclosures: Julie Hughes, None
- SUN-0706** **A Novel Dual-Mode Ultrasonic Method for Assessing Tibial Cortical Bone Quality**
Jonathan Kaufman*^{1,2}, Gangming Luo¹. ¹CyberLogic, Inc., United States, ²The Mount Sinai School of Medicine, United States
Disclosures: Jonathan Kaufman, CyberLogic, Inc., Major Stock Shareholder, CyberLogic, Inc., Grant/Research Support
- SUN-0707** **3D Modelling of hip DXA indicates cortical vBMD superior efficacy of denosumab versus alendronate**
Mohammed Almohaya*¹, Naveen Sami², Renaud Winzenrieth³, David Kendler⁴. ¹King Fahad Medical City, Saudi Arabia, ²Prohealth Clinical Research, Canada, ³Galgo Medical, Spain, ⁴University of British Columbia, Canada
Disclosures: Mohammed Almohaya, None
- SUN-0708** **Structural analysis at the female femoral neck for a clinically useful predictor of future hip fracture risk**
Ling Wang*¹, Benjamin Cc Khoo², Joshua Lewis³, Keenan Brown⁴, Xiaoguang Cheng¹, Richard Prince⁵. ¹Beijing Jishuitan Hospital, China, ²Medical Technology & Physics, Australia, ³Edith Cowan University, Australia, ⁴Mindways Software, United States, ⁵University of Western Australia, Australia
Disclosures: Ling Wang, None

- SUN-0709 Resorbed and Formed Bone Mass in Osteoporosis Treatment Were Correlated with the Values of the DXA and Bone Turnover Markers Measurements: by Bone Morphometry Using Multiple Detector Computed Tomography (MDCT) Images**
Nobuhito Nango*¹, Shogo Kubota¹, Kazutaka Nomura¹, Yusuke Horiguchi¹, Ko Chiba², Masafumi Machida³. ¹Ratoc System Engineering Co., LTD., Japan, ²Department of Orthopedic Surgery, Nagasaki University Graduate School of Biomedical Sciences, Japan, ³Department of Spine and Spinal Cord Surgery, Yokohama Brain and Spine Center, Japan
Disclosures: Nobuhito Nango, None
- SUN-0710 Trabecular Bone Score in Thais with or without Type 2 Diabetes.**
Hataikarn Nimitphong*¹, Sasima Srisukh¹, Jintanan Jangsiripornpakorn¹, Nantaporn Siwarasanond¹, Sirimon Reutrakul^{1,2}, Sunee Saetung¹, Suchawadee Musikarat³, Chanika Sritara³, Piyamitr Sritara¹, Boonsong Ongphiphadhanakul¹. ¹Department of Medicine, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand, ²Division of Diabetes, Endocrinology and Metabolism, University of Illinois College of Medicine at Chicago, Chicago, Illinois, United States, ³Department of Diagnostic and Therapeutic Radiology, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand
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- SUN-0711 Optimal Bone Mineral Density Testing Intervals in Korean Women**
Seung Shin Park*¹, Jung Hee Kim¹, Hyung Jin Choi², Eu Jeong Ku³, Seo Young Lee¹, A Ram Hong¹, Nam H. Cho⁴, Chan Soo Shin¹. ¹Department of Internal Medicine, Seoul National University College of Medicine, Republic of Korea, ²Department of Anatomy, Seoul National University College of Medicine, Republic of Korea, ³Department of Internal Medicine, Chungbuk National University College of Medicine, Republic of Korea, ⁴Department of Preventive Medicine, Ajou University School of Medicine, Suwon, Republic of Korea
Disclosures: Seung Shin Park, None
- SUN-0712 Active Young Women with Current Tibial Stress Fracture have Reduced Cortical and Total Bone Area**
Kristin Popp*¹, Sara Rudolph¹, Amy Yuan¹, Julie Hughes², Chun Xu³, Ginu Unnikrishnan³, Jaques Reifman³, Mary Bouxsein⁴. ¹Massachusetts General Hospital, United States, ²United States Army Research Institute of Environmental Medicine, United States, ³Department of Defense Biotechnology High Performance Computing Software Applications Institute, United States, ⁴Massachusetts General Hospital and Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, United States
Disclosures: Kristin Popp, None
- SUN-0713 Postmenopausal Women with Isolated Osteoporosis at the 1/3 Radius Have Generalized Abnormalities in Microarchitecture and Stiffness**
Emily Stein*¹, Alexander Dash¹, Mariana Bucovsky², Sanchita Agarwal², X. Edward Guo², Elizabeth Shane². ¹Hospital for Special Surgery, United States, ²Columbia University Medical Center, United States
Disclosures: Emily Stein, None
- SUN-0714 Peripheral Artery Calcification on HR-pQCT Scans and Cardiovascular Risk in Men**
Pawel Szulc*¹, Catherine Plankaert, Roland Chapurlat. INSERM UMR 1033, University of Lyon, Hôpital Edouard Herriot, France
Disclosures: Pawel Szulc, None
- SUN-0715 The Correction of Quantitative Computed Tomography Measurements of Vertebral Bone Mineral Density for Marrow Fat using Magnetic Resonance Imaging**
Ling Wang*¹, Xiaoguang Cheng¹, Glen Blake², Keenan Brown³, Li Xu¹, Zhe Guo¹. ¹Department of Radiology, Beijing Jishuitan Hospital, China, ²King's College London Osteoporosis Research Unit, United Kingdom, ³Mindways Software Inc., United States
Disclosures: Ling Wang, None

SUN-0716 **Cortical and trabecular bone of patients with prevalent major osteoporotic fracture: a case-control study using DXA-based 3D modelling**
Renaud Winzenrieth*¹, Ludovic Humbert¹, Edward Leib². ¹Galgo Medical SL, Spain, ²Dept. of Medicine, University of Vermont College of Medicine, United States
Disclosures: Renaud Winzenrieth, Galgo Medical, Other Financial or Material Support

SUN-0717 **The Design and Validation of a New Algorithm to Identify Initial Incident and Recurrent Incident Fragility Fractures in Administrative Claims Data**
Nicole Wright*¹, Shanette Daigle², Mary Melton², Elizabeth Delzell¹, Akhila Balasubramanian³, Jeffrey Curtis². ¹Department of Epidemiology, University of Alabama at Birmingham, United States, ²Division of Clinical Immunology and Rheumatology, University of Alabama at Birmingham, United States, ³Center for Observational Research, Amgen Inc, United States
Disclosures: Nicole Wright, Pfizer, Consultant, Amgen, Grant/Research Support

SUN-0718 **Serum Circulating MicroRNAs as a Novel Biomarker for Osteoporotic Vertebral Fractures**
Ptryk Zarecki*¹, Matthias Hackl², Johannes Grillari³, Miguel Debono¹, Richard Eastell¹. ¹University of Sheffield, United Kingdom, ²TAmiRNA GmbH, Austria, ³TAmiRNA GmbH, Christian Doppler Laboratory on Biotechnology of Skin Aging, Austria
Disclosures: Ptryk Zarecki, None

OSTEOPOROSIS - EPIDEMIOLOGY

SUN-0760 **Multiple missed opportunities to reduce key fragility fractures: can we afford to continue to ignore the facts?**
Emese Toth*¹, Jonas Banefelt², Kristina Akesson³, Anna Spangeus⁴, Gustaf Orsater², Cesar Libanati¹. ¹UCB Pharma, Belgium, ²Quantify Research, Sweden, ³Lund University, Skåne University Hospital, Department of Orthopaedics, Sweden, ⁴Department of Endocrinology/ Department of Medical and Health Sciences, Linköping University Hospital, Sweden
Disclosures: Emese Toth, UCB Pharma, Other Financial or Material Support, UCB Pharma, Major Stock Shareholder

SUN-0761 **Women and Men with Diabetic Complications have a Greater Risk for Hip Fracture**
Shreyasee Amin*, Elizabeth Atkinson, Sundeep Khosla. Mayo Clinic, United States
Disclosures: Shreyasee Amin, None

SUN-0762 **Temporal Trends in Prevalence and Incidence of Diagnosed Osteoporosis in Quebec, Canada**
Claudia Beaudoin*¹, Philippe Gamache¹, Suzanne N. Morin³, Jacques P. Brown⁴, Louis Bessette⁴, Sonia Jean¹. ¹Institut national de santé publique du Québec, Canada, ³McGill University, Canada, ⁴CHU de Québec Research Center, Canada
Disclosures: Claudia Beaudoin, None

SUN-0763 **Social deprivation is associated with poor health outcomes following hospital admission for hip fracture in England**
Arti Gauvri Bhimjiyani*¹, Jenny Neuburger², Yoav Ben-Shlomo³, Celia L Gregson¹. ¹Translational Health Sciences, Bristol Medical School, University of Bristol, United Kingdom, ²Department of Health Services Research and Policy, London School of Hygiene and Tropical Medicine, United Kingdom, ³Population Health Sciences, Bristol Medical School, University of Bristol, United Kingdom
Disclosures: Arti Gauvri Bhimjiyani, None

SUN-0764 **Performance of FRAX and FRAX-Based Treatment Thresholds in Women aged 40 and Older: The Manitoba BMD Registry**
Carolyn Crandall*¹, John Schousboe², Suzanne Morin³, Lisa Lix⁴, William Leslie⁴. ¹University of California, Los Angeles, United States, ²Park Nicollet Institute, United States, ³McGill University, Canada, ⁴University of Manitoba, Canada
Disclosures: Carolyn Crandall, None

- SUN-0765** **Increased mortality risk, but no increased subsequent fracture risk following hip fracture in elderly patients with chronic kidney disease**
 Irma Ja De Bruin*¹, Caroline E Wyers¹, Patrick C Souverein², Tjeerd P Van Staa^{2,3,4}, Piet Pm Geusens^{5,6}, Joop Pw Van Den Bergh^{1,6}, Frank De Vries^{2,5}, Johanna H Driessen^{2,5}. ¹VieCuri Medical Center, Department of Internal Medicine; Maastricht UMC+, NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Internal Medicine, Netherlands, ²Utrecht University, Utrecht Institute of Pharmaceutical Sciences, Division of Pharmacoepidemiology and Clinical Pharmacology, Netherlands, ³London School of Hygiene & Tropical Medicine, ⁴University of Manchester, Farr Institute for Health Informatics Research, ⁵Maastricht UMC+, CAPHRI Care and Public Health Research Institute, Department of Internal Medicine subdivision of Rheumatology, Netherlands, ⁶Hasselt University, Netherlands
Disclosures: Irma Ja De Bruin, Sanofi, Grant/Research Support, Pfizer, Novartis, Speakers' Bureau
- SUN-0766** **Long-term impact of body mass index in childhood on adult bone mineral density**
 Hongbo Dong*, Yinkun Yan, Junting Liu, Dongqing Hou, Jie Mi. Capital Institute of Pediatrics, China
Disclosures: Hongbo Dong, None
- SUN-0767** **The distribution of prevalent and short-term incident vertebral fractures on chest CT scans according to fracture severity in smokers with and without COPD**
 Johanna Driessen*¹, Mayke Van Dort², Piet Geusens³, Frank De Vries^{4,5}, Emiel Wouters⁶, Joop Van Den Bergh^{7,8}. ¹CAPHRI Care and Public Health Research Institute, NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Clinical Pharmacy and Toxicology, Maastricht University Medical Centre+ (MUMC+), Netherlands, ²NUTRIM School of Nutrition and Translational Research in Metabolism, Maastricht University Medical Centre+ (MUMC+), Netherlands, ³Department of Internal Medicine, Rheumatology, Maastricht University Medical Centre+ (MUMC+), the Netherlands, Netherlands, ⁴Department of Clinical Pharmacy and Toxicology, Maastricht University Medical Centre+ (MUMC+), Netherlands, ⁵CAPHRI Care and Public Health Research Institute, Netherlands, ⁶Department of Respiratory Diseases, Maastricht University Medical Centre+ (MUMC+), the Netherlands, Netherlands, ⁷Department of Internal Medicine, VieCuri Medical Centre, Venlo, Netherlands, ⁸Department of Internal Medicine, NUTRIM School of Nutrition and Translational Research in Metabolism, Maastricht University Medical Centre+ (MUMC+), Netherlands
Disclosures: Johanna Driessen, None
- SUN-0768** **Lower limb muscle force is negatively associated with hip fracture risk in community-dwelling older women**
 April Hartley*¹, Yunhua Luo², Andrew Goertzen³, Kimberly Hannam¹, Ahmed Elhakeem¹, Emma M Clark¹, William D Leslie⁴, Jon H Tobias¹. ¹Bristol Medical School, University of Bristol, United Kingdom, ²Faculty of Engineering, University of Manitoba, Canada, ³Department of Radiology, University of Manitoba, Canada, ⁴Rady Faculty of Health Sciences, University of Manitoba, Canada
Disclosures: April Hartley, None
- SUN-0769** **Contribution of Multimorbidity to Post-Fracture Mortality: Result of a Long Term Population Based Study**
 Thao P. Ho-Le*¹, Thach S. Tran², Jacqueline R. Center^{2,3}, John A. Eisman^{2,3,4}, Tuan V. Nguyen^{1,4,5,6}. ¹School of Biomedical Engineering, University of Technology, Sydney, Australia, ²Bone Biology Division, Garvan Institute of Medical Research, Australia, ³St Vincent Clinical School, UNSW Australia, Australia, ⁴School of Medicine, Notre Dame University, Australia, ⁵Bone Biology Division, Iia, Australia, ⁶School of Public Health and Community Medicine, UNSW Australia, Australia
Disclosures: Thao P. Ho-Le, None

- SUN-0770** **Decreased Physical Health-Related Quality of Life – a Persisting State for Older Women Living with Clinical Vertebral Fracture**
 Lisa Johansson^{*1}, Daniel Sundh¹, Hilda Svensson², Jon Karlsson³, Lars-Eric Olsson², Dan Mellstrom¹, Mattias Lorentzon¹. ¹Geriatric Medicine, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, University of Gothenburg, Gothenburg, Sweden, ²Institute of Health and Care Sciences/ Centre for Person-Centred Care (GPCC) Sahlgrenska academy Gothenburg university, Sweden, ³Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden
Disclosures: Lisa Johansson, None
- SUN-0771** **Effect of hemoglobin A1c and treatment regimen on fracture risk among older men with diabetes mellitus**
 Richard Lee^{*1}, Richard Sloane¹, Carl Pieper¹, Cathleen Colon-Emeric². ¹Duke University, United States, ²Durham VAMC, United States
Disclosures: Richard Lee, None
- SUN-0772** **Non-trauma rib fracture in the elderly: risk factors and mortality consequence**
 Ha Mai^{*}, Thach Tran, Thuy Pham, Jacqueline Center, John Eisman, Tuan Nguyen. Garvan institute of medical research, Australia
Disclosures: Ha Mai, None
- SUN-0773** **Is Type II Diabetes a Clinical Risk Factor for Atypical Femur Fractures? (The View from South Texas)**
 Kenneth Mensch^{*1}, Roberto Fajardo², Todd Bredbenner³, Khang Dang¹, Rose Huynh¹, Sean Catlett¹, Mitchell Hymowitz¹, Patrick Ryan¹, Ventrice Shillingford-Cole¹, Sara Spreicher¹. ¹UT Health San Antonio, United States, ²Univeristy of Incarnate Word School of Osteopathic Medicine, United States, ³University of Colorado -Colorado Springs, United States
Disclosures: Kenneth Mensch, None
- SUN-0774** **Evidence of a Causal Effect of Estradiol on Fracture Risk in Men**
 Maria Nethander^{*1,2}, Liesbeth Vandenput¹, Anna Eriksson¹, Sara Windahl¹, Thomas Funck-Brentano¹, Claes Ohlsson¹. ¹Centre for Bone and Arthritis Research, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, ²Bioinformatics Core Facility, Sahlgrenska Academy, University of Gothenburg, Sweden
Disclosures: Maria Nethander, None
- SUN-0775** **WITHDRAWN**
- SUN-0776** **Mechanisms of Injury Associated with Non-Traumatic Vertebral Fractures in Older Adults**
 Sara E. Rudolph^{*1}, Signe Caksa¹, Dennis E. Anderson^{2,3}, Mary L. Bouxsein^{1,2,3}. ¹Endocrine Unit, Massachusetts General Hospital, United States, ²Harvard Medical School, Boston, MA, United States, ³Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, United States
Disclosures: Sara E. Rudolph, None
- SUN-0777** **A Preliminary Study of the Association Between Bone Material Properties and Clinical Risk Factors for Fracture**
 Pamela Rufus^{*1}, Kara L Holloway-Kew¹, Adolfo Diez-Perez², Mark A Kotowicz¹, Julie A Pasco¹. ¹Deakin University, Australia, ²Department of Internal Medicine, Hospital del Mar-IMIM, Autonomous University of Barcelona and CIBERFES, Instituto Carlos III, Spain
Disclosures: Pamela Rufus, None

SUN-0778

Urban-Rural Differences In Hip Fracture Mortality. A NOREPOS Study

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Disclosures: Siri Marie Solbakken, None

SUN-0779

Factors associated with delayed wound healing longer than 8 weeks after tooth extraction in Japanese patients >60 years of age

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Disclosures: Akira Taguchi, None

SUN-0780

Prevalence of Morphometric Vertebral Fractures Does Not Differ in Patients With and Without Clinical Fractures in a Fracture Liaison Service Open Model

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Disclosures: Francisco Torres-Naranjo, None

SUN-0781

Increase in Bone Mineral Density in Transwomen and Transmen During the First Ten Years of Gender-affirming Hormonal Treatment

Chantal Wiepjes^{*}, Christel De Blok, Mariska Vlot, Paul Lips, Renate De Jongh, Martin Den Heijer. VU University Medical Center, Netherlands

Disclosures: Chantal Wiepjes, None

OSTEOPOROSIS - HEALTH SERVICES RESEARCH

SUN-0811

More Frequent and More Sustain Osteoporosis Treatment After Fragility Vertebral Fractures When Introduced Early in Inpatients Than Delayed in Outpatients: A Controlled Study

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- SUN-0812 Self-reported fracture history compared to fracture codes from an electronic health record dataset**
 Maria I. Danila*¹, Amy Mudano¹, Elizabeth Rahn¹, Andrea Lacroix², Jeffrey Curtis¹, Kenneth Saag¹. ¹University of Alabama at Birmingham, United States, ²University of California, San Diego, United States
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- SUN-0813 Radiological Validation of Fracture Definitions from Administrative Data: The Manitoba Bone Mineral Density Database**
 Riley Epp*, Mashael Alhrbi, Linda Ward, William Leslie. University of Manitoba, Canada
Disclosures: Riley Epp, None
- SUN-0814 Defining Alendronate Drug Holidays and Re-initiation in US Medicare Data**
 Ayesha Jaleel*¹, Jeffrey Curtis², Rui Chen², Huifeng Yun², Tarun Arora², Suzanne Cadarette³, Nicole Wright², Amy Mudano², Phillip Foster², Kenneth Saag². ¹Brookwood Baptist Hospital, United States, ²University of Alabama at Birmingham, United States, ³University of Toronto, Canada
Disclosures: Ayesha Jaleel, None
- SUN-0815 TREATMENT GAP AFTER FRACTURE IN OSTEOPOROSIS PATIENTS – RESULTS OF THE AUSTRIAN ARM OF THE INTERNATIONAL COSTS AND UTILITIES RELATED TO OSTEOPOROTIC FRACTURES STUDY (ICUROS)**
 Oliver Malle*, Hans Peter Dimai. Medical University of Graz, Dpt. of Internal Medicine, Div. of Endocrinology and Diabetology, Austria
Disclosures: Oliver Malle, None
- SUN-0816 The category of non-osteoporotic bone mineral density in proximal hip fragility fracture cases: Preliminary data from a tertiary care hospital**
 Hyun Uk Moon*¹, Yong Jun Choi¹, Jung-Taek Kim², Ye-Yeon Won², Yoon-Sok Chung¹. ¹Department of Endocrinology and Metabolism, Ajou University School of Medicine, Suwon, South Korea, Republic of Korea, ²Department of Orthopedic Surgery, Ajou University School of Medicine, Suwon, South Korea, Republic of Korea
Disclosures: Hyun Uk Moon, None
- SUN-0817 Improving Access to Osteoporosis Specialists through Electronic Consultations**
 Christopher Tran*, Krista Rostom, Clare Liddy, Erin Keely. University of Ottawa, Canada
Disclosures: Christopher Tran, None

OSTEOPOROSIS - NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY

- SUN-0836 Three months of vitamin D3 supplementation, 2,800 IU/d, improves trabecular bone microarchitecture and bone strength in vitamin D insufficient, hyperparathyroid women – a randomized placebo controlled trial**
 Lise Sofie Bislev*¹, Lene Langagergaard Roedbro¹, Lars Rolighed², Tanja Sikjaer¹, Lars Rejnmark¹. ¹Department of Endocrinology and Internal Medicine, Denmark, ²Department of Surgery, Denmark
Disclosures: Lise Sofie Bislev, None
- SUN-0837 Trunk Muscle Endurance in Women with Osteoporotic Vertebral Fractures: an Exploratory Analysis from a Pilot Randomized Controlled Trial**
 Caitlin Mearthur*^{1,2}, Jenna C. Gibbs³, Jonathan Adachi¹, Maureen C. Ashe⁴, Robert Bleakney⁵, Angela M. Cheung⁵, Keith D. Hill⁶, David L. Kendler⁴, Aliyah Khan¹, Sandra Kim⁷, Judi Laprade⁵, Nicole Mittman⁵, Alexandra Papaioannou^{1,2}, Sadhana Prasad⁸, Samuel C. Scherer⁹, Lehana Thabane¹, John D. Wark¹⁰, Lora Giangregorio³. ¹McMaster University, Canada, ²GERAS Centre for Aging Research, Canada, ³University of Waterloo, Canada, ⁴University of British Columbia, Canada, ⁵University of Toronto, Canada, ⁶Curtin University, Australia, ⁷Women's College Hospital, Canada, ⁸Centre for Bone Health, Canada, ⁹Northern Health, Australia, ¹⁰University of Melbourne, Australia
Disclosures: Caitlin Mearthur, None

- SUN-0838** **Different Association of Dietary Fat Intake with Femoral Neck Strength According to Gender in Korean Population (KNHANES 2008-2010)**
Hyeonmok Kim*, Sun Hee Beom, Tae Ho Kim. Seoul Medical Center, Republic of Korea
Disclosures: Hyeonmok Kim, None
- SUN-0839** **Prevalence of Vitamin D Deficiency in Postmenopausal Fracture Patient**
Ji Wan Kim*¹, Jun Sung Lee², Kwang Hwan Jung³, Jai Hyung Park⁴, Hyun Chul Shon⁵, Jae Suk Chang¹. ¹Asan Medical Center, Republic of Korea, ²Haendae Paik Hospital, Republic of Korea, ³Ulsan University Hospital, Republic of Korea, ⁴Kangbuk Samsung Hospital, Republic of Korea, ⁵Chungbuk National University Hospital, Republic of Korea
Disclosures: Ji Wan Kim, None
- SUN-0840** **Prevalence of Hypovitaminosis D in Patients from a Private Hospital in Leon, Mexico**
Jorge L A Morales Torres*^{1,2}, Hugo Gutierrez.Hermosillo³, Gilberto Aguilar-Orozco¹, Jaime Romero-Ibarra², Enrique Diaz De Leon-Gonzalez⁴, Francisco Torres-Naranjo⁵. ¹Hospital Aranda de la Parra, Mexico, ²Morales Vargas Centro de Investigacion, Mexico, ³Medicina y Nutricion, Universidad de Guanajuato, Mexico, ⁴Instituto Mexicano del Seguro Social, Mexico, ⁵Centro de Investigacion Osea, U. de Guadalajara, Mexico
Disclosures: Jorge L A Morales Torres, None
- SUN-0841** **Effects of Vitamin D Intake and Status on Changes in Distal Tibia Strength in Marine Recruits Undergoing Training**
Anna Nakayama*¹, Katelyn Guerriere², Laura Lutz², Leila Walker², Jonathan Scott³, Heath Gasier³, James McClung², Erin Gaffney-Stomberg². ¹Oak Ridge Institute for Science and Education, United States, ²US Army Research Institute of Environmental Medicine, United States, ³Uniformed Services University of Health Sciences, United States
Disclosures: Anna Nakayama, None
- SUN-0842** **Meal Phosphate Bioavailability Alters Hormonal Response in Healthy Humans**
Kathryn Neville*, Mandy Turner, Cynthia Pruss, Laura Couture, Michael Adams, Rachel Holden. Queen's University, Canada
Disclosures: Kathryn Neville, None
- SUN-0843** **Systematic Screening For Environmental And Behavioral Determinants Identifies Factors Detrimental to Skeletal Health**
Ling Oei*¹, Joy Wu², Edwin Oei³, Fernando Rivadeneira¹, Andre Uitterlinden¹, John Ioannidis⁴, Michael Snyder², Chirag Patel⁵. ¹Erasmus MC, Dept. Internal Medicine, Netherlands, ²Stanford School of Medicine, United States, ³Erasmus MC Dept. Radiology, Netherlands, ⁴Stanford School of Medicine, Netherlands, ⁵Harvard Medical School, United States
Disclosures: Ling Oei, None
- SUN-0844** **Association Between Fermented Milk Product Intake and Bone Health In Postmenopausal Women: A Systematic Review**
Angel Ong*¹, Hope Weiler¹, Suzanne Morin², Kai Kang¹. ¹School of Human Nutrition, McGill University, Canada, ²McGill University, Canada
Disclosures: Angel Ong, None
- SUN-0845** **Milk and Alternatives Intervention Improves Total Hip and Whole Body Bone Mineral Accretion in 14- to 18-year Postmenarcheal Females: Results at 12 Months From a 2-year Randomized Controlled Trial**
May Slim*, Catherine Vanstone, Suzanne Morin, Elham Rahme, Hope Weiler. McGill University, Canada
Disclosures: May Slim, None
- SUN-0846** **Bone formation is suppressed and resorption increased during 72 hours of sleep restriction**
Jeffery Staab*, Tracey Smith, Marques Wilson, Scott Mountain, Erin Gaffney-Stomberg. US Army Research Institute of Environmental Medicine, United States
Disclosures: Jeffery Staab, None

SUN-0847 Physical Activity Across Adulthood and Bone Health in Later Life: the 1946 Birth Cohort
Stella Muthuri*¹, Kate Ward², Diana Kuh¹, Ahmed Elhakeem³, Judith Adams⁴, Rachel Cooper¹. ¹MRC Lifelong Health and Ageing at University College London, United Kingdom, ²MRC Lifecourse Epidemiology, University of Southampton, United Kingdom, ³MRC Integrative Epidemiology at University of Bristol, United Kingdom, ⁴University of Manchester, United Kingdom
Disclosures: Stella Muthuri, None

OSTEOPOROSIS - PATHOPHYSIOLOGY

SUN-0865 Validated and in-depth characterized sandwich ELISA for the quantification of mouse periostin
Elisabeth Gadermaier*, Jacqueline Wallwitz, Gabriela Berg, Gottfried Himmler. The Antibody Lab GmbH, Austria
Disclosures: Elisabeth Gadermaier, None

SUN-0866 Local Osteoporotic Enhancement Procedure Demonstrates Analogous Implant Resorption and Bone Formation Across Three Species With or Without Antiresorptive Treatment
James Howe*¹, Jonathan Shaul¹, David Burr², Deborah Hall³, Thomas Turner³, Robert Urban³, Bryan Huber⁴, Ronald Hill¹, Klaus Engelke⁵, Harry Genant⁶. ¹AgNovos Healthcare, United States, ²Indiana University School of Medicine, United States, ³Rush University Medical Center, United States, ⁴Copley Hospital, United States, ⁵Bioclinica-Synarc, Germany, ⁶Synarc-Bioclinica & University of California San Francisco, United States
Disclosures: James Howe, AgNovos Healthcare, Other Financial or Material Support

SUN-0867 Central Acetylcholine Signaling Contributes to Age-related Bone Loss
Yun Ma*, Florent Elefteriou. Baylor College of Medicine, United States
Disclosures: Yun Ma, None

SUN-0868 The Chemotherapeutic Trabectedin Negatively Impacts Osteal Macrophages and Bone Healing
Benjamin Sinder*¹, Justin Do², Amy Koh², Hernan Roca², Laurie Mccauley². ¹UConn Health, United States, ²University of Michigan, United States
Disclosures: Benjamin Sinder, None

SUN-0869 Evidence of Mitochondrial Fusion and Biogenesis Altering in Diabetic Bones
Xiaoxuan Wang*^{1,2}, Zhekai Hu¹, Xingwen Wu¹, Qisheng Tu¹, Jinkun Chen^{1,3}. ¹Division of Oral Biology Tufts University School of Dental Medicine., United States, ²Department of Periodontology, Peking University School and Hospital of Stomatology, Beijing, China, ³Department of Developmental, Molecular and Chemical Biology Sackler School of Graduate Biomedical Sciences Tufts University School of Medicine, United States
Disclosures: Xiaoxuan Wang, None

SUN-0870 Microbiota Regulates Bone Loss in Sickle Cell Disease Male Mice
Liping Xiao*, Kavita Rana, Kimberly Pantoja. UConn Health, United States
Disclosures: Liping Xiao, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS

SUN-0886 Cross sectional study of severity of bone disease in liver transplant from pre-transplant to one year post transplant and potential factors associated with bone loss
Ejigayehu Abate*. Mayo Clinic Florida, United States
Disclosures: Ejigayehu Abate, None

SUN-0887 Prevalence and Risk factors for Low Bone Mineral Density in Transfusion Dependent Anemia
Rahul Agarwal*¹, Farzana Sayani², Mohammad El Sibai¹, Mona Al Mukaddam¹. ¹Perelman School of Medicine at the University of Pennsylvania, Division of Endocrinology, Diabetes and Metabolism, United States, ²Perelman School of Medicine at the University of Pennsylvania, Division of Hematology and Oncology, United States
Disclosures: Rahul Agarwal, None

- SUN-0888** **The Effects of Cortisol and Adrenal Androgen on Bone Mass in Asian Patients with and without Subclinical Hypercortisolism**
 Seong Hee Ahn*¹, Jae Hyeon Kim², Mihye Jung¹, Yoon Young Cho³, Sunghwan Suh⁴, Beom-Jun Kim⁵, Seongbin Hong¹, Seung Hun Lee⁵, Jung-Min Koh⁵, Kee-Ho Song⁶.
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Disclosures: Seong Hee Ahn, None
- SUN-0889** **Severe asthma and high doses of corticosteroid impair trabecular bone score more than bone mineral density**
 Yong Jun Choi*¹, Hyun-Young Lee², Sihoon Lee³, Yoon-Sok Chung¹, Young-Min Ye⁴.
¹Department of Endocrinology and Metabolism, Ajou University School of Medicine, Republic of Korea, ²Clinical Trial Center, Ajou University Medical Center, Republic of Korea, ³Gachon University School of Medicine, Republic of Korea, ⁴Department of Allergy and Clinical Immunology, Ajou University School of Medicine, Republic of Korea
Disclosures: Yong Jun Choi, None
- SUN-0890** **The effects TSH suppressive therapy of on changes of TBS and BMD in menopausal women with for differentiated thyroid cancer**
 Yun Kyung Jeon*¹, Keunyoung Kim², In Joo Kim¹, Kyoung Min Kim³, Kyoungjune Pak², Seong-Jang Kim⁴. ¹Endocrinology and metabolism, Pusan National University Hospital, Republic of Korea, ²Department of Nuclear Medicine and Biomedical Research Institute, Pusan National University Hospital, Republic of Korea, ³Seoul National University College of Medicine and Seoul National University Bundang Hospital, Republic of Korea, ⁴Department of Nuclear Medicine and Biomedical Research Institute, Yang San Pusan National University Hospital, Republic of Korea
Disclosures: Yun Kyung Jeon, None
- SUN-0891** **Bone Mineral Density and Trabecular Bone Score Associations with Hypertension and Diabetes in the VITamin D and Omega-3 Trial (VITAL): Effects on Bone Structure and Architecture Study**
 Meryl Leboff*^{1,2}, Catherine Donlon¹, Nancy Cook^{2,3,4}, Julie Buring^{2,3,4}, Joann Manson^{2,3,4}.
¹Division of Endocrinology, Diabetes and Hypertension, Brigham and Women's Hospital, United States, ²Harvard Medical School, United States, ³Division of Preventive Medicine, Brigham and Women's Hospital, United States, ⁴Department of Epidemiology, Harvard T.H. Chan School of Public Health, United States
Disclosures: Meryl Leboff, None
- SUN-0892** **Accuracy of FRAX® in People with Multiple Sclerosis: A Manitoba BMD Registry-Based Cohort Study**
 Etienne J. Bisson*¹, Marcia Finlayson¹, Okechukwu Ekuma², Ruth Ann Marrie², William D Leslie². ¹Faculty of Health Sciences, Queen's University, Canada, ²Rady Faculty of Health Sciences, University of Manitoba, Canada
Disclosures: Etienne J. Bisson, None
- SUN-0893** **Smaller but Denser Bones in Older Women with Type 2 Diabetes**
 Anna Nilsson*^{1,2}, Daniel Sundh¹, Mattias Lorentzon^{1,3}. ¹Geriatric unit, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, ²Dept Endocrinology, Internal Medicine, Sahlgrenska University Hospital, Sweden, ³Geriatric Medicine Clinic, Sahlgrenska University Hospital, Sweden
Disclosures: Anna Nilsson, None

SUN-0894

Bone Biomarkers Do Not Differ in Older Men With and Without Severe Nocturnal Hypoxemia

Christine Swanson*¹, Steven Shea², Sheila Markwardt³, Orfeu Buxton⁴, Katie Stone⁵, Thuy-Tien Dam⁶, Nancy Lane⁷, Susan Redline⁸, Jane Cauley⁹, Douglas Bauer¹⁰, Eric Orwoll¹¹.

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OSTEOPOROSIS – TREATMENT

SUN-0923

Effects of Teriparatide on Bone Microarchitecture and Stiffness Assessed by High Resolution Peripheral Computed Tomography (HR-pQCT) in Premenopausal Idiopathic Osteoporosis (IOP)

Sanchita Agarwal*¹, Adi Cohen¹, Stephanie Shiau², Mafo Kamanda-Kosseh¹, Mariana Bucovsky¹, X Edward Guo³, Elizabeth Shane¹. ¹Division of Endocrinology, Department of Medicine, Columbia University, United States, ²Gertrude H. Sergievsky Center, Columbia University Medical Center, United States, ³Bone Bioengineering Laboratory, Department of Biomedical Engineering, Columbia University, United States

Disclosures: Sanchita Agarwal, None

SUN-0924

Effects Of Two Years Of Teriparatide Treatment Followed By Two Years Of Bisphosphonates In Reduction In Fracture Rate And Back Pain At Patients With Multiple Pre-Existing Vertebral Fractures.

Corina Galesanu*¹, Iulian Pascariu², Veronica Mocanu³, Mihail Romeo Galesanu⁴. ¹University of Medicine and Pharmacy "Grigore T.Popa", Romania, ²Sf.Spiridon Emergency Clinical Hospital, Romania, ³Grigore T. Popa University of Medicine and Pharmacy, Romania, ⁴Romanian Academy of Medical Sciences, Iasi, Romania

Disclosures: Corina Galesanu, None

SUN-0925

Effect of Buffered Solution of Alendronate 70mg on Bone Mineral Density and Bone ALP: Prospective Observational Study

Andrea Giusti*¹, Dennis M Black², Antonella Barone³, Josef Hruska⁴, Gerolamo Bianchi¹. ¹La Colletta Hospital, Italy, ²University of California San Francisco, United States, ³Galliera Hospital, Italy, ⁴EffRx Pharmaceuticals, Switzerland

Disclosures: Andrea Giusti, Merck & Co, Consultant, Internis Pharma, Speakers' Bureau, Abiogen, Consultant, Labatec, Speakers' Bureau, EffRx Pharmaceuticals, Grant/Research Support, Chiesi, Consultant

SUN-0926

Patient Characteristics and Fracture Outcomes in Patients Previously Treated With Bisphosphonates or Treatment-naïve in the Teriparatide versus Risedronate VERO Clinical Trial

Peyman Hadji*¹, Fernando Marin², David Kendler³, Piet Geusens⁴, Luis Russo⁵, Jorge Malouf⁶, Peter Lakatos⁷, Salvatore Minisola⁸, Pedro López-Romero², Astrid Fahrleitner-Pammer⁹. ¹Krankenhaus Nordwest GHMB, Germany, ²Lilly Research Center Europe, Spain, ³University of British Columbia, Canada, ⁴Maastricht University Medical Center, Netherlands, ⁵Centro de Analises e Pesquisas Clínicas LTDA, Brazil, ⁶Hospital Sant Pau, Spain, ⁷Semmelweis University Medical School, Hungary, ⁸Sapienza Rome University, Italy, ⁹Division of Endocrinology, Medical University of Graz, Austria

Disclosures: Peyman Hadji, Eli Lilly, UCB, Amgen, Gedeon Richter, Meda, Novartis, Hexal, Pfizer and Dr. Kade/Besins, Speakers' Bureau

- SUN-0927** **Combination therapies for the treatment of osteoporotic fractures are not created equal: A network meta-analysis study**
Osama Haji Ahmed*¹, Paula Karabelas², Abdulhafez Selim³. ¹Mouwasat Hospitals, Saudi Arabia, ²Independent Investigator, United States, ³PCOM, United States
Disclosures: Osama Haji Ahmed, None
- SUN-0928** **Goal-Directed Treatment of Osteoporosis in Patients with Rheumatoid Arthritis Using Daily Teriparatide for Two Years Followed by Antiresorptive Drugs for Three Years (Results in Five Years in Total)**
Yuji Hirano*, Daisuke Kihira. Department of Rheumatology, Toyohashi Municipal Hospital, Japan
Disclosures: Yuji Hirano, None
- SUN-0929** **Determinants of Oral Bisphosphonate Therapy Beyond Five Years**
Monika Izano*¹, Bonnie Li², Fang Niu³, Romain Neugebauer¹, Bruce Ettinger¹, Susan Ott⁴, Joan Lo¹, Annette Adams². ¹Division of Research, Kaiser Permanente Northern California, United States, ²Department of Research & Evaluation, Kaiser Permanente Southern California, United States, ³Pharmacy Outcomes Research Group, Kaiser Permanente California, United States, ⁴Department of Medicine, University of Washington, United States
Disclosures: Monika Izano, None
- SUN-0930** **Increased iliac crest bone hardness under Denosumab treatment is accompanied by a low number of viable osteocytes**
Katharina Jähn*¹, Björn Jobke², Eva Maria Wölfel¹, Tobias Barth¹, Christoph Riedel¹, Maya Hellmich³, Mathias Werner⁴, Björn Busse¹. ¹University Medical Center Hamburg-Eppendorf, Germany, ²Telemedicine Clinic, Spain, ³Immanuel Krankenhaus Berlin, Germany, ⁴Helios Klinikum Emil von Behring, Germany
Disclosures: Katharina Jähn, None
- SUN-0931** **Influence of glucocorticoids on effect of denosumab on osteoporosis in patients with Japanese rheumatoid arthritis; 36 months of follow-up ~a Multicenter Registry Study~**
Yasuhide Kanayama*¹, Yuji Hirano², Nobunori Takahashi³, Naoki Ishiguro³, Toshihisa Kojima³. ¹Toyota Kosei Hospital, Japan, ²Toyohashi Municipal Hospital, Japan, ³Nagoya University Graduate school of Medicine, Japan
Disclosures: Yasuhide Kanayama, None
- SUN-0932** **Spontaneous Fusion after Vertebroplasty and Kyphoplasty in Painful Osteoporotic Compression Fracture**
Jin Hwan Kim*¹, Jae Hyup Lee², Young Kyu Kim¹. ¹Inje University, Ilsanpaik Hospital, Republic of Korea, ²Seoul National University, College of Medicine, Republic of Korea
Disclosures: Jin Hwan Kim, None
- SUN-0933** **Is early bisphosphonate treatment safe or effective for pyogenic vertebral osteomyelitis with osteoporosis?**
Jihye Kim*¹, Tae-Hwan Kim². ¹Kangdong Sacred Heart Hospital, Hallym University College of Medicine, Republic of Korea, ²Hallym University Sacred Heart Hospital, Hallym University College of Medicine, Republic of Korea
Disclosures: Jihye Kim, None
- SUN-0934** **Effect of Medications on Secondary Prevention of Osteoporotic Vertebral Compression Fracture: a Meta-analysis of Randomized Controlled Trials**
Yuan-Zhe Jin*¹, Jae Hyup Lee¹, Jin-Hwan Kim². ¹Seoul National University, College of Medicine, Republic of Korea, ²Inje University, College of Medicine, Republic of Korea
Disclosures: Yuan-Zhe Jin, None

- SUN-0935** **Incidence of Complete Atypical Femur Fracture among Women with Oral Bisphosphonate Exposure in an Integrated Healthcare System**
Joan Lo*¹, Christopher Grimsrud², Susan Ott³, Malini Chandra¹, Rita Hui⁴, Monika Izano¹, Annette Adams⁵, Bruce Ettinger¹. ¹Division of Research, Kaiser Permanente Northern California, United States, ²Department of Orthopedic Surgery, Kaiser Permanente Oakland Medical Center, United States, ³Department of Medicine, University of Washington, United States, ⁴Pharmacy Outcomes Research Group, Kaiser Permanente California, United States, ⁵Research and Evaluation, Kaiser Permanente Southern California, United States
Disclosures: Joan Lo, Sanofi, Grant/Research Support
- SUN-0936** **Compliance, Adverse Effects, Bone-related Mineral and Vitamin D Status, and Literature Review of Denosumab Therapy for Osteoporosis in Japan**
Yukio Nakamura*, Takako Suzuki, Hiroyuki Kato. Shinshu University School of Medicine, Japan
Disclosures: Yukio Nakamura, None
- SUN-0937** **Subgroup Analysis of the Effect of Denosumab Compared With Risedronate on Percentage Change in Lumbar Spine Bone Mineral Density at 24 Months in Glucocorticoid-treated Individuals**
Ken Saag*¹, Nico Pannacciuoli², Piet Geusens³, Jonathan Adachi⁴, Eric Lespessailles⁵, Jorge Malouf-Sierra⁶, Bente Langdahl⁷, Peter W. Butler², Xiang Yin², Willem F. Lems⁸. ¹University of Alabama, Birmingham, United States, ²Amgen Inc., United States, ³Maastricht University Medical Center, Netherlands, ⁴McMaster University, Canada, ⁵University Hospital Orleans, France, ⁶Hospital San Pablo, Spain, ⁷Aarhus University Hospital, Denmark, ⁸VU University Medical Centre, Netherlands
Disclosures: Ken Saag, Amgen, Lilly, Merck, Radius, Consultant, Amgen, Merck, Grant/Research Support
- SUN-0938** **Teriparatide re-activates bone metabolism of the patients with bisphosphonates treatment failures.**
Shinya Tanaka*¹, Katsuya Kanesaki², Yoichi Kishikawa³, Sathoshi Ikeda⁴, Masato Nagashima⁵, Tsuyoshi Miyajima¹, Hiromi Oda¹. ¹Saitama medical university, Japan, ²Nagat orthopedic hospital, Japan, ³Kishikawa orthopedic surgery, Japan, ⁴Ken-ai memorial hospital, Japan, ⁵Katsuki brain and orthopedic surgery, Japan
Disclosures: Shinya Tanaka, None
- SUN-0939** **Two-year persistence with Teriparatide improves significantly after extension of an educational and motivational support program**
Maud Van Maren*¹, Caroline E Wyers^{1,2}, Johanna Hm Driessen³, Jonathan V Visser⁴, Frank De Vries⁵, Katrien Van De Wijdeven⁴, Sonja Gevers⁴, Willem F Lems⁶, Marielle H Emmelot-Vonk⁷, Joop Pw Van Den Bergh^{1,2,8}. ¹VieCuri Medical Center, Department of Internal Medicine, Netherlands, ²Maastricht University Medical Center (Maastricht UMC+), NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Internal Medicine, Netherlands, ³Maastricht UMC+, CAPHRI Care and Public Health Research Institute, NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Clinical Pharmacy and Toxicology, Netherlands, ⁴ApotheekZorg (Pharmacy), Netherlands, ⁵Maastricht UMC+, Department of Clinical Pharmacy and Toxicology, Netherlands, ⁶VU Medical Centre, Amsterdam Rheumatology and Immunology Center, Netherlands, ⁷University Medical Center Utrecht, Department of Geriatric Medicine, Netherlands, ⁸Hasselt University, Netherlands
Disclosures: Maud Van Maren, None
- SUN-0940** **Treatment Patterns in the Management of Osteoporotic Fractures in Older Adults**
Lagari Violet*¹, Levis Silvina¹, Naomi Leonore¹, Berger Hara², Rodriguez Gracielenal¹. ¹Miami VA Healthcare System, United States, ²Reproductive Health Physicians, United States
Disclosures: Lagari Violet, None

- SUN-0941 Forearm Bone Mineral Density and Fracture Incidence in Postmenopausal Women with Osteoporosis: Results from the ACTIVEExtend Phase 3 Trial**
 Nelson B. Watts*¹, Robin K. Dore², Sanford Baim³, Gary Hattersley⁴, Greg Williams⁴, Yamei Wang⁴, Tamara D. Rozental⁵, Meryl S. Leboff⁶. ¹Mercy Health Osteoporosis and Bone Health Services, United States, ²Robin K Dore M.D., Inc., United States, ³Rush University Medical Center, United States, ⁴Radius Health, Inc., United States, ⁵Beth Israel Deaconess Medical Center, United States, ⁶Brigham and Women's Hospital, United States
Disclosures: Nelson B. Watts, Abbvie, Consultant, Amgen, Speakers' Bureau, Janssen, Consultant, Sanofi, Consultant, Amgen, Consultant, Radius Health, Consultant, Shire, Speakers' Bureau
- SUN-0942 Eldecalcitol Increases BMD More Than Alfacalcidol in Chinese Osteoporotic Patients without Vitamin D or Calcium Supplementation**
 Yan Jiang*¹, Hai Tang², Xinlong Ma³, Qun Cheng⁴, Hua Lin⁵, Xiaolan Jin⁶, Zhenlin Zhang⁷, Wei Yu¹, Tsuyoshi Kobayashi⁸, Satomi Uehara⁸, Toshio Matsumoto⁹, Weibo Xia¹. ¹Beijing Union Medical College Hospital, China, ²Beijing Friendship Hospital, Capital Medical University, China, ³Tianjin Hospital, China, ⁴Huadong Hospital affiliated to Fudan University, China, ⁵Nanjing Drum Tower Hospital Affiliated of Nanjing University Medical School, China, ⁶Chengdu Military Central Hospital, China, ⁷Shanghai Sixth People Hospital, China, ⁸Chugai Pharmaceutical Co., Ltd., Japan, ⁹okushima University, Fujii Memorial Institute of Medical Sciences, Japan
Disclosures: Yan Jiang, None

PARACRINE REGULATORS

- SUN-0966 Gender Differences in Tibial Fracture Healing in Normal and Muscular Dystrophic Mouse Models**
 Zhenhan Deng*, Xueqin Gao, Xuying Sun, Yan Cui, Sara Amara, Walter R. Lowe, Johnny Huard. University of Texas Health Science Center at Houston, United States
Disclosures: Zhenhan Deng, None
- SUN-0967 IGF1 Signaling Regulation of Bone Lining Cells Osteogenic Differentiation Through CXCL12 Expression is Critical in Fracture Repair and Bone Homeostasis**
 Alessandra Esposito*, Jie Jiang, Lai Wang, Tieshi Li, Xin Jin, Anna Spagnoli. Rush University Medical Center, United States
Disclosures: Alessandra Esposito, None
- SUN-0968 The C-terminal domain of PTHrP limits PTH receptor-mediated changes in gene expression in osteocytes**
 Yao Sun*¹, Patricia W M Ho¹, Rachele W Johnson², T John Martin¹, Natalie A Sims¹. ¹St. Vincent's Institute of Medical Research, Australia, ²Vanderbilt University, United States
Disclosures: Yao Sun, None
- SUN-0969 Myeloid Wnts control cortical and trabecular bone formation through paracrine and autocrine production of recruitment and differentiation factors**
 Megan Weivoda*¹, Ming Ruan¹, Glenda Evans¹, Christine Hachfeld¹, Jean Vacher², Bart Williams³, Sundeep Khosla¹, Jennifer Westendorf¹, Merry Jo Oursler¹. ¹Mayo Clinic, United States, ²McGill University, Canada, ³Van Andel Institute, United States
Disclosures: Megan Weivoda, None

PRECLINICAL MODELS: NUTRITION AND PHARMACOLOGY

- SUN-0989 Phytic acid, a phosphate store in plants, inhibits osteogenic differentiation in ectopic calcifications but not in bone.**
 Faisal Ahmed*, Tomoko Minamizaki, Masaaki Toshishige, Yuji Yoshiko. Department of Calcified Tissue Biology, Hiroshima University Graduate School of Biomedical and Health Sciences, Japan
Disclosures: Faisal Ahmed, None
- SUN-0990 Doses of 1,25-Dihydroxyvitamin D Supplementation in CKD Rats Influence Bone Mineralisation and Vascular Calcification**
 Sarah-Kim Bisson*, Roth-Visal Ung, Sylvain Picard, Mohsen Agharazii, Richard Larivière, Fabrice Mac-Way. Centre de recherche de l'Hôtel-Dieu de Québec, Canada
Disclosures: Sarah-Kim Bisson, None

- SUN-0991** **A cysteine peptidase inhibitor from the Orange tree (*Citrus sinensis*) inhibits periodontitis-induced bone loss by retaining osteoclasts at the macrophage stage.**
 Natalia Da Ponte Leguizamon*¹, Glaucia Coletto-Nunes ², Daniela Morilha Néo-Justino³, Vanessa Karine Schneider³, Addressa Vilas Boas Nogueira⁴, Rafael Scaf Molon⁴, Flavio Henrique Da Silva³, Andrea Soares Da Costa Fuentes³, Ulf Holger Lerner⁵, Joni Augusto Cirelli⁴, Pedro Paulo Chaves Souza². ¹Department of Diagnosis and Surgery, School of Dentistry at Araraquara, Sao Paulo State University, Brazil, ²Department of Physiology and Pathology, School of Dentistry at Araraquara, Sao Paulo State University-UNESP, Brazil, ³Department of Genetics and Evolution, Federal University of São Carlos, Brazil, ⁴Department of Diagnosis and Surgery, School of Dentistry at Araraquara, Sao Paulo State University-UNESP, Brazil, ⁵Centre for Bone and Arthritis Research at the Sahlgrenska Academy, University of Gothenburg, Sweden
Disclosures: Natalia Da Ponte Leguizamon, None
- SUN-0992** **Compositional Heterogeneity in Lumbar Vertebral Trabecular Bone as a Function of Disease and Treatment**
 Isabel Colon-Bernal*¹, Phillip Yang², Taeyong Ahn³, Le Duong⁴, Brenda Pennypacker⁵, Meagan Cauble⁶, Sriram Vaidyanathan⁷, Kenneth Kozloff⁸, Bradford Orr⁹, Mark Banaszak Holl¹⁰. ¹Chemistry Department, University of Michigan, United States, ²Biomedical Engineering, University of Michigan, United States, ³Macromolecular Science and Engineering, University of Michigan, United States, ⁴Merck & Co, Inc (Retired), United States, ⁵Merck & Co, Inc, United States, ⁶Department of Orthopaedic Surgery, University of Connecticut Health Center, United States, ⁷Department of Pediatrics, Stanford University, United States, ⁸Department of Orthopaedic Surgery and Biomedical Engineering, University of Michigan, United States, ⁹Physics Department, University of Michigan, United States, ¹⁰Department of Chemical Engineering, Monash University, Australia
Disclosures: Isabel Colon-Bernal, None
- SUN-0993** **Comparison of Calcitonin Receptor Fragment Peptide to Teriparatide for the Prevention of Ovariectomy-Induced Bone Loss**
 David E Komatsu*¹, Anthony Cappellino¹, Ryanne Chitjian², Anne Savitt³, Sardar Mz Uddin¹, Suresh Anaganti³, Srinivas Pentylala⁴. ¹Stony Brook University, Department of Orthopaedics, United States, ²Stony Brook University, Department of Biomedical Engineering, United States, ³AJES Lifesciences, United States, ⁴Stony Brook University, Department of Anesthesiology, United States
Disclosures: David E Komatsu, None
- SUN-0994** **Biological Effects of Abaloparatide on Bone Mass and Bone Turnover in Mice, a Comparison with Teriparatide.**
 Akito Makino*¹, Tomoka Hasegawa², Norio Amizuka². ¹Pharmacology Research Department, Teijin Pharma Limited, Japan, ²Developmental Biology of Hard Tissue, Graduate School of Dental Medicine, Hokkaido University, Japan
Disclosures: Akito Makino, Teijin Pharma Limited, Grant/Research Support
- SUN-0995** **Analgesic Effects of Morphine on Knee Osteoarthritis Induced by Intra-Articular Monosodium Iodoacetate in Rats**
 Jukka Morko*, Jukka Vaaraniemi, Jaakko Lehtimäki, Zhiqi Peng, Jussi M Halleen. Pharmatest Services Ltd, Finland
Disclosures: Jukka Morko, None
- SUN-0996** **Targeted Delivery of Peptide Therapeutics to Bone Fractures**
 Jeffery Nielsen*, Philip Low, Stewart Low. Purdue University, United States
Disclosures: Jeffery Nielsen, None
- SUN-0997** **In Vitro and In Vivo Assessment of Ploxadimers as a Drug Delivery System for Bone Regeneration**
 Young-Eun Park*¹, Kaushik Chandramouli², Maureen Watson³, Karen Callon³, Mark Zhu⁴, Donna Tuari³, Dorit Naoi⁴, David Musson⁴, Darren Svirskis⁴, Manisha Sharma⁴, Jillian Cornish⁵. ¹Miss, New Zealand, ²Mr, New Zealand, ³Ms, New Zealand, ⁴Dr, New Zealand, ⁵Professor, New Zealand
Disclosures: Young-Eun Park, None

- SUN-0998** **Distinct mechanisms regulate the response of female and male skeletons to sex steroid deficiency and to the bone protective effects of blueberry containing diets.**
 Amy Y Sato*¹, Gretel G Pellegrini², Meloney Gregor¹, Kevin Mcandrews¹, Emily Atkinson¹, Roy B Choi¹, Maria Maiz³, Lilian I Plotkin¹, Linda D McCabe⁴, George P McCabe⁴, Munro Peacock⁵, Connie Weaver³, David Burr⁶, Teresita Bellido⁷. ¹Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, ²CONICET-Universidad de Buenos Aires. Instituto de Inmunología, Genética y Metabolismo (INIGEM). Facultad de Farmacia y Bioquímica-Hospital de Clínicas, Universidad de Buenos Aires, Facultad de Odontología. Cátedra de Bioquímica Gral y Bucal, Argentina, ³Department of Nutrition Science, Purdue University, United States, ⁴Department of Statistics, Purdue University, United States, ⁵Department of Medicine, Division of Endocrinology, Indiana University School of Medicine, United States, ⁶Department of Anatomy & Cell Biology, Department of Biomedical Engineering, Indiana University School of Medicine, United States, ⁷Department of Anatomy & Cell Biology, Department of Medicine, Division of Endocrinology, Indiana University School of Medicine, Roudebush Veterans Administration Medical Center, United States
Disclosures: Amy Y Sato, None
- SUN-0999** **Pasteurized Akkermansia muciniphila reduces fat mass accumulation after ovariectomy but induces bone-loss in the femur of gonadal intact mice**
 Lina Lawenius*¹, Julia Scheffler¹, Petra Henning¹, Karin Gustafsson¹, Karin Nilsson¹, Hannah Colldén¹, Ulrika Islander¹, Willem M De Vos², Patrice Cani³, Hubert Plovier³, Claes Ohlsson¹, Klara Sjögren¹. ¹Centre for Bone and Arthritis Research, Institute of Medicine, Sahlgrenska Academy at University of Gothenburg, Sweden, ²Laboratory of Microbiology, Wageningen University, Netherlands, ³Université catholique de Louvain, Louvain Drug Research Institute, WELBIO (Walloon Excellence in Life sciences and BIOTEchnology), Metabolism and Nutrition Research Group, Belgium
Disclosures: Lina Lawenius, None
- SUN-1000** **Assessing the effects of a ketogenic diet on the development of osteoarthritis in obese mice**
 Thomas Solé*¹, Thierry Thomas², Laurence Vico¹, Maura Strigini¹. ¹INSERM, U1059 and University of Lyon, UJM Saint-Etienne, France, ²INSERM, U1059 and University of Lyon, University Hospital Saint-Etienne, France
Disclosures: Thomas Solé, None
- SUN-1001** **Effects of Metformin and Exercise on Material Properties of Ovariectomized Rat Femurs**
 Matthew Tice*¹, Mats Mosti², Astrid Kamilla Stunes², Unni Syversen², Deepak Vashishth¹. ¹Rensselaer Polytechnic Institute, United States, ²Norwegian University of Science and Technology, Norway
Disclosures: Matthew Tice, NIH, Grant/Research Support
- SUN-1002** **Effect of Kidney Disease Progression on Intestinal Phosphorus Absorption in Male Cy/+ Chronic Kidney Disease Rats**
 Colby Vorland*¹, Pamela Lachcik¹, Sharon Moe², Neal Chen², Kathleen Hill Gallant¹. ¹Department of Nutrition Science, Purdue University, United States, ²Department of Medicine, Indiana University School of Medicine, United States
Disclosures: Colby Vorland, None
- SUN-1003** **EXD Chinese Herbal Formula Did Not Alter the Bone Protective Effects of SERMs in Mature Ovariectomized Rats**
 Liping Zhou*¹, Ka Ying Wong¹, Christina Chui Wa Poon¹, Wenxuan Yu¹, Chi-On Chan¹, Daniel Kam-Wah Mok¹, Hui-Hui Xiao², Man-Sau Wong¹. ¹The Hong Kong Polytechnic University, Hong Kong, ²The Hong Kong Polytechnic University Shenzhen Research Institute, China
Disclosures: Liping Zhou, None

RARE BONE DISEASES: CLINICAL

- SUN-1039 Efficacy and Safety of Denosumab Treatment in Bisphosphonate-resistant Fibrous Dysplasia: a Case Series**
Natasha M. Appelman-Dijkstra*¹, Bas C.J. Majoor², P.D.Sander Dijkstra², Socrates E. Papapoulos¹, Neveen A.T. Hamdy¹. ¹Leiden University Medical Center; Center for Bone Quality; Department of Medicine: Division Endocrinology, Netherlands, ²Leiden University Medical Center; Center for Bone Quality; Department of Orthopedic Surgery, Netherlands
Disclosures: Natasha M. Appelman-Dijkstra, None
- SUN-1040 Long-term complications of patients with hypophosphatemic rickets treated in a public institution**
Julia Oberger*, Tatiana Lemos Costa, Carolina Moreira, Victoria Borba. Serviço de Endocrinologia e Metabologia do Hospital de Clinicas da Universidade Federal do Paraná, Brazil
Disclosures: Julia Oberger, None
- SUN-1041 Low Bone Mineral Density and Increased Bone Resorption in Loews-Dietz Syndrome**
Alison Boyce*, Caeden Dempsey, Samara Levin, Marjohn Rasooly, Pamela Guerrero. National Institutes of Health, United States
Disclosures: Alison Boyce, None
- SUN-1042 Bone Mineral Status in Adults X-Linked Hypophosphatemia Rickets**
Rosa Arboiro Pinel*¹, Manuel Díaz Curiel¹, Natalia Bravo Martin², Manuel Quesada Gómez³, Miguel Torralbo Garcia¹. ¹Bone Mineral Department. Fundación Jiménez Díaz. Quironsalud, Spain, ²Internal Medicine Department. Fundación Jiménez Díaz. Quironsalud, Spain, ³Endocrinology Department. Hospital Reina Sofía., Spain
Disclosures: Rosa Arboiro Pinel, None
- SUN-1043 Hypophosphatasia among patients presenting for osteoporosis evaluation**
Roger Fan*, Ananya Kondapalli, John Poindexter, Naim Maalouf, Khashayar Sakhaee. University of Texas Southwestern Medical Center, United States
Disclosures: Roger Fan, None
- SUN-1044 High Prevalence of Nephrolithiasis and Hypercalciuria in Women with Osteogenesis Imperfecta**
Vivian Rf Simoes*, Adriana M Fernandes, Manuela Gm Rocha-Braz, Regina M Martin, Bruno Ferraz-De-Souza. Endocrinology/LIM-25, Hospital das Clinicas, University of Sao Paulo School of Medicine, Brazil
Disclosures: Vivian Rf Simoes, None
- SUN-1045 A Comprehensive Study of Bone Manifestations in Adult Patients with Gaucher Disease type 1**
Beatriz Oliveri*¹, Diana Gonzalez², Felisa Quiroga³, Claudio Silva³, Paula Rozenfeld⁴, Camilo Lis⁵, Omar Riemersma⁵, Martin Kot⁵. ¹Conicet UBA Hospital de Clinicas, Argentina, ²Mautalen Salud e Investigacion, Argentina, ³Diagnostico Maipu, Argentina, ⁴IIFP, Universidad Nacional de La Plata, CONICET, Facultad de Ciencias Exactas, Departamento de Ciencias Biológicas, Argentina, ⁵Shire Argentina, Argentina
Disclosures: Beatriz Oliveri, Shire, Speakers' Bureau
- SUN-1046 6 years experience of a multidisciplinary approach to Osteogenesis Imperfecta in a Swiss Tertiary Health Center: bone management and quality of life**
Bérendère Aubry-Rozier*¹, Céline Richard², Sheila Unger³, Didier Hans⁴, Belinda Campos-Xavier³, Luisa Bonafe³, Aline Bregou⁵. ¹Rheumatology and Centre of Bone Diseases, Lausanne University Hospital, Switzerland, ²ENT, Head and Neck Surgery Department, Lausanne University Hospital, Switzerland, ³Service of Genetic Medicine, Lausanne University Hospital, Switzerland, ⁴Centre of Bone Diseases, Lausanne University Hospital, Switzerland, ⁵Orthopaedic Surgery UPCOT, Lausanne University Hospital, Switzerland
Disclosures: Bérendère Aubry-Rozier, None

- SUN-1047 EFFECTS OF BUROSUMAB, AN ANTI-FGF23 ANTIBODY, IN PATIENTS WITH TUMOR-INDUCED OSTEOMALACIA: RESULTS FROM AN ONGOING PHASE 2 STUDY**
 Nobuaki Ito*¹, Yasuo Imanishi², Yasuhiro Takeuchi³, Yutaka Takahashi⁴, Yumie Rhee⁵, Chan Soo Shin⁶, Hironori Kanda⁷, Seiji Fukumoto⁸. ¹University of Tokyo Hospital Division of Nephrology and Endocrinology, Japan, ²Osaka City University Graduate School of Medicine, Department of Metabolism, Endocrinology and Molecular Medicine, Japan, ³Toranomon Hospital Endocrine Center, Japan, ⁴Division of Diabetes and Endocrinology, Department of Internal Medicine, Kobe University Graduate School of Medicine, Japan, ⁵Department of Internal Medicine, Yonsei University College of Medicine, Democratic People's Republic of Korea, ⁶Department of Internal Medicine, Seoul National University Hospital, Democratic People's Republic of Korea, ⁷Kyowa Hakko Kirin Co., Ltd., Japan, ⁸Department of Molecular Endocrinology, Fujii Memorial Institute of Medical Sciences, Institute of Advanced Medical Sciences, Tokushima University, Japan
Disclosures: Nobuaki Ito, Kyowa Hakko Kirin, Grant/Research Support
- SUN-1048 Effectiveness of asfotase alpha in an 18-year-old prenatal benign hypophosphatasia patient with prolonged tibial pseudofracture.**
 Minae Koga*, Yuka Kinoshita, Nobuaki Ito. Division of Nephrology and Endocrinology, The University of Tokyo, Japan
Disclosures: Minae Koga, None
- SUN-1049 A Unique Case of Chronic Hypocalcemia and Ectopic Cushing Syndrome**
 Lima Lawrence*, Susan Williams, Peng Zhang, Humberto Choi, Usman Ahmad, Vinni Makin. Cleveland Clinic, United States
Disclosures: Lima Lawrence, None
- SUN-1050 Long term health-related quality of life in patients with achondroplasia and hypochondroplasia**
 Masaki Matsushita*¹, Hiroshi Kitoh¹, Kenichi Mishima¹, Naoki Ishiguro¹, Sayaka Fujiwara², Nobuhiko Haga², Taichi Kitaoka³, Takuo Kubota³, Keiichi Ozono³. ¹Department of Orthopaedic Surgery, Nagoya University Graduate School of Medicine, Japan, ²Department of Rehabilitation Medicine, The University of Tokyo, Japan, ³Department of Pediatrics, Osaka University Graduate School of Medicine, Japan
Disclosures: Masaki Matsushita, None
- SUN-1051 Congenital Hypophosphatemia in Adults: Determinants of Bone Turnover Markers and Changes Following Total Parathyroidectomy**
 Malachi Mckenna*, Rachel Crowley, Julie Grace-Martin, Patrick Twomey, Mark Kilbane. St. Vincent's University Hospital, Ireland
Disclosures: Malachi Mckenna, None
- SUN-1052 Comprehensive Genetic Analysis by Targeted Next Generation Sequencing and Genotype-phenotype Correlation of 47 Japanese Patients with Osteogenesis Imperfecta**
 Yasuhisa Ohata*^{1,2}, Shinji Takeyari¹, Taichi Kitaoka¹, Hirofumi Nakayama^{1,3}, Varoona Bizaoui^{1,4}, Yukako Nakano¹, Kenichi Yamamoto^{1,5}, Kei Miyata¹, Keiko Yamamoto^{1,6}, Takuo Kubota¹, Katsusuke Yamamoto⁷, Toshimi Michigami⁸, Takehisa Yamamoto⁹, Keiichi Ozono¹. ¹Department of Pediatrics Osaka University Graduate School of Medicine, Japan, ²The 1st. Department of Oral and Maxillofacial Surgery Osaka University Graduate School of Dentistry, Japan, ³The Japan Environment and Children's Study Osaka unit center, Japan, ⁴Department of Medical Genetics Reference Center for Skeletal Dysplasia Hôpital Necker - Enfants Malades, Japan, ⁵Department of Statistical Genetics Osaka University Graduate School of Medicine, Japan, ⁶Department of Bone and Mineral Metabolism Osaka Women's and Children's Hospital, Japan, ⁷Department of Pediatric Nephrology and Metabolism Osaka Women's and Children's Hospital, Japan, ⁸Department of Bone and Mineral Metabolism Osaka Women's and Children's Hospital, Japan, ⁹Department of Pediatrics Minoh City Hospital, Japan
Disclosures: Yasuhisa Ohata, None

- SUN-1053 Aortic Measurements in Children with Osteogenesis Imperfecta Remain Stable At Short Term Surveillance Interval**
Eric Rush*¹, Shelby Kutty², Rose Kreikemeier³, Ling Li², Mary Craft², David Danford².
¹Children's Mercy Hospital, United States, ²University of Nebraska Medical Center, United States, ³Children's Hospital and Medical Center, United States
Disclosures: Eric Rush, None
- SUN-1054 Twelve Chinese Patients with Primary Hypertrophic Osteoarthropathy: Mutation Identification and Clinical Features**
Yang Xu*⁸, Zhen-Lin Zhang. Department of Osteoporosis and Bone Diseases, Metabolic Bone Disease and Genetics Research Unit, Shanghai Jiao Tong University Affiliated Sixth People's Hospital, China
Disclosures: Yang Xu, None
- SUN-1055 Loss of Gassignaling induces osteoblast differentiation in soft tissues of POH patients and during normal cranial bone development by activating Hedgehog signal**
Yingzi Yang*¹, Ruoshi Xu², Xuedong Zhou³, Eileen Shore⁴, Fred Kaplan⁵. ¹Harvard University, United States, ²Harvard School of Dental Medicine and West China Hospital of Stomatology, United States, ³West China Hospital of Stomatology, China, ⁴University of Pennsylvania School of Medicine, United Kingdom, ⁵University of Pennsylvania School of Medicine, United States
Disclosures: Yingzi Yang, None
- SUN-1056 Hypoparathyroidism, real life experience in 55 patients**
Maria Belen Zanchetta*¹, Damian Robbiani¹, Fernando Silveira², Jose Ruben Zanchetta¹.
¹IDIM, Universidad del Salvador, Argentina, ²IDIM, Argentina
Disclosures: Maria Belen Zanchetta, None
- SUN-1057 Novel Mutation in the P4HB Gene in Chinese Patient of Osteogenesis Imperfecta with Cole-Carpenter Syndrome**
Hao Zhang*⁸, Yangjia Cao, Zhenlin Zhang. Shanghai Jiao Tong University Affiliated Sixth People's Hospital, China
Disclosures: Hao Zhang, None

RARE BONE DISEASES: TRANSLATIONAL

- SUN-1091 Bone Marrow Transplantation as a Therapy for Autosomal Dominant Osteopetrosis Type II in Mice**
Imranul Alam*⁸, Erik Imel, Rita Gerard-O'Riley, Dena Acton, Dana Oakes, Marta Alvarez, Melissa Kacena, Michael Econs. Indiana University School of Medicine, United States
Disclosures: Imranul Alam, None
- SUN-1092 Cystinosis Deficiency Primarily Affects Bone Remodeling In Cystinosis**
Giulia Battafarano*¹, Michela Rossi¹, Laura Rita Rega², Gianna Di Giovamberardino³, Anna Pastore⁴, Matteo D'Agostini⁵, Ottavia Porzio⁵, Francesco Emma², Anna Taranta², Andrea Del Fattore¹. ¹Bone Physiopathology Group, Multifactorial Disease and Complex Phenotype Research Area, Bambino Gesù Children's Hospital, IRCCS, Italy, ²Department of Nephrology and Urology, Division of Nephrology, Bambino Gesù Children's Hospital, IRCCS, Italy, ³Laboratory of Metabolomics and Proteomics, Bambino Gesù Children's Hospital, IRCCS, Italy, ⁴Laboratory of Metabolomics and Proteomics, Bambino Gesù Children's Hospital, IRCCS, Italy, ⁵Clinical Laboratory, Bambino Gesù Children's Hospital, IRCCS, Italy
Disclosures: Giulia Battafarano, None

- SUN-1093** **Enhanced activation of Rac1/Cdc42 and MITF as a possible mechanism of augmented osteoclastogenesis in autosomal dominant osteopetrosis type II with G215R mutation of chloride channel 7 gene**
 Gun-Woo Kim*¹, Youn-Kwan Jung², Ji-Ae Jang², Min-Su Han², Seungwoo Han³.
¹Laboratory for arthritis and bone biology, Fatima Research Institute, Department of Internal medicine, Daegu Fatima Hospital, Republic of Korea, ²Laboratory for arthritis and bone biology, Fatima Research Institute, Daegu Fatima Hospital, Republic of Korea, ³Department of Internal medicine, Kyungpook National University Hospital, Republic of Korea
Disclosures: Gun-Woo Kim, None
- SUN-1094** **Antioxidant and anti-inflammatories dampen the PSACH chondrocyte pathology**
 Karen Posey*, Jacqueline Hecht. McGovern Medical School at UTHealth, United States
Disclosures: Karen Posey, None
- SUN-1095** **Upregulated Transforming Growth Factor Beta (TGFβ) Signaling in Osteoblast-like cells from Osteogenesis Imperfecta Patients**
 Nathalie Bravenboer*, Elise Riesebos, Huib Van Essen, Marelise Eekhoff, Gerard Pals, Dimitra Micha. VU University Medical Center, Netherlands
Disclosures: Nathalie Bravenboer, None
- SUN-1096** **Igf1 Derived from Osteoclasts in Paget's Disease Increases Bone Formation via Signaling through EphrinB2/EphB4**
 Kazuaki Miyagawa*¹, Yasuhisa Ohata¹, Jolene J. Windle², G. David Roodman^{1,3}, Noriyoshi Kurihara¹. ¹Medicine/Hematology-Oncology; Indiana University, United States, ²Human and Molecular Genetics, Virginia Commonwealth University, United States, ³Roudebush VA Medical Center, United States
Disclosures: Kazuaki Miyagawa, None
- SUN-1097** **Kyphosis, moderate restrictive lung disease and sleep apnea of X-linked hypophosphatemia: a case study.**
 Gregory Newman*, Carolyn Macica. Frank H. Netter School of Medicine Quinnipiac University, United States
Disclosures: Gregory Newman, None
- SUN-1098** **A Mutation in Cx43(R239Q) Causes Craniometaphyseal Dysplasia (CMD)-like Phenotype in Knock-in Mice**
 Ichiro Okabe*, Jitendra Kanaujiya, Nelson Monteiro, Ernst Reichenberger, I-Ping Chen. University of Connecticut Health, United States
Disclosures: Ichiro Okabe, None
- SUN-1099** **Macrophages and TNFα Regulate Fibroproliferation and Muscle Degradation Preceding Heterotopic Ossification in an ALK2R206H Model of Fibrodysplasia Ossificans Progressiva**
 Chuanmin Cheng*¹, Michael R Convente², Nicole Fleming¹, Yueqi Zhang¹, Amisha Kalra¹, Cody M Elkins¹, Eileen M Shore², Daniel S Perrien¹. ¹Vanderbilt University Medical Center, United States, ²University of Pennsylvania, United States
Disclosures: Chuanmin Cheng, None
- SUN-1100** **Cell-Autonomous And Systemic Alterations In Gorham-Stout Disease**
 Michela Rossi*¹, Giulia Battafarano¹, Eda Mariani¹, Paola Sabrina Buonuomo², Ippolita Rana³, Alessandro Jenkner⁴, Rita De Vito⁵, Simone Pelle⁶, Matteo D'Agostini⁷, Andrea Bartuli², Andrea Del Fattore¹. ¹Bone Physiopathology Group Multifactorial Disease and Complex Phenotype Research Area Bambino Gesù Children's Hospital, IRCCS, Italy, ²Rare Disease and Medical Genetic Unit, Bambino Gesù Children's Hospital, IRCCS, Italy, ³UO Rare Diseases, Bambino Gesù Children's Hospital, IRCCS, Italy, ⁴Division of Immunology and Infectious Diseases Department of Pediatrics, Bambino Gesù Children's Hospital, IRCCS, Italy, ⁵Histopathology Unit, Bambino Gesù Children's Hospital, IRCCS, Italy, ⁶Casa di Cura Villa Aurora-San Feliciano, Italy, ⁷Clinical Laboratory, Bambino Gesù Children's Hospital, IRCCS, Italy
Disclosures: Michela Rossi, None

SUN-1101 Osteoclast formation is inhibited by Activin-A in healthy controls and fibrodysplasia ossificans progressiva patients
Ton Schoenmaker*¹, Fenne Wouters¹, Dimitra Micha², Coen Netelenbos³, Marelise Eekhoff³, Nathalie Bravenboer⁴, Teun De Vries¹. ¹Department of Periodontology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam and Vrije Universiteit, Netherlands, ²Department of Clinical Genetics, VU University Medical Center, Amsterdam Movement Sciences, The Netherlands, Netherlands, ³Internal Medicine, Endocrinology Section, VU University Medical Center, Netherlands, ⁴Department of Clinical Chemistry, VU University Medical Center, Netherlands
Disclosures: Ton Schoenmaker, None

SUN-1102 In Vitro and In Vivo Treatment Response of Osteogenesis Imperfecta Bone Tissue to Bone Forming Sclerostin Antibody
Rachel Surowiec*¹, Lauren Battle², Stephen Schlecht³, Michelle Caird², Kenneth Kozloff¹. ¹Departments of Biomedical Engineering and Orthopaedic Surgery, University of Michigan, United States, ²Department of Orthopaedic Surgery, University of Michigan, United States, ³Departments of Mechanical Engineering and Orthopaedic Surgery, University of Michigan, United States
Disclosures: Rachel Surowiec, None

SUN-1103 Hyperphosphatemia in Hypophosphatasia of Childhood is Associated with Decreased FGF7 and Normal FGF23 Levels in the Circulation
Michael P. Whyte*¹, Fan Zhang¹, Gary S. Gottesman¹, Steven Mumm², Rajiv Kumar³. ¹Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States, ²Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine, United States, ³Division of Nephrology and Hypertension, Departments of Medicine and Biochemistry & Molecular Biology, Mayo Clinic College of Medicine, United States
Disclosures: Michael P. Whyte, None

SUN-1104 Plasma microRNA as novel biomarker for curve progression in Adolescent Idiopathic Scoliosis (AIS) – a 6 years longitudinal follow up study
Jia Jun Zhang*^{1,2}, Yu Jia Wang^{1,2}, Ka Yee Cheuk^{1,2}, Carol Cheng^{1,2}, Tsz Ping Lam^{1,2}, Bobby Kin-Wah Ng^{2,3}, Yong Qiu^{2,4}, Jack Chun Yiu Cheng^{1,2}, Wayne Yuk-Wai Lee^{1,2}. ¹Department of Orthopaedics and Traumatology, SH Ho Scoliosis Research Laboratory, The Chinese University of Hong Kong, Hong Kong, ²Joint Scoliosis Research Center of the Chinese University of Hong Kong and Nanjing University, The Chinese University of Hong Kong, Hong Kong, ³Department of Orthopaedics and Traumatology, The Chinese University of Hong Kong, Hong Kong, ⁴Spine Surgery, The Affiliated Drum Tower Hospital of Nanjing University Medical School, Nanjing, China
Disclosures: Wayne Yuk-Wai Lee, None

SARCOPENIA, MUSCLE AND FALLS

SUN-1128 Prospective Associations of Osteosarcopenia and Osteodysplasia with Incident Fracture and Mortality over 10 years in Community-dwelling Older Adults
Saliu Balogun*¹, Tania Winzenberg¹, Karen Wills¹, David Scott^{2,3}, Michele Callisaya¹, Flavia Cicuttini⁴, Graeme Jones¹, Dawn Aitken¹. ¹Menzies Institute for Medical Research, University of Tasmania, Australia, ²Department of Medicine, School of Clinical Sciences at Monash Health, Australia, ³Faculty of Medicine, Nursing and Health Sciences, & Peninsula Clinical School, Central Clinical School, Monash University, Australia, ⁴Department of Epidemiology and Preventive Medicine, Monash University, Australia
Disclosures: Saliu Balogun, None

SUN-1129 Associations between home environmental modifications and falls from the Women's Health Initiative
Daniel Beavers*¹, Laura Welti², Annie Mampieri², Stephen Rapp¹, Kristen Beavers², Edward Ip¹, Sally Shumaker¹. ¹Wake Forest School of Medicine, United States, ²Wake Forest University, United States
Disclosures: Daniel Beavers, None

- SUN-1130 Dynapenia and Muscle Loss in Older-Aged Women**
 Francisco Torres-Naranjo*¹, Roberto González-Mendoza², Alejandro Gaytán-González³, Hugo Gutiérrez-Hermosillo⁴, Noé Albino González-Gallegos⁵, Claudia Flores-Moreno⁶, Pilar De La Peña-Rodríguez⁷, Pedro Alberto García-Hernández⁸, Juan López-Taylor².
¹Centro de Investigación Ósea, Universidad de Guadalajara, Mexico, ²Instituto de Ciencias Aplicadas a la Actividad Física y del Deporte, Universidad de Guadalajara, Mexico, ³Universidad de Guadalajara, Mexico, ⁴Universidad de Guanajuato, Hospital Aranda de la Parra, Mexico, ⁵Departamento de Bienestar y Desarrollo Sustentable, Centro Universitario del Norte, Universidad de Guadalajara, Colotlán, Mexico, ⁶Endocrinología/Centro de Osteoporosis, Hospital Universitario de Monterrey, Mexico, ⁷Servicios Médicos De la Peña, Mexico, ⁸Servicio de Endocrinología, Hospital Universitario, UANL, Mexico
Disclosures: Francisco Torres-Naranjo, None
- SUN-1131 Insulin-like growth factor-I is required to maintain muscle volume in adult mice**
 Satoshi Nakamura*, Arihiko Kanaji, Takeshi Miyamoto, Morio Matsumoto, Masaya Nakamura. Department of Orthopedic Surgery, Keio University School of Medicine, Japan
Disclosures: Satoshi Nakamura, None
- SUN-1132 The body composition changes in elderly people which relations with dysmobility syndrome**
 Woong Hwan Choi*¹, Sang Mo Hong², Ye Soo Park³. ¹College of medicine, Hanyang university, Republic of Korea, ²College of medicine, Hanleem University, Republic of Korea, ³Hanyang university hospital, Republic of Korea
Disclosures: Woong Hwan Choi, None
- SUN-1133 Appendicular Lean Mass Adjusted for Body Mass Index: Reference Data for Australian Men and Women**
 Julie Pasco*, Kara Holloway-Kew, Monica Tembo, Sophia Sui, Kara Anderson, Pamela Rufus, Natalie Hyde, Mark Kotowicz. Deakin University, Australia
Disclosures: Julie Pasco, None
- SUN-1134 Phenotypic Features of Sarcopenic Older Adults According to Current Operational Definitions: Data from the GERICO Study**
 Mélanie Hars*, Emmanuel Biver, Thierry Chevalley, René Rizzoli, Serge Ferrari, Andrea Trombetti. Division of Bone Diseases, Department of Internal Medicine Specialties, Geneva University Hospitals and Faculty of Medicine, Switzerland
Disclosures: Mélanie Hars, None
- SUN-1135 Greater visceral adiposity is associated with lower paraspinous muscle density: the Framingham Study**
 Timothy Tsai*¹, Brett Allaire², Ilean Isaza¹, Marian Hannan^{1,2,3}, Mary Bouxsein², Douglas Kiel^{1,2,3}, Thomas Travisson^{1,2,3}. ¹Hebrew SeniorLife Institute for Aging Research, United States, ²Beth Israel Deaconess Medical Center, United States, ³Harvard Medical School, United States
Disclosures: Timothy Tsai, None
- SUN-1136 Serum DHEA and its Sulfate Are Associated with Incident Fall Risk in Older Men - the MrOS Sweden Study**
 Liesbeth Vandenput*¹, Maria Nethander^{1,2}, Magnus Karlsson³, Björn Rosengren³, Eva Ribom⁴, Dan Mellström⁵, Claes Ohlsson¹. ¹Centre for Bone and Arthritis Research, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, ²Bioinformatics Core Facility, Sahlgrenska Academy, University of Gothenburg, Sweden, ³Clinical and Molecular Osteoporosis Research Unit, Department of Clinical Sciences, Lund University, and Department of Orthopaedics, Skåne University Hospital, Sweden, ⁴Department of Surgical Sciences, University of Uppsala, Sweden, ⁵Centre for Bone and Arthritis Research and Department of Geriatric Medicine, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden
Disclosures: Liesbeth Vandenput, None

SUN-1137 Regucalcin Signaling Is Involved in Advanced Glycation End Products-induce Muscle Cell Senescence and Atrophy
Rong-Sen Yang*, Chen-Yuan Chiu, Ding-Cheng Chan, Shing-Hwa Liu. National Taiwan University, Taiwan
Disclosures: Rong-Sen Yang, None

LATE-BREAKING POSTERS II

12:30 pm - 2:30 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

ADULT METABOLIC BONE DISORDERS

LB SUN - 1148 Circulating miRNAs are associated with higher tibial cortical porosity in postmenopausal women with history of osteoporotic fractures

Ursula Heilmeier*¹, Matthias Hackl², Susanna Skalicky², Janina Patsch³, Thomas Baum⁴, Fabian Schröder⁵, Klemens Vierlinger⁵, Andrew Burghardt⁶, Ann Schwartz⁷, Johannes Grillari⁸, Thomas Link⁹. ¹Department of Radiology & Biomedical Imaging, United States, ²TamiRNA GmbH, Austria, ³Department of Biomedical Imaging and Image-Guided Therapy, Medical University of Vienna, Austria, ⁴Department of Neuroradiology, Technical University Munich, Germany, ⁵Department of Molecular Diagnostics, Austrian Institute of Technology (AIT), Austria, ⁶Musculoskeletal Quantitative Imaging Research Group, Department of Radiology & Biomedical Imaging, University of California San Francisco, United States, ⁷Department of Epidemiology and Biostatistics, University of California San Francisco, United States, ⁸Department of Biotechnology, University of Natural Resources and Life Sciences, Austria, ⁹Musculoskeletal Quantitative Imaging Research Group, Department of Radiology & Biomedical Imaging, University of California San Francisco, United States

Disclosures: Ursula Heilmeier, None

BIOMECHANICS AND BONE QUALITY

LB SUN - 1153 Serum Free Testosterone-Estradiol Ratio and Dehydroepiandrosterone Sulfate Levels Are Associated With Muscle Strength Independent of Muscle Mass in the Elderly

Sung Hye Kong*¹, Jung Hee Kim¹, Ji Hyun Lee¹, A Ram Hong¹, Chan Soo Shin¹, Nam H. Cho². ¹Seoul National University College of Medicine, Republic of Korea, ²Ajou University College of Medicine, Republic of Korea

Disclosures: Sung Hye Kong, None

LB SUN - 1154 Organic Matrix Quality discriminates between Age- and BMD-matched Fracturing versus Non-Fracturing Post-menopausal Women

Eleftherios Paschalis*¹, Stamatia Rokidi¹, Klaus Klaushofer¹, Severin Vennin², Anastasia Desyatova², Joseph Turner², P Watson³, Joan Lappe³, Mohammed Akhter³, Robert Recker³. ¹Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK and AUVA Trauma Centre Meidling, 1st Medical Department, Hanusch Hospital, Austria, ²University of Nebraska, United States, ³Osteoporosis Research Center, Creighton University, United States

Disclosures: Eleftherios Paschalis, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS

LB SUN - 1158 **The Influence of Maternal Diet on Offspring Bone Acquisition at Birth among Samoan Infants**

Rachel L Duckham^{*1}, Kendall J Arslanian², Ulai Fidow³, Theresa Atanoa⁴, Folla Unasa-Apelu⁵, Abigail I Wetzel⁵, Alysa Pomer⁶, Take Naseri⁷, Natalie Hyde⁸, Nicola L Hawley⁶.

¹Institute for Physical Activity and Nutrition, Deakin University, Australia, ²Department of Anthropology, Yale University, United States, ³Yale-Ministry of Health Research Center, Samoa, ⁴Community Studies Program, University of California-Santa Cruz, United States, ⁵International Health Institute, Brown University, United States, ⁶Department of Chronic Disease Epidemiology, Yale School of Public Health, United States, ⁷Ministry of Health, Samoa, ⁸Epi-Centre for Healthy Ageing, Deakin University, Australia

Disclosures: Rachel L Duckham, None

BONE INTERACTIONS WITH MUSCLE AND OTHER TISSUES

LB SUN - 1161 **FGF23 induces ventricular arrhythmias in mouse hearts mediated through the phospholipase C pathway**

Jonah M. Graves^{*}, Julian A. Vallejo, Chelsea Hamill, Michael J. Wacker. University of Missouri-Kansas City School of Medicine, United States

Disclosures: Jonah M. Graves, None

BONE TUMORS AND METASTASIS

LB SUN - 1166 **Identification of Novel Notch1 Interacting Partners in Osteosarcoma Cells**

Haydee Torres^{*1,2}, Fang Fang¹, Danielle May¹, Kyle Roux^{1,2,3}, Jianning Tao^{1,2,3}. ¹Sanford Research, United States, ²South Dakota State University, United States, ³The University of South Dakota, United States

Disclosures: Haydee Torres, None

LB SUN - 1167 **The Runt domain of RUNX2 induces the migration of melanoma cells to bone**

Maria Teresa Valenti^{*1}, Michela Deiana¹, Michela Serena¹, Samuele Cheri¹, Francesca Parolini¹, Giulia Marchetto¹, Mihaela Mina¹, Antonio Mori¹, Alberto Gandini¹, Franco Antoniazzi¹, Natascia Tiso², Giovanni Malerba¹, Luigi Gennari³, Monica Mottes¹, Donato Zipeto¹, Luca Dalle Carbonare¹. ¹University of Verona, Italy, ²University of Padova, Italy, ³University of Siena, Italy

Disclosures: Maria Teresa Valenti, None

LB SUN - 1168 **Activation of PI3K in the Myeloid Lineage Results in Myeloproliferative Neoplasm, Increase in Myeloid-Derived Suppressor Cells and Bone Loss**

Jungeun Yu^{*1}, Laura Doherty¹, Evan Jellison², Ernesto Canalis¹, Archana Sanjay¹.

¹UConn Musculoskeletal Institute, UConn Health, Farmington, CT 06030, United States, ²Department of Immunology, UConn Health, Farmington, CT 06030, United States

Disclosures: Jungeun Yu, None

ENERGY METABOLISM, BONE, MUSCLE AND FAT

LB SUN - 1174 **PGC1 α deficiency negatively regulates bone mass and strength**

Graziana Colaianni^{*1}, Luciana Lippo¹, Lorenzo Sanesi¹, Giacomina Brunetti², Monica Celi³, Nunzio Cirulli², Giovanni Passeri⁴, Janne Reseland⁵, Ernestina Schipani⁶, Maria Felicia Faienza⁷, Umberto Tarantino³, Silvia Colucci², Maria Grano¹. ¹Department of Emergency and Organ Transplantation, University of Bari, Italy, ²Department of Basic Medical Science, Neuroscience and Sense Organs, University of Bari, Italy, ³Department of Orthopedics and Traumatology, Tor Vergata University of Rome, Italy, ⁴Department of Clinical and Experimental Medicine, University of Parma, Italy, ⁵Department of Biomaterials, Institute for Clinical Dentistry, University of Oslo, Norway, ⁶Departments of Medicine and Orthopaedic Surgery, University of Michigan, United States, ⁷Department of Biomedical Science and Human Oncology, Pediatric Unit, University of Bari, Italy

Disclosures: Graziana Colaianni, None

LB SUN - 1175 Metabolic Fuel Selection During the Osteoblast to Osteocyte Transition

Thomas O'Connell*, Matt Prideaux, Yukiko Kitase, Lynda Bonewald. Indiana University, United States

Disclosures: Thomas O'Connell, None

MECHANOBIOLOGY

LB SUN - 1181 Mechanically-stimulated ATP release from murine bone cells is regulated by a balance of injury and repair

Nicholas Mikolajewicz*¹, Elizabeth Zimmermann², Bettina Willie¹, Svetlana Komarova¹.

¹McGill University, Canada, ²Shriners Hospital for Children-Canada, Canada

Disclosures: Nicholas Mikolajewicz, None

MUSCULOSKELETAL AGING

LB SUN - 1182 Association of osteosarcopenia and cognitive impairment in a community dwelling older population: The Bushehr Elderly Health (BEH) program

Bagher Larijani*¹, Gita Shafiee², Afshin Ostovar³, Ramin Heshmat⁴, Farshad Sharifi⁵, Iraj Nabipour⁶. ¹Endocrinology and Metabolism Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, ²Chronic Diseases Research Center, Endocrinology and Metabolism Population Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, ³Osteoporosis Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran., Islamic Republic of Iran, ⁴Chronic Diseases Research Center, Endocrinology and Metabolism Population Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, ⁵Elderly Health Research Center, Endocrinology and Metabolism Population Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, ⁶The Persian Gulf Tropical Medicine Research Center, Bushehr University of Medical Sciences, Bushehr, Iran, Islamic Republic of Iran

Disclosures: Bagher Larijani, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION

LB SUN - 1188 Building a single-cell transcriptome atlas of mouse bone marrow mesenchymal lineage cells for analyzing MSC heterogeneity

Robert Tower*, Leilei Zhong, Luqiang Wang, Rojesh Shrestha, Katalin Susztak, Ling Qin. University of Pennsylvania, United States

Disclosures: Robert Tower, None

OSTEOBLASTS

LB SUN - 1194 Investigating the Dose-Dependent Response of Black Tea Polyphenols in SaOS-2 Cells

Riley Cleverdon*, Michael D. Mcalpine , William Gittings, Wendy E. Ward. Brock

University, Canada

Disclosures: Riley Cleverdon, None

LB SUN - 1195 The impact of tissue oxygenation on antibacterial immunity during Staphylococcus aureus osteomyelitis

Caleb Ford*¹, Aimee Wilde¹, Nicole Putnam¹, Jacob Curry², Jim Cassat^{1,2}. ¹Vanderbilt University, United States, ²Vanderbilt University Medical Center, United States

Disclosures: Caleb Ford, None

LB SUN - 1196 Antagonism between Bone Morphogenetic Protein and Activin signaling pathways in osteoprogenitor cells

Madeline Totten*, Sydni Yates, Kelli Jestes, Sylvia Chlebek, Jordan Newby, Jon Arthur, Jonathan Lowery. Division of Biomedical Science, Marian University College of Osteopathic Medicine, United States

Disclosures: Madeline Totten, None

OSTEOCLASTS

LB SUN - 1201 Pattern recognition and IL-1 receptor signaling drive host immunity and altered bone homeostasis during Staphylococcus aureus osteomyelitis

Nicole Putnam*, Laura Fulbright, Jacob Curry, Jenna Petronglo, Jim Cassat. Vanderbilt University Medical Center, United States

Disclosures: Nicole Putnam, None

LB SUN - 1202 AP-002: A novel inhibitor of osteoclast differentiation and function without disruption of osteogenesis

Yongqiang Wang*¹, Yixue Mei¹, Yushan Song¹, Carly Bachus¹, Chunxiang Sun¹, Hooshmand Sheshbaradaran², Michael Glogauer¹. ¹University of Toronto, Canada, ²Altum Pharmaceuticals Inc, Canada

Disclosures: Yongqiang Wang, None

LB SUN - 1203 MicroRNA-335-5p Inhibits Alveolar Bone Resorption and Inflammation in Periodontitis

Junxiang Lian*^{1,2}, Qisheng Tu¹, Jake Chen^{1,3}. ¹Division of Oral Biology, Tufts University School of Dental Medicine, United States, ²State Key Laboratory of Oral Diseases, West China School of Stomatology, Sichuan University, United States, ³Department of Cellular, Molecular, Developmental Biology, United States

Disclosures: Junxiang Lian, None

OSTEOCYTES

LB SUN - 1206 PPAR γ : A Molecular Brake for Osteocyte Energy Metabolism and Bone Mass

Sudipta Baroi*¹, Lance Stechschulte¹, Amit Chougule¹, Patrick Griffin², Beata Lecka-Czernik¹. ¹University of Toledo College of Medicine, United States, ²Scripps Research Institute, United States

Disclosures: Sudipta Baroi, None

OSTEOPOROSIS - ASSESSMENT

LB SUN - 1208 Assessment of bone density using QCT on single and dual energy CT data. An Ex-vivo Study on Human Femur

Philippe P Wagner*¹, Jean-Paul Roux¹, Quentin Chuzel², Francois Duboeuf¹, Roland Chapurlat^{1,2}, Helene Follet¹, Jean-Baptiste Pialat². ¹Univ Lyon, Université Claude Bernard Lyon 1, INSERM, Lyos UMR1033, Lyon, France, ²Hospices Civils de Lyon, Lyon, France

Disclosures: Philippe P Wagner, None

OSTEOPOROSIS - HEALTH SERVICES RESEARCH

LB SUN - 1212 High Levels of Abdominal Aortic Calcification Predict Higher Health Care Costs

John Schousboe*^{1,2}, Tien Vo², Lisa Langsetmo², Brent Taylor², Allyson Kats², Susan Diem², Pawel Szulc³, Joshua Lewis⁴, Kristine Ensrud². ¹HealthPartners Institute, United States, ²University of Minnesota, United States, ³INSERM UMR 1033, University of Lyon, Hospices Civils de Lyon, France, ⁴University of Western Australia, Australia

Disclosures: John Schousboe, None

OSTEOPOROSIS - NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY

LB SUN - 1216 WITHDRAWN

OSTEOPOROSIS - PATHOPHYSIOLOGY

LB SUN - 1219 Long-term immobilization is associated with increased cortical porosity, osteocyte deficiency and high matrix mineralization

Tim Rolvien*¹, Petar Milovanovic², Felix N. Schmidt¹, Matthias Krause¹, Klaus Püschel³, Robert O. Ritchie⁴, Michael Amling¹, Björn Busse¹. ¹Department of Osteology and Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, ²Laboratory for Anthropology, Institute of Anatomy, Faculty of Medicine, University of Belgrade, Serbia, ³Department of Legal Medicine, University Medical Center Hamburg-Eppendorf, Germany, ⁴Materials Sciences Division, Lawrence Berkeley National Laboratory, United States
Disclosures: Tim Rolvien, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS

LB SUN - 1222 Fragility Fracture Risk Reduction in Women with Breast Cancer on Aromatase Inhibitors Treated with Anti-Osteoporosis Therapy

Yu-Chien Cheng*, Cydney Bullock, Shriya Gandhi, Andrea Sterenstein, Megan Randall, Sara Ahmad, Samarthkumar Thakkar, Michael Morkos, Garnet Meier, Sanford Baim. Rush University Medical Center, United States
Disclosures: Yu-Chien Cheng, None

LB SUN - 1223 Impact of Thyroid Hormone Therapy on Bone Health in Older Adults with Subclinical Hypothyroidism: a Randomized Clinical Trial

Elena Gonzalez Rodriguez*^{1,2}, Axel Lennart Löwe^{3,4}, Cinzia Del Giovane³, Martin Feller^{3,4}, Patricia Kearney⁵, Jacobijn Gussekloo⁶, Simon P. Mooijaart⁶, Rudi GJ Westendorp⁷, David J Stott⁸, Daniel Aeberli⁹, Doug Bauer¹⁰, Didier Hans¹, Nicolas Rodondi^{2,3}. ¹Center of Bone Diseases, Rheumatology Unit, Bone and Joint Department, CHUV, Switzerland, ²Endocrinology, Diabetology and Metabolism Unit, Internal Medicine Department, CHUV, Switzerland, ³Institute of Primary Health Care (BIHAM), University of Bern, Switzerland, ⁴Department of General Internal Medicine, Inselspital, Bern University Hospital, University of Bern, Switzerland, ⁵Department of Epidemiology and Public Health University College Cork, Ireland, ⁶Departments of Gerontology and Geriatrics Leiden University Medical Center, Netherlands, ⁷Department of Public Health and Center for Healthy Aging, University of Copenhagen, Denmark, ⁸Institute of Cardiovascular and Medical Sciences, University of Glasgow, United Kingdom, ⁹Department of Rheumatology and Clinical Immunology/Allergology, Bern University Hospital, Switzerland, ¹⁰Departments of Medicine, Epidemiology and Biostatistics, University of California, United States
Disclosures: Elena Gonzalez Rodriguez, None

OSTEOPOROSIS – TREATMENT

LB SUN - 1225 PF708, a Therapeutic Equivalent/Biosimilar Teriparatide Candidate, Demonstrates Comparable Clinical Profiles Relative to Forteo in Osteoporosis Patients

Hubert Chen*¹, Michael Noss², Jonathan Lee¹, Hongfan Jin¹, Carrie Schneider¹, Christine Thai¹. ¹Pfenex Inc, United States, ²Synexus, United States
Disclosures: Hubert Chen, Pfenex, Other Financial or Material Support

LB SUN - 1226 Fragility Fractures after Initiation of a Drug Holiday in a Real Life Setting

Michael Morkos*^{1,2}, Alessandra Casagrande¹, Paul Mahrous¹, Muriel Tania Go², Hasan Husni², Mirette Hanna¹, Sara Bedrose², Dingfeng Li², Yu-Chien Cheng^{1,2}, Sanford Baim¹. ¹Rush University Medical Center, United States, ²John H. Stroger, Jr. Hospital of Cook County, United States
Disclosures: Michael Morkos, None

LB SUN - 1227 Patterns of Osteoporosis Medications Selection after Drug Holiday or Continued Therapy: A Real World Experience

Michael Morkos*^{1,2}, Alessandra Casagrande¹, Paul Mahrous¹, Muriel Tania Go², Hasan Husni², Mirette Hanna¹, Dingfeng Li², Sara Bedrose², Mishita Goel¹, Yu-Chien Cheng^{1,2}, Sanford Baim¹. ¹Rush University Medical Center, United States, ²John H. Stroger, Jr. Hospital of Cook County, United States
Disclosures: Michael Morkos, None

LB SUN - 1228 Apparent Response Rate by PINP to Oral Bisphosphonates in Clinical Practice and Clinical Trial Settings

Antonia Ugur*¹, Fatma Gossiel¹, Kim Naylor¹, Jennifer Walsh¹, Nicola Peel², Eugene McCloskey¹, Richard Eastell^{1,3}. ¹Academic Unit of Bone Metabolism, Oncology and Metabolism, University of Sheffield, United Kingdom, ²Metabolic Bone Centre, Sheffield Teaching Hospitals, United Kingdom, ³Mellanby Centre for Bone Research, United Kingdom

Disclosures: Antonia Ugur, None

PRECLINICAL MODELS: NUTRITION AND PHARMACOLOGY

LB SUN - 1234 Additive Adverse Effects: Use of Multiple Fracture Associated Drugs and Hip Fracture Risk

Rebecca Emeny*¹, Chiang-Hua Chang¹, Jonathan Skinner¹, A. James O'Malley¹, Jeremy Smith¹, Gouri Chakraborti¹, Clifford J. Rosen², Nancy E. Morden¹. ¹The Dartmouth Institute for Health Policy & Clinical Practice, The Geisel School of Medicine at Dartmouth, United States, ²Maine Medical Center Research Institute, United States

Disclosures: Rebecca Emeny, None

RARE BONE DISEASES: CLINICAL

LB SUN - 1238 Bone Mineral Density and fracture risk in adult Hypophosphatasia

Franca Genest*, Lena Clausen, Silke Achtziger, Lothar Seefried. University of Wuerzburg, Germany

Disclosures: Franca Genest, Alexion, Speakers' Bureau

LB SUN - 1239 Asfotase Alfa Therapy in Adults with Pediatric-Onset Hypophosphatasia: Compassionate Use Results

Michaël Laurent*¹, David Alster², Evelien Gielen¹, David Cassiman¹, Franz Jakob³, Lothar Seefried³. ¹University Hospitals Leuven, Belgium, ²Tucson Endocrine, United States, ³University of Würzburg, Germany

Disclosures: Michaël Laurent, Alexion, Consultant

LB SUN - 1240 Successful treatment of osteoporosis with intermittent parathyroid hormone related peptide (Tymlos) injections in patients with Ehlers-Danlos syndrome

Julianna Barsony*. Georgetown University Medical Center, United States

Disclosures: Julianna Barsony, None

RARE BONE DISEASES: TRANSLATIONAL

LB SUN - 1242 Homozygous knock-in Gly682Arg mutation in mouse Col27a1 gene phenocopies human steel syndrome with osteochondrodysplasia

Kalyan Nannuru*¹, Claudia Gonzaga-Jauregui², Harikiran Nistala², Johanna Jimenez¹, Silvia Smaldone¹, Saathyaki Rajamani¹, Johnathon Walls¹, Chia-Jen Siao¹, Andrew Murphy¹, Sarah Hatsell¹, Aris N Economides¹. ¹Regeneron Pharmaceutical Inc, United States, ²Regeneron Genetic Center, United States

Disclosures: Kalyan Nannuru, Regeneron Pharmaceuticals Inc, Other Financial or Material Support

POSTER SESSION III

12:00 pm - 2:00 pm

Palais des congrès de Montréal
ASBMR Discovery Hall - Exhibit Hall 220 B-E

ADULT METABOLIC BONE DISORDERS

MON - 0036 Vitamin D and bone turnover markers dynamics during the first year after liver transplantation.

Gonzalo Allo Miguel*¹, Soledad Librizzi¹, Mercedes Aramendi Ramos², Carlos Jiménez³, Federico Hawkins¹, Guillermo Martínez Díaz-Guerra¹. ¹Endocrinology Service, 12 de Octubre University Hospital, Spain, ²Laboratory Service, 12 de Octubre University Hospital, Spain, ³General Surgery Service, 12 de Octubre University Hospital, Spain

Disclosures: Gonzalo Allo Miguel, None

- MON-0037** **Persistently elevated PTH after parathyroidectomy at one year: experience in a tertiary referral center**
 Marie Caldwell*¹, Marshall Clark², Lawrence Kim², Janet Rubin². ¹University of North Carolina Hospitals, United States, ²University of North Carolina, United States
Disclosures: Marie Caldwell, None
- MON-0038** **A Novel Mutation in the Calcium Sensing Receptor Gene in an Italian Family Affected by Autosomal Dominant Hypocalcemia**
 Filomena Cetani*¹, Simona Borsari², Federica Saponaro³, Elena Pardi², Chiara Banti², Laura Mazoni², Matteo Apicella³, Claudio Marcocci². ¹University Hospital of Pisa, Endocrine Unit 2, Italy, ²Department of Clinical and Experimental Medicine, University of Pisa, Italy, ³Department of Surgical, Medical, Molecular Pathology and Clinical Area, University of Pisa, Italy
Disclosures: Filomena Cetani, None
- MON-0039** **Burden of Illness Among Patients With Chronic Hypoparathyroidism Not Adequately Controlled With Standard Therapy by Self-Perception**
 Heide Siggelkow*¹, Bart L. Clarke², Helen Dahl-Hansen³, Elizabeth Glenister⁴, Davneet Judge⁵, Nawal Bent-Ennakhl⁶, Katie Gibson³, John Germak⁶, Kristina Chen⁷, Claudio Marelli⁶, Jens Bollerslev⁸. ¹Department of Gastroenterology and Endocrinology, University of Göttingen, Germany, ²Mayo Clinic Division of Endocrinology, Diabetes, Metabolism, and Nutrition, United States, ³Nordic hypoPARA Organisation, Norway, ⁴Hypopara UK, United Kingdom, ⁵Adelphi Real-World, United Kingdom, ⁶Shire International GmbH, Switzerland, ⁷Shire Human Genetic Therapies, Inc., United States, ⁸Section of Specialized Endocrinology, Oslo University Hospital, Norway
Disclosures: Heide Siggelkow, Shire, Consultant, Shire, Speakers' Bureau
- MON-0041** **Adults With Hypophosphatasia Enrolled in the Global HPP Registry Have Delayed Diagnosis and Systemic Manifestations of the Disease**
 Lothar Seefried*¹, Wolfgang Högler², Hugo Gomes Da Silva³, Anna Petryk³, Shona Fang³, Agnes Linglart⁴, Keiichi Ozono⁴, Cheryl Rockman-Greenberg⁵, Craig Langman⁶, Priya Kishnani⁷. ¹Orthopaedic Clinic King-Ludwig-Haus, University of Würzburg, Germany, ²Department of Endocrinology and Diabetes, Birmingham Children's Hospital, and Institute of Metabolism and Systems Research, University of Birmingham, United Kingdom, ³Alexion Pharmaceuticals, Inc., United States, ⁴APHP, Bicêtre Paris-Sud, University Paris Saclay, France, ⁵University of Manitoba, Rady Faculty of Health Sciences, Max Rady College of Medicine, and Children's Hospital Research Institute of Manitoba, Canada, ⁶Feinberg School of Medicine, Northwestern University, and Lurie Children's Hospital of Chicago, United States, ⁷Department of Pediatrics, Duke University Medical Center, United States
Disclosures: Lothar Seefried, Alexion Pharmaceuticals, Inc., Grant/Research Support, Alexion Pharmaceuticals, Inc., Other Financial or Material Support
- MON-0042** **Value of periostin and tartrate-resistant acid phosphatase 5b as biochemical markers of activity in Paget's disease of bone**
 Nuria Guanabens*¹, Xavier Filella², Silvia Ruiz-Gaspa³, Helena Florez¹, Arantxa Conesa⁴, Pilar Peris¹, Ana Monegal¹, Ferran Torres⁵. ¹Metabolic Bone Diseases Unit, Hospital Clinic, IDIBAPS, CIBERehd, University of Barcelona, Spain, ²Biochemistry and Molecular Genetics Department, Hospital Clinic, Spain, ³Hospital Clinic, CIBERehd, Spain, ⁴Rheumatology Department, Hospital General Universitario, Spain, ⁵Biostatistics and Data Management Platform, Hospital Clinic, IDIBAPS, Spain
Disclosures: Nuria Guanabens, None

- MON-0043** **A Highly Sensitive Fluorescence Immunoassay for the Biomarker NOGGIN FluoBolt™: A New Tool for Bone Research**
Gerhard Hawa*, Linda Sonnleitner, Albert Missbichler. FIANOSTICS GmbH, Austria
Disclosures: Gerhard Hawa, None
- MON-0044** **Evaluation of a Radiophosphorus Method for Intestinal Phosphorus Absorption Assessment in Humans**
Kathleen M. Hill Gallant*¹, Mun Sun Choi¹, Elizabeth R. Stremke¹, George P. McCabe¹, Munro Peacock², Meryl E. Wastney³. ¹Purdue University, United States, ²Indiana University School of Medicine, United States, ³Purdue University, New Zealand
Disclosures: Kathleen M. Hill Gallant, Chugai Pharmaceutical, Grant/Research Support
- MON-0045** **The Design and Results of a Phase 1 TransCon PTH Trial in Healthy Volunteers**
David B. Karpf*¹, Susanne Pihl², Eva Mortensen¹, Kennett Sprogø², Jonathan A. Leff¹. ¹Ascendis Pharma Inc., United States, ²Ascendis Pharma A/S, Denmark
Disclosures: David B. Karpf, Ascendis Pharma, Other Financial or Material Support
- MON-0046** **Does Cerebral Vascular Stiffness Contribute to Altered Cognition in Primary Hyperparathyroidism?**
Minghao Liu*¹, Yunlin Gazes¹, Ivelisse Colon¹, Mariana Bucovsky¹, Kevin Slane¹, John Williams¹, Randolph Marshall¹, Ronald Lazar², James Lee¹, Jennifer H. Kuo¹, Shonni Silverberg¹, Marcella Walker¹. ¹Columbia University Medical Center, United States, ²University of Alabama at Birmingham, United States
Disclosures: Minghao Liu, None
- MON-0047** **A microRNA approach to diagnosing renal osteodystrophy**
Thomas Nickolas*¹, Neal Chen², Donald McMahon¹, David Dempster³, Hua Zhou³, Sharon Moe². ¹Columbia University, United States, ²Indiana University, United States, ³Helen Hayes Hospital Regional Bone Center, United States
Disclosures: Thomas Nickolas, None
- MON-0048** **Incidence of fracture in Kidney Transplantation: A population-based Healthcare administrative study**
Aboubacar Sidibé*¹, Sonia Jean², Philippe Gamache³, Lynne Moore⁴, Fabrice Mac-Way⁵. ¹Chu de Quebec-Université Laval, Institut National de Santé Publique de Québec, Canada, ²Université Laval, Institut National de Santé Publique, Canada, ³Université Laval, Institut National de Santé Publique de Québec, Canada, ⁴Chu de Québec-Université Laval Research center, Enfant-Jésus Hospital, Traumatology Axis, Canada, ⁵Chu de Québec-Université Laval, Hotel-Dieu de Quebec Hospital, Canada
Disclosures: Aboubacar Sidibé, None
- MON-0049** **TBK1 expression and activity in OCL lineage cells generates a pagetic-like bone disease in mice**
Quanhong Sun*¹, Peng Zhang², Juraj Adamik², Mark A. Subler³, Noriyoshi Kurihara⁴, Laëtitia Michou⁵, Jacques P. Brown⁵, G. David Roodman^{4,6}, Philip E Auron⁷, David W. Dempster^{8,9}, Jolene J. Windle³, Kostas Verdelis¹⁰, Hua Zhou⁸, Deborah L. Galson¹. ¹Department of Medicine, Hematology-Oncology Division, University of Pittsburgh, UPMC Hillman Cancer Center, Pittsburgh, PA, United States, ²Department of Medicine, Hem-Onc Division, UPCI, University of Pittsburgh, United States, ³Department of Human and Molecular Genetics, Virginia Commonwealth University, Richmond, VA, United States, ⁴Department of Medicine, Hem-Onc Division, Indiana University, Indianapolis, IN, United States, ⁵Department of Medicine, Laval University, CHU de Quebec Research Center and Department of Rheumatology, CHU de Quebec, Quebec City, Canada, ⁶Veterans Administration Medical Center, Indianapolis, IN, United States, ⁷Department of Biological Sciences, Duquesne University, Pittsburgh, PA, United States, ⁸Regional Bone Center, Helen Hayes Hospital, Route 9W, West Haverstraw, NY 10993, United States, ⁹Department of Pathology, College of Physician and Surgeons, Columbia University, New York, NY 10993, United States, ¹⁰The Center for Craniofacial Regeneration, University of Pittsburgh, Pittsburgh, PA, United States
Disclosures: Quanhong Sun, None

MON-0050 Anatomic distribution of single and multiple parathyroid adenomas in primary hyperparathyroidism
Gaia Tabacco*¹, Randy Yeh², Donovan Tay Yu-Kwang¹, Laurent Dercle², Jennifer Kuo³, Leonardo Bandeira¹, Catherine Mcmanus⁴, James Lee³, John Bilezikian¹. ¹Department of Medicine, Division of Endocrinology, College of Physicians & Surgeons, Columbia University, United States, ²Department of Radiology Columbia University, New York, United States, ³Department of Surgery GI/Endo, Columbia University, United States, ⁴Columbia University, United States
Disclosures: Gaia Tabacco, None

MON-0051 Estrogen Decreases Bone Turnover and Increases Bone Mineral Density in Transwomen: a Prospective Study
Mariska Vlot*, Chantal Wiepjes, Annemieke Heijboer, Martin Den Heijer. VU University Medical Center, Netherlands
Disclosures: Mariska Vlot, None

MON-0052 WITHDRAWN

BIOMECHANICS AND BONE QUALITY

MON-0091 Regional Analysis of Cortical Bone Using Second-generation High-resolution Peripheral Quantitative Computed Tomography (HR-pQCT)
Sanchita Agarwal*, Fernando R Rosete, Ivelisse Colon, Mariana Bucovsky, Kyle K Nishiyama, Elizabeth Shane. Division of Endocrinology, Department of Medicine, Columbia University, United States
Disclosures: Sanchita Agarwal, None

MON-0092 Microgravity exposure diminishes trabecular microarchitecture and cortical bone structure differently in growing and skeletally mature mice
Jennifer C. Coulombe*¹, Eric W. Livingston², Alicia M. Ortega¹, Ted A. Bateman², Eric A. Vance³, Louis S. Stodieck⁴, Virginia L. Ferguson¹. ¹Department of Mechanical Engineering, University of Colorado, Boulder CO, United States, ²Department of Biomedical Engineering, University of North Carolina, Chapel Hill, NC, United States, ³Department of Applied Mathematics, University of Colorado, Boulder CO, United States, ⁴BioServe Space Technologies, University of Colorado, Boulder, CO, United States
Disclosures: Jennifer C. Coulombe, None

MON-0093 Effect of High Fat Diet on the Fracture Resistance of Bone in Mice with and without Type 2 Diabetes
Amy Creecy*¹, Sasidhar Uppuganti², Alyssa Merkel², Deanna Bradley¹, Daniel Fernandes¹, Jeffrey Nyman². ¹Vanderbilt University, United States, ²Vanderbilt University Medical Center, United States
Disclosures: Amy Creecy, None

MON-0094 Finite Element Modelling based Prediction of Vertebral Bone Strength using Statistical Iterative Reconstruction (SIR)
Anitha D.*¹, Kai Mei², Felix Kopp², Peter Noel², Thomas Baum³, Subburaj Karupppasamy¹. ¹Singapore University of Technology and Design, Singapore, ²Technical University of Munich, Germany, ³Technical University of Munich, Dominican Republic
Disclosures: Anitha D., None

MON-0095 Supervised Machine Learning Techniques for Hip Fracture Prediction from DXA-based 3D Patient-Specific Femur Model Fall Simulations.
Sara Guardiola*¹, Carlos Ruiz², Jérôme Noailly², Jordi Moretón¹, Silvana Di Gregorio³, Ludovic Humbert⁴, Luis Del Rio³. ¹CETIR Fundació Privada, Spain, ²BCN MedTech, Universitat Pompeu Fabra, Spain, ³CETIR Medical Centre, Spain, ⁴Galgo Medical, Spain
Disclosures: Sara Guardiola, None

- MON-0096** **Load Sharing of Cancellous and Cortical Bone in Rat Vertebrae Under Uniaxial Compression Determined Using Finite Element Analysis (FEA)**
 Madeleine G. Driver*¹, W. Brent Lievers², A. Keith Pilkey¹. ¹Department of Mechanical and Materials Engineering, Queen's University, Canada, ²Bharti School of Engineering, Laurentian University, Canada
Disclosures: Madeleine G. Driver, None
- MON-0097** **Voluntary Jumping Exercise in Rats Produces a Greater Anabolic Response in the Forelimbs than the Hindlimbs**
 Jon Elizondo*¹, Corinne Metzger², Scott Lenfest¹, Jessica Brezicha¹, Amelia Looper³, Nicholas Igbiginie², Peter Phan², Susan Bloomfield², Harry Hogan⁴. ¹Department of Mechanical Engineering, Texas A&M University, United States, ²Department of Health & Kinesiology, Texas A&M University, United States, ³College of Veterinary Medicine, Texas A&M University, United States, ⁴Departments of Mechanical Engineering and Biomedical Engineering, Texas A&M University, United States
Disclosures: Jon Elizondo, None
- MON-0098** **Alterations in Gut Microbiome Secreted Vitamin K are Associated with Impaired Bone Quality**
 Christopher J. Hernandez*¹, Jason D. Guss¹, Erik A. Taylor¹, C. Hazel Higgins¹, Eve Donnelly¹, M. Kyla Shea², Sarah L. Booth³, Rodrigo C. Bicahlo¹. ¹Cornell University, United States, ²Jean Mayer USDA Human Nutrition Research Center on Aging, Tufts University, United States, ³Jean Mayer USDA Health Nutrition Research Center on Aging, Tufts University, United States
Disclosures: Christopher J. Hernandez, None
- MON-0099** **Strength training performed prior to fracture improves oxidative profile and fracture healing in aging female rats**
 Melise Jacon Peres Ueno*, Fernanda Fernandes, Amanda Pinatti, Camila Stringheta Garcia, Angela Cristina Nicola, Mário Jefferson Quirino Louzada, Paulo Cesar Ciarlini, Rita Cássia Menegati Dornelles. UNESP, Brazil
Disclosures: Melise Jacon Peres Ueno, None
- MON-0100** **Composition of Hyperelastic Bone Composites Affects De Novo Bone formation**
 Soyeon Jeong*¹, Adam Jakus^{2,3}, Chawon Yun¹, Ryan J. Lubbe¹, Adam Driscoll¹, Meraaj S. Haleem¹, Kevin Y. Chang¹, Wellington K. Hsu¹, Ramille Shah², Stuart R. Stock⁴, Erin L. Hsu¹. ¹Northwestern University Department of Orthopaedic Surgery, United States, ²Northwestern University Department of Materials Science and Engineering, United States, ³Simpson Querrey Institute for BioNanotechnology, United States, ⁴Northwestern University Department of Cell and Molecular Biology, United States
Disclosures: Soyeon Jeong, None
- MON-0101** **Panx3 is important for tibial morphogenesis during skeletal development and bone homeostasis**
 Xian Jin*¹, Xiangguo Che¹, Na-Rae Park¹, Yu-Min Hong¹, Clara Park², Yu-Ra Choi¹, Je-Yong Choi¹. ¹Department of Biochemistry and Cell Biology, Cell and Matrix Research Institute, BK21 Plus KNU Biomedical Convergence Program, Korea Mouse Phenotyping Center, School of Medicine, Kyungpook National University, Daegu, South Korea., Republic of Korea, ²Division of Food and Nutrition Chonnam National University 77 Yongbong-ro, Buk-gu, Gwangju, Korea, Republic of Korea
Disclosures: Xian Jin, None
- MON-0102** **Guided Bone Regeneration with rhBMP-2 Improves Bone Quality Surrounding Dental Implants**
 Trenton Johnson*¹, Jung-Suk Han², Toru Deguchi¹, Frank Beck¹, Do-Gyoon Kim¹. ¹Ohio State University, United States, ²Seoul National University, Republic of Korea
Disclosures: Trenton Johnson, None

- MON-0103** **ASBMR 2018 Fund for Research and Education Young Investigator Award in Honor of Adele L. Boskey**
Morphology of bird bone during egg-laying
 Leeann Louis*. University of California, Berkeley, United States
Disclosures: Leeann Louis, None
- MON-0104** **Influence of Age, Sex, and Anatomical Location on Human Cortical Bone Microarchitecture: A Synchrotron Radiation Micro-CT Study**
 Lindsay Loundagin*¹, David Cooper², W. Brent Edwards¹. ¹Human Performance Laboratory, Faculty of Kinesiology, University of Calgary, Canada, ²Department of Anatomy and Cell Biology, College of Medicine, University of Saskatchewan, Canada
Disclosures: Lindsay Loundagin, None
- MON-0105** **Zoledronate and Raloxifene Combination Therapy Enhances Architecture and Mechanical Properties**
 Katherine Powell*¹, Joseph Wallace¹, Alexis Pulliam¹, Alycia Berman², Matt Allen³. ¹IUPUI Department of Biomedical Engineering, United States, ²Purdue University Weldon School of Biomedical Engineering, United States, ³IU School of Medicine Department of Anatomy and Cell Biology, United States
Disclosures: Katherine Powell, None
- MON-0106** **Investigating pharmaceutical-induced alterations to matrix maturation using the lactation during low calcium model.**
 Ryan Ross*, Matthew Meagher, Rick Sumner. Rush University Medical Center, United States
Disclosures: Ryan Ross, None
- MON-0107** **Local and Global Microarchitecture Control Different Features of Bone Biomechanics**
 Jean-Paul Roux*¹, Stephanie Boutroy¹, Mary L Bouxsein², Roland Chapurlat¹, Julien Wegrzyn^{1,3}. ¹INSERM UMR 1033, Université de Lyon, France, ²Center for Advanced Orthopedics Studies, Harvard Medical School - Beth Israel Deaconess Medical Center, United States, ³Department of Orthopedic Surgery, Pavillon T, Hôpital Edouard Herriot, France
Disclosures: Jean-Paul Roux, None
- MON-0108** **BMP-2 Revealed Enhanced Healing in Fractured Mouse Tibia using Micro-CT and Torsion Test**
 Sotcheadt Sim*¹, Theresa Farhat², Martin Pellicelli², Martin Garon¹, Eric Quenneville¹, René St-Arnaud². ¹Biomomentum Inc., Canada, ²Shriners Hospital for Children, Canada
Disclosures: Sotcheadt Sim, Biomomentum Inc., Grant/Research Support
- MON-0109** **Effects of Carboxymethyl-lysine on Bone Matrix**
 Deepak Vashishth*, Grazyna Sroga, Ondrej Nikel. RPI, United States
Disclosures: Deepak Vashishth, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS

- MON-0127** **Comparison of Zoledronate and Pamidronate in Children with Skeletal Disorders: Short Term Safety Experience from a Single Institution**
 Alison M. Boyce*^{1,2}, Andrea Estrada^{2,3}, Marianne Floor², Mirini Kim², Lindsay Weigley², Elizabeth Carlson⁴, Christina Dollar², Austin Gillies², Mary Scott Roberts², Rachel I. Gafni^{1,2}, Laura L. Tosi². ¹Skeletal Disorders and Mineral Homeostasis Section, National Institute of Dental and Craniofacial Research, NIH, United States, ²Bone Health Program, Division of Orthopaedics and Sports Medicine, Children's National Health System, United States, ³Division of Endocrinology and Diabetes, Children's National Health System, United States, ⁴Children's National Health System, United States
Disclosures: Alison M. Boyce, None
- MON-0128** **Diagnosis of recurrent fracture in a pediatric cohort**
 Melissa Fisaletti*¹, Craig Peter Coorey², Julie Briody², Andrew Biggin², David Little², Aaron Schindeler³, Craig Munns². ¹Children's hospital at Westmead, Canada, ²Children's hospital at Westmead, Australia, ³University of Sydney, Australia
Disclosures: Melissa Fisaletti, None

- MON-0129** **Three Patient Kindred with Novel Phenotype of Osteogenesis Imperfecta due to a Mutation in the COL1A1 gene**
Nidhi Gupta*¹, Seth Gregory², David Deyle³, Peter Tebben³. ¹Vanderbilt University Medical Center, United States, ²Mayo Clinic Health System, United States, ³Mayo Clinic, United States
Disclosures: Nidhi Gupta, None
- MON-0130** **Calcemia and inflammatory markers in neonatal sepsis**
Stepan Kutilek*¹, Martina Vracovska¹, Kamila Pecenkova¹, Zlata Fejfarkova², Richard Pikner², Hana Brozikova¹. ¹Dept. of Pediatrics, Klatovy Hospital, Czech Republic, ²Dept. of Clinical Biochemistry; Klatovy Hospital, Czech Republic
Disclosures: Stepan Kutilek, None
- MON-0131** **The effect of growth hormone treatment in a child with a novel TRPS1 gene mutation**
Yael Levy-Shraga*¹, Shlomo Wientroub², Leonid Zeitlin². ¹Pediatric Endocrinology Unit, The Edmond and Lily Safra Children's Hospital, Chaim Sheba Medical Center, Tel-Hashomer, Israel, ²Pediatric Orthopaedics, Dana Children's Hospital, Israel
Disclosures: Yael Levy-Shraga, None
- MON-0132** **Prevalence of Low BMD in Pediatric Cancer Survivors When Z Scores are Height Adjusted**
Chanthu Pillai*¹, Avni Shah¹, Anita Ying², Steven Waguespack². ¹McGovern Medical School, United States, ²The University of Texas MD Anderson Cancer Center, United States
Disclosures: Chanthu Pillai, None
- MON-0133** **Vitamin D level of toddlers with “physiologic” genu varum is lower than that of control toddlers: 1:2 case-control study**
Yuko Sakamoto *¹, Satoshi Nakano², Mitsuyoshi Suzuki², Akifumi Tokita³, Ayaka Kaneko⁴, Eri Maeda-Murohara⁴, Masashi Nagao⁴, Toshiaki Shimizu², Kazuo Kaneko⁴, Masahiko Nozawa¹, Muneaki Ishijima⁴. ¹Department of Orthopaedics, Juntendo University Nerima Hospital, Japan, ²Department of Pediatrics, Juntendo University Graduate School of Medicine, Japan, ³Clinic Bambini, Japan, ⁴Department of Medicine for Orthopaedics and Motor Organ, Juntendo University Graduate School of Medicine, Japan
Disclosures: Yuko Sakamoto, None
- MON-0134** **Measured Versus Calculated Free serum 25(OH)-Vitamin D Level: which one is better?**
Judith Vansickle*, Tarak Srivastava, Uttam Garg, Uri Alon. Division of Pediatric Nephrology, Children's Mercy Hospital, University of Missouri Kansas City, United States
Disclosures: Judith Vansickle, None

BONE INTERACTIONS WITH MUSCLE AND OTHER TISSUES

- MON-0158** **Critical sex- and age-dependent role of osteocytic pannexin1 on bone and muscle mass and strength**
Alexandra Aguilar-Perez*¹, Lilian Plotkin¹, Hannah Davis¹, Emily Atkinson¹, Matthew Allen¹, Leland Gomez², Padmini Deosthale¹, Carmen Herrera², Julian Dille¹, Angela Bruzzaniti³, Teresa Zimmers¹, Ziyue Liu², Rafael Pacheco⁴, Joseph Rupert¹. ¹Indiana University School of Medicine, United States, ²Indiana University, United States, ³Indiana University School of Dentistry, United States, ⁴Brazil, Brazil
Disclosures: Alexandra Aguilar-Perez, None
- MON-0159** **Soft-tough cartilage scaffold with a patterned nanofibrous frame**
Haider Ali*, Kyung Won Kim, Moon Kyu Kwak, Young Hun Jeong, Gyu Man Kim, Cheol Woo Park. Kyungpook National University, Republic of Korea
Disclosures: Haider Ali, None

- MON-0160** **The osteocyte apoptosis inhibitor IG9402 prevents bone loss of the mouse mandibular condyle during masseter muscle atrophy**
 Sonja Buvinic*¹, Julián Balanta-Melo², Viviana Toro-Ibacache³, María Angélica Torres-Quintana⁴, Kornelius Kupczik⁵, Lilian Plotkin⁶. ¹Institute for Research in Dental Sciences, Faculty of Dentistry; CEMC, Faculty of Medicine; Universidad de Chile, Chile, ²Institute for Research in Dental Sciences, Faculty of Dentistry, Universidad de Chile, Chile; School of Dentistry, Universidad del Valle, Colombia; Max Planck Weizmann Center, Max Planck Institute for Evolutionary Anthropology, Germany, Chile, ³Institute for Research in Dental Sciences, Center for Quantitative Analysis in Dental Anthropology, Faculty of Dentistry, Universidad de Chile, Chile; Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology, Germany, Chile, ⁴Department of Pathology and Oral Medicine, Faculty of Dentistry, Universidad de Chile, Chile, ⁵Max Planck Weizmann Center, Max Planck Institute for Evolutionary Anthropology, Germany, ⁶Department of Anatomy and Cell Biology, Indiana University School of Medicine, Roudebush Veterans Administration Medical Center, and Indiana Center for Musculoskeletal Health, United States
Disclosures: Sonja Buvinic, None
- MON-0161** **Gut microbiota manipulation promotes bone formation mediated through regulatory T-Cell differentiation in obese mice**
 Jyotirmaya Behera*, Suresh C Tyagi, Kimberly E Kelly, Nandan K Mondal, Neetu Tyagi. University of Louisville, United States
Disclosures: Jyotirmaya Behera, None
- MON-0162** **Elucidation of mechanisms governing the activity of SOXC-inflammatory cytokine molecular axis in synovial fibroblasts**
 Kyle Jones*, Veronique Lefebvre, Pallavi Bhattaram. Cleveland Clinic, United States
Disclosures: Kyle Jones, None
- MON-0163** **CARNITINE PALMITOYL TRANSFERASE-1A VARIANT 2: A NEW METABOLIC TARGET IN OSTEOPOROSIS RELATED SARCOPENIA?**
 Umberto Tarantino*, Monica Celi, Chiara Greggi, Elena Gasbarra, Sabina Pucci. university of rome tor vergata, Italy
Disclosures: Umberto Tarantino, None
- MON-0164** **Fibroblast Growth Factor 9 (FGF9) Acts as an Inhibitory Osteokine in Mouse C2C12 and Human Skeletal Muscle Cells**
 Jian Huang*¹, Kun Wang², Lora Shiflett², Leticia Brotto¹, Lynda Bonewald³, Sarah Dallas², Marco Brotto¹. ¹Bone-Muscle Collaborative Sciences, College of Nursing and Health Innovation, University of Texas at Arlington, United States, ²Department of Oral and Craniofacial Sciences, School of Dentistry, University of Missouri-Kansas City, United States, ³Department of Anatomy, Cell Biology and Orthopedics, Indiana Center for Musculoskeletal Health, School of Medicine, Indiana University, United States
Disclosures: Jian Huang, None
- MON-0165** **Muscle-Derived IGF-1 Affects Bone Elongation in a Gender-Specific Manner**
 Gisele Martins*¹, Vitor Torres¹, Bianca Neofiti-Papi¹, Joao Silvestre¹, William Silva¹, Antonio Musarò², Anselmo Moriscot¹, Cecilia Gouveia¹. ¹Institute of Biomedical Sciences, University of São Paulo, Brazil, ²Sapienza Università di Roma, Italy
Disclosures: Gisele Martins, None
- MON-0166** **Mechanisms Responsible for Pamidronate Rescue of Post-Burn Muscle Loss in Children**
 Fabrizio Pin*¹, David Herndon², Andrea Bonetto¹, Celeste Finnerty², Christopher Nieten², Lynda Bonewald¹, Gordon Klein². ¹Indiana University Medical Center, United States, ²University of Texas Medical Branch, Shriners Burns Hospital, United States
Disclosures: Fabrizio Pin, None

MON-0167 **Electrical Stimulation of Hindlimb Skeletal Muscle has a Beneficial Effect on Sublesional Muscle and Bone in a Rat Model of Spinal Cord Injury.**
Wei Zhao*¹, Yuanzhen Peng², Yizhong Hu³, Edward X. Guo³, William A Bauman^{1,2}, Weiping Qin^{1,2}. ¹Icahn School of Medicine at Mount Sinai, United States, ²James J. Peters VA Medical Center, United States, ³Columbia University, United States
Disclosures: Wei Zhao, None

MON-0168 **Osteocytic Connexin Channels Regulate Skeletal Muscle Structure and Function**
Guo Bin Li*¹, Lan Zhang¹, Peng Shang², Jean X. Jiang³, Huiyun Xu¹. ¹Key Laboratory for Space Bioscience and Biotechnology, School of Life Sciences, Northwestern Polytechnical University, Youyi Xilu 127, 710072, Xi'an, Shaanxi, China, ²Key Laboratory for Space Bioscience and Biotechnology, Research & Development Institute in Shenzhen, Northwestern Polytechnical University, Gaoxin Fourth South Road 19, 518057, Shenzhen, Guangdong, China, ³Department of Biochemistry and Structural Biology, University of Texas Health Science Center, San Antonio, TX, United States
Disclosures: Guo Bin Li, None

BONE MARROW MICROENVIRONMENT AND NICHEs

MON-0181 **Effects of Sclerostin Depletion on Hematopoietic Stem Cells in the Bone Marrow and Spleen**
Cristine Donham*¹, Jennifer Manilay¹, Gabriela Loots², Aris Edonomides³. ¹University of California Merced, United States, ²University of California Merced, Lawrence Livermore National Laboratory, United States, ³Regeneron Pharmaceuticals, United States
Disclosures: Cristine Donham, None

MON-0182 **MicroRNA-17-5p Facilitates Bone Remodeling in Periapical Periodontitis**
Daimo Guo*, Xinyu He, Ruoshi Xu, Xin Zhou, Liwei Zheng, Xuedong Zhou. State Key Laboratory of Oral Diseases; West China School of Stomatology, Sichuan University, China
Disclosures: Daimo Guo, None

MON-0183 **SINGLE-CELL RNA SEQUENCING ANALYSIS OF FRESHLY ISOLATED HUMAN SKELETAL STEM/PROGENITOR CELLS FROM HUMAN BONE MARROW**
Randall Merling*, Joseph Featherall, Danielle Bonfim, Natasha Cherman, Sergei Kuznetsov, Pamela Robey. Skeletal Biology Section, National Institute of Dental and Craniofacial Research, National Institutes of Health, United States
Disclosures: Randall Merling, None

MON-0184 **Novel function of BMP-2 in inhibiting bone formation in marrow environment**
Ha Nguyen Thi *¹, Mitsuaki Ono ², Yasutaka Oida¹, Emilio Satoshi Hara³, Taishi Komori¹, Kentaro Akiyama¹, Ha Nguyen Thi Thu ¹, Hai Thanh Pham ¹, Kyawthu Aung¹, Toshitaka Oohashi², Takuo Kuboki ¹. ¹Department of Oral Rehabilitation and Regenerative Medicine, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan, ²Department of Molecular Biology and Biochemistry, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan, ³Department of Biomaterials, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan
Disclosures: Ha Nguyen Thi , None

MON-0185 **The Effects of Interleukin-1 Receptor Antagonism on Endothelium-Dependent and Endothelium-Independent Vasodilation of Femoral Principal Nutrient Artery and Femoral Bone Parameters in Young Male Fischer-344 Rats**
Sunggi Noh*, Seungyong Lee, David Lee, Rhonda Prisby. University of Texas at Arlington, United States
Disclosures: Sunggi Noh, None

MON-0186 **Mitochondrial Function in Mesenchymal Stem Cells and New Bone Formation During Spinal Fusion**
Laura Shum*, Avionna Baldwin, Addisu Mesfin, Roman Eliseev. University of Rochester, United States
Disclosures: Laura Shum, None

BONE TUMORS AND METASTASIS

- MON-0213** **Aplidin (Plitidepsin) is a Novel Anti-Myeloma Drug with Potent Anti-Resorptive Activity Mediated by Direct Effects on Osteoclasts.**
Jesus Delgado-Calle*¹, Noriyoshi Kurihara¹, Jessica H. Nelson¹, Emily G. Atkinson², Carlos Galmarini³, G. David Roodman¹, Teresita Bellido². ¹Indiana University School of Medicine, Dept. of Medicine, Hematology/Oncology, United States, ²Indiana University School of Medicine, Dept. of Anatomy and Cell Biology, United States, ³PharmaMar S.A., Spain
Disclosures: Jesus Delgado-Calle, PharmaMar, Grant/Research Support
- MON-0214** **Automatic Bone Measurement from X-Ray Computed Tomography and New Snake Osteosarcoma**
Alexander Hall*. Thermo Fisher Scientific, United States
Disclosures: Alexander Hall, None
- MON-0215** **The effects of castration on prostate cancer tumor growth in bone**
Tiina E Kähkönen*¹, Mari I Suominen¹, Jenni Mäki-Jouppila¹, Jussi M Halleen¹, Jenni Bernoulli¹, Pascale Lejeune². ¹Pharmatest Services, Finland, ²Bayer AG, Germany
Disclosures: Tiina E Kähkönen, None
- MON-0216** **$\alpha 4\beta 1$ Integrin and vascular cell adhesion molecule (VCAM) 1 interactions regulate myeloid-derived suppressor cells (MDSC) mobilization from the bone metastatic tumor hosts**
Kyung Jin Lee*¹, Eun Jeong Lee¹, Bo Yeon Seo¹, Sun Wook Cho², Serk In Park¹. ¹Korea University College of Medicine, Republic of Korea, ²Seoul National University Hospital, Republic of Korea
Disclosures: Kyung Jin Lee, None
- MON-0217** **WITHDRAWN**
- MON-0218** **Microfluidic Platform for Investigation of Mechanoregulation of Breast Cancer Bone Metastasis**
Xueting Mei*¹, Kevin Middleton², Yu-Heng Ma², Liangcheng Xu², Noosheen Walji¹, Edmond Young^{1,2}, Lidan You^{1,2}. ¹Department of Mechanical and Industrial Engineering, University of Toronto, Canada, ²Institute of Biomaterials and Biomedical Engineering, University of Toronto, Canada
Disclosures: Xueting Mei, None
- MON-0219** **IL-6 family cytokines and receptors regulate breast cancer bone colonization and tumor progression**
Tolu Omokehinde*¹, Miranda Sowder¹, Rachelle Johnson². ¹Vanderbilt Center for Bone Biology, Vanderbilt University Medical Center, United States, ²Vanderbilt Center for Bone Biology, Department of Medicine, Division of Clinical Pharmacology, Vanderbilt University Medical Center, United States
Disclosures: Tolu Omokehinde, None
- MON-0220** **Extracellular ATP Reduces Osteosarcoma Single and Collective Migration Through the P2X7 Receptor**
Daniel Shropshire*, Manuel Riquelme, Jean Jiang. UT Health Science Center San Antonio, United States
Disclosures: Daniel Shropshire, None
- MON-0221** **A role for immunoglobulins in the osteolytic bone disease of multiple myeloma**
Marita Westhrin*¹, Vlado Kovcic¹, Albert Bondt², Stephanie Holst², Zejian Zhang³, Tobias Slørdahl⁴, Anders Sundan⁴, Anders Waage⁴, Manfred Wuhrer², Therese Standal¹. ¹Department of Clinical and Molecular Medicine/Centre of Molecular Inflammation Research, Norwegian University of Science and Technology (NTNU), Norway, ²Leiden University Medical Center, Leiden University, Netherlands, ³Key Laboratory of Glycoconjugate Research Ministry of Public Health, School of Basic Medical Sciences, Fudan University, China, ⁴Department of Clinical and Molecular Medicine, Norwegian University of Science and Technology (NTNU), Norway
Disclosures: Marita Westhrin, None

- MON-0222 HIF-2 α is Sufficient to Cause Aggressive Fibroproliferative Lesions in the Developing Limb**
Zachary Tata*, Christophe Merceron, Mohd Parvez Khan, Ernestina Schipani. Department of Orthopedic Surgery, School of Medicine, University of Michigan, United States
Disclosures: Zachary Tata, None
- MON-0223 Opposite effects of TRAIL on the Sp1-c-FLIP survival pathway in myeloma cells and osteoclasts.**
Hirofumi Tenshin*¹, Jumpei Teramachi², Masahiro Hiasa¹, Asuka Oda³, Mohannad Ashtar¹, Kotaro Tanimoto¹, Iwasa Masami³, Ariunzaya Bat-Erdene³, Takeshi Harada³, Singen Nakamura³, Hirokazu Miki⁴, Itsuro Endo³, Eiji Tanaka¹, Toshio Matsumoto⁵, Masahiro Abe³. ¹Department of Orthodontics and Dentofacial Orthopedics, Institute of Biomedical Sciences, Tokushima University Graduate School, Japan, ²Department of Tissue Regeneration, Institute of Biomedical Sciences, Tokushima University Graduate School, Japan, ³Department of Hematology, Endocrinology and Metabolism, Institute of Biomedical Sciences, Tokushima University Graduate School, Japan, ⁴Division of Transfusion Medicine and Cell Therapy, Tokushima University Hospital, Japan, ⁵Fujii Memorial Institute of Medical Sciences, Tokushima University, Japan
Disclosures: Hirofumi Tenshin, None
- MON-0224 Disruption of a progressive vicious cycle between myeloma tumor growth and bone destruction by TAK1 inhibition**
Jumpei Teramachi*¹, Hirofumi Tenshin¹, Masahiro Hiasa¹, Asuka Oda¹, Ariunzaya Bat-Erdene¹, Takeshi Harada¹, Shingen Nakamura¹, Hirokazu Miki², Itsuro Endo¹, Toshio Matsumoto¹, Masahiro Abe¹. ¹Tokushima University, Japan, ²Tokushima University Hospital, Japan
Disclosures: Jumpei Teramachi, None
- MON-0225 In Situ Imaging of Collagen Degradation May Assess Myeloma Bone Disease Activity**
Donghoon Yoon*¹, Ikjae Shin¹, Juchan Lim¹, Carol Morris¹, Lucas Bennink², S. Michael Yu², Gareth Morgan¹, Maurizio Zangari¹. ¹University of Arkansas for Medical Sciences, United States, ²University of Utah Department of Bioengineering, United States
Disclosures: Donghoon Yoon, None

CHONDROCYTES

- MON-0246 Postnatal Chondrocyte-Specific RUNX2 Overexpression Results in Accelerated Development of Osteoarthritis Following Traumatic Knee Joint Injury**
Sarah Catheline*, Elizabeth Botto, Christopher Dean, Martin Chang, Jennifer Jonason. University of Rochester, United States
Disclosures: Sarah Catheline, None
- MON-0247 Fibroblast Growth Factor 1 (FGF-1) impinges on Chondrocyte Degradation in OA through Matrix Metalloproteinase 13 (MMP-13) and Connective Tissue Growth Factor (CCN2)**
Abdellatif Elseoudi*¹, Tarek Abd El Kader², Takashi Nishida¹, Eriko Aoyama³, Takanori Eguchi⁴, Masaharu Takigawa³, Satoshi Kubota¹. ¹Biochemistry and Molecular Dentistry, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences., Japan, ²Assistant professor, Health and Social Sciences Cluster Singapore Institute of Technology (SIT), Singapore, ³Advanced Research Center for Oral and Craniofacial Sciences, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences., Japan, ⁴Dental Pharmacology, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences., Japan
Disclosures: Abdellatif Elseoudi, None
- MON-0248 Role of IL36 α signaling in human chondrocyte homeostasis**
Tieshi Li*, Xin Jin, Arnavaz Hakimiyan, Susan Chubinskaya, Jie Jiang, Lai Wang, Alessandra Esposito, Joseph Temple, Anna Spagnoli. Rush University Medical Center, United States
Disclosures: Tieshi Li, None

- MON-0249 Targeted Deletion of Claudin (Cldn)-11 Gene Promotes Chondrocyte Differentiation and Reduces Articular Cartilage Thickness in Mice**
Richard Lindsey*^{1,2}, Weirong Xing^{1,2}, Catrina Godwin¹, Sheila Pourteymoor¹, Subburaman Mohan^{1,2}. ¹Musculoskeletal Disease Center, VA Loma Linda Healthcare System, United States, ²Department of Medicine, Loma Linda University, United States
Disclosures: Richard Lindsey, None
- MON-0250 SMPD3 Deficiency in Chondrocytes and Osteoblasts Affects Fracture Healing**
Garthiga Manickam*¹, Pierre Moffatt^{2,3}, Monzur Murshed^{1,2,4}. ¹Faculty of Dentistry, McGill University, Montreal, Quebec, Canada, ²Shriners Hospital for Children, McGill University, Montreal, Quebec, Canada, ³Department of Human Genetics, McGill University, Montreal, Quebec, Canada, ⁴Department of Medicine, McGill University, Montreal, Quebec, Canada
Disclosures: Garthiga Manickam, None
- MON-0251 PTHrP+ Chondrocytes in the Resting Zone Maintain the Growth Plate Integrity**
Koji Mizuhashi*, Noriaki Ono. University of Michigan School of Dentistry, United States
Disclosures: Koji Mizuhashi, None
- MON-0252 Small molecule G-protein β subunit inhibition potentiates parathyroid hormone chondroprotection in osteoarthritis**
William Pinamont*, Fadia Kamal, Elijah Carlson. Penn State College of Medicine, United States
Disclosures: William Pinamont, None
- MON-0253 Periosteal Cells Derived from Long Bone are Unique from those Derived from Calvaria**
Reut Shainer*¹, Vardit Kram¹, Tina M. Kilts¹, Carl G Simon Jr², Marian F. Young¹. ¹Molecular Biology of Bones and Teeth Section, NIDCR, NIH, United States, ²Biosystems and Biomaterials Division, NIST, United States
Disclosures: Reut Shainer, None
- MON-0254 Role of Glycolysis in PHD2/HIF-1 α -Mediated Chondrocyte Differentiation**
Aruni Wilsonsanthoshkumar*¹, Sheila Pourteymoor¹, Subburaman Mohan². ¹VA Loma Linda Healthcare System, United States, ²VA Loma Linda Healthcare System, Loma Linda University, United States
Disclosures: Aruni Wilsonsanthoshkumar, None

ENERGY METABOLISM, BONE, MUSCLE AND FAT

- MON-0282 The Age-Dependent Decrease of Insulin Sensitivity in Mice is Unaffected by the Deletion of PPAR γ in Mesenchymal Lineage Cells of the Appendicular and Craniofacial Skeleton and of Subcutaneous Fat**
Elena Ambrogini*, Michela Palmieri, Stavros C Manolagas, Robert L Jilka, Maria Almeida. Center for Osteoporosis and Metabolic Bone Diseases, University of Arkansas for Medical Sciences and the Central Arkansas Veterans Healthcare System, United States
Disclosures: Elena Ambrogini, None
- MON-0283 A Greater Proportion of the Variance in Body Fat and Bone Mineral Content is accounted for by Serum Estradiol than Follicle Stimulating Hormone (FSH), and Estradiol not FSH Contributed to the Variance in Cortical and Trabecular Microarchitecture**
Camilla Andreassen*^{1,2}, Ann Kristin Hansen^{1,2}, Ken Sikaris³, Clifford J Rosen⁴, Åshild Bjørnerem^{1,5}. ¹Department of Clinical Medicine, UiT The Arctic University of Norway, Tromsø, Norway, ²Department of Orthopaedic Surgery, University Hospital of North Norway, Tromsø, Norway, ³Melbourne Pathology, Melbourne, Australia, ⁴Maine Medical Center Research Institute, Scarborough, Maine 04074, United States, ⁵Department of Obstetrics and Gynecology, University Hospital of North Norway, Tromsø, Norway
Disclosures: Camilla Andreassen, None
- MON-0284 The consequences of postnatal androgenization in bone markers, micro and macro-architecture in a rodent model of polycystic ovary syndrome**
Fabio Comim*, Lady Serrano Mujica, Alfredo Antoniazzi, Paulo Gonçalves, Melissa Premaor. Federal University of Santa Maria, Brazil
Disclosures: Fabio Comim, None

- MON-0285 Exercise increases UCP1 expression but decreases trabecular bone acquisition in mice during cold exposure and at thermoneutrality**
Amy Robbins*, Christina Tom, Rebecca Tutino, Miranda Cosman, Taylor Spencer, Cleo Moursi, Rachel Hurwitz, Maureen Devlin. University of Michigan, United States
Disclosures: Amy Robbins, None
- MON-0286 Estrogen deficiency: the only cause behind senile osteoporosis?**
Deeksha Malhan*¹, Sabine Stoetzel¹, Diaa Eldin S Daghma¹, Fathi Hassan¹, Stefanie Kern¹, Markus Rupp², Christian Heiss², Thaqif El Khassawna¹. ¹Institute for Experimental Trauma Surgery, Faculty of Medicine, Justus Liebig University of Giessen, Germany, ²Department of Trauma, Hand, and Reconstructive Surgery, University Hospital of Giessen and Marburg, Germany
Disclosures: Deeksha Malhan, None
- MON-0287 Butyrate enhances myogenesis and muscle function through modulation of intracellular calcium and bioactive lipid mediators**
Chenglin Mo*¹, Zhiying Wang¹, Xuejun Li², Jianxun Yi², Leticia Brotto¹, Marco Brotto¹, Jingsong Zhou². ¹College of Nursing and Health Innovation, the University of Texas-Arlington, Arlington, TX, United States, ²Department of Physiology, Kansas City University of Medicine and Bioscience, Kansas City, MO, United States
Disclosures: Chenglin Mo, None
- MON-0288 Lysosomal Acid Lipase and Its Role in Osteoblast Differentiation**
Elizabeth Rendina-Ruedy*¹, Madalina-Cristina Duta-Mare², Dagmar Kratky³, Clifford Rosen¹. ¹Maine Medical Center Research Institute, United States, ²Gerot Lannach Pharma, Medical University of Graz, Austria, ³Gottfried Schatz Research Center for Cell Signaling, Metabolism and Aging Molecular Biology and Biochemistry Medical University of Graz, Austria
Disclosures: Elizabeth Rendina-Ruedy, None
- MON-0289 Roles of macrophages and plasminogen activator inhibitor-1 in delayed bone repair induced by diabetic state in female mice**
Takeshi Shimoide*¹, Naoyuki Kawao¹, Yukinori Tamura², Kiyotaka Okada¹, Katsumi Okumoto³, Shinji Kurashimo³, Yoshitaka Horiuchi³, Kohei Tatsumi¹, Osamu Matsuo¹, Hiroshi Kaji¹. ¹Department of Physiology and Regenerative Medicine, Kindai University Faculty of Medicine., Japan, ²Kobe Gakuin University, Faculty of Nutrition., Japan, ³Life Science Research Institute, Kindai University., Japan
Disclosures: Takeshi Shimoide, None
- MON-0290 Inducible Sirt1 Knockout Mice Exhibit Increased Bone Mineral Density, Uphill Sprint Capacity, and Open Field Activity**
Ramkumar Thiyagarajan*, Kenneth Seldeen, Merced Leiker, Yonas Redae, Bruce Troen. University at Buffalo and VA Western New York Healthcare System, United States
Disclosures: Ramkumar Thiyagarajan, None
- MON-0291 Association Between Changes in Bone Remodeling and Glucose Homeostasis After Biliopancreatic Diversion in Patients with Severe Obesity**
Anne-Frederique Turcotte*¹, Thomas Grenier-Larouche², Roth-Visal Ung¹, David Simonyan³, Anne-Marie Carreau², André Carpentier², Fabrice Mac-Way¹, Claudia Gagnon¹. ¹Laval University, Canada, ²Sherbrooke University, Canada, ³CHU de Quebec, Canada
Disclosures: Anne-Frederique Turcotte, None

MON-0292 **Effect of Abaloparatide and Teriparatide on marrow adipose tissue in postmenopausal osteoporosis**
Annegreet G. Veldhuis-Vlug*¹, Rob J Van 'T Hof², Roland Baron³, Dennis M. Black⁴, Clifford J Rosen⁵. ¹Academic Medical Center Amsterdam and Center for Clinical and Translational Research, Maine Medical Center Research Institute, Netherlands, ²Institute of Ageing & Chronic Disease, University of Liverpool, United Kingdom, ³Department of Oral Medicine, Infection and Immunity, Harvard School of Dental Medicine, Harvard Medical School, United States, ⁴Department of Epidemiology and Biostatistics, University of California San Francisco, United States, ⁵Center for Clinical and Translational Research, Maine Medical Center Research Institute, United States
Disclosures: Annegreet G. Veldhuis-Vlug, None

MON-0293 **Characterization of Bone Marrow Adiposity with Computed-Tomography (CT) scan in Relation to Mineral and Bone Disorders in Dialysis Patients**
Yue Pei Wang*, Cyrille De Halleux, Roth-Visal Ung, Nada Khelifi, Claudia Gagnon, Fabrice Mac-Way. CHU de Québec Research Center, Endocrinology and Nephrology Unit, Faculty and Department of Medicine, Université Laval, Canada
Disclosures: Yue Pei Wang, None

MON-0294 **Bone Quality Analyses in Cases with Type 2 Diabetes Mellitus Reflect Patterns of Femoral Cortical Bone Reorganization Along with High Porosity**
Eva Maria Wölfel*¹, Petar Milovanovic¹, Katharina Jähn¹, Felix N. Schmidt¹, Birgit Wulff², Michael Amling¹, Klaus Püschel², Graeme M. Campbell³, Björn Busse¹. ¹Department of Osteology and Biomechanics, University Medical Center Hamburg, Germany, ²Department of Forensic Medicine, University Medical Center Hamburg, Germany, ³Institute of Biomechanics, Hamburg University of Technology, Germany
Disclosures: Eva Maria Wölfel, None

GENETIC MODELS OF MUSCULOSKELETAL DISEASES

MON-0315 **Cranial Neural Crest-Targeted Deletion of Cdc73 Results in Embryonic Lethality**
Jessica Costa-Guda*¹, Lilia Shen², Wade Berry¹, Robert Romano¹, Haeyoung Yi¹, Justin Bellizzi¹, Andrew Arnold¹. ¹UConn SDM, United States, ²UConn, United States
Disclosures: Jessica Costa-Guda, None

MON-0316 **Enpp1-Fc treatment reduces renal calcifications in Npt2anull mice**
Jonathan Fetene*, Daniel Caballero, Xiaofeng Li, Dillon Kavanagh, Demetrios Braddock, Clemens Bergwitz. Yale School of Medicine, United States
Disclosures: Jonathan Fetene, None

MON-0317 **Skeletal muscle mitochondrial dysfunction in the osteogenesis imperfecta murine (oim) mouse model of Osteogenesis imperfecta (OI)**
Victoria L. Gremminger*¹, Youngjae Jeong¹, Rory Cunningham^{2,3}, Grace Meers^{2,3}, R. Scott Rector^{2,3}, Charlotte L. Phillips⁴. ¹Department of Biochemistry, University of Missouri, United States, ²Departments of Nutrition and Exercise Physiology and Medicine-GI, University of Missouri, United States, ³Research Service-Harry S Truman Memorial VA Hospital, United States, ⁴Departments of Biochemistry and Child Health, University of Missouri, United States
Disclosures: Victoria L. Gremminger, None

MON-0318 **The 839(C/A) Polymorphism in the ECE1 Isoform b Promoter Associates with Hip Bone Mineral Density in Postmenopausal Women**
Karen Hansen*¹, Michael Johnson², Tonia Carter³, Nicholas Keuler¹, Robert Blank⁴. ¹University of Wisconsin-Madison, United States, ²Lucigen, United States, ³Marshfield Clinic, United States, ⁴Medical College of Wisconsin, United States
Disclosures: Karen Hansen, None

- MON-0319** **Understanding the Role of Protein Gamma-Carboxylation in Craniofacial Development**
 Jane Hendrickson-Rebizant*¹, Juliana Marulanda Montoya¹, Omar Al Rifai², Genevieve Chiasson¹, Mathieu Ferron², Monzur Murshed^{3,4}. ¹Faculty of Dentistry, McGill University, Canada, ²Institut de Recherches Cliniques de Montreal, Canada, ³Faculty of Dentistry and Department of Medicine, McGill University, Canada, ⁴Shriners Hospital for Children, Canada
Disclosures: Jane Hendrickson-Rebizant, None
- MON-0320** **Biomechanical evaluation of enthesopathy in a murine model of X-linked hypophosphatemia**
 Jack Luo*¹, Steven Tommasini², Carolyn Macica¹. ¹Frank H. Netter, M.D., School of Medicine at Quinnipiac University, United States, ²Yale School of Medicine, United States
Disclosures: Jack Luo, None
- MON-0321** **Type 1 diabetes (T1DM) impacts bone phenotype and fracture healing in Akita mice**
 Pei Hu*, Jennifer Mckenzie, Evan Buettmann, Nicole Migotsky, Matthew Silva. Washington University in St. Louis, United States
Disclosures: Pei Hu, None
- MON-0322** **Generation and Characterization of a Conditional Mouse Model for Atypical Type VI Osteogenesis Imperfecta**
 Samantha Robinson*, Frank Rauch, Pierre Moffatt. Shriners Hospitals for Children - Canada, Canada
Disclosures: Samantha Robinson, None
- MON-0323** **Sexual Dimorphism in Skeletal Abnormalities in Down Syndrome Mice**
 Jared Thomas*¹, Adam Knox¹, Randall Roper¹, Elizabeth Fisher², Victor Tybulewicz³, Joseph Wallace¹. ¹Indiana University-Purdue University Indianapolis, United States, ²UCL Institute of Neurology, United Kingdom, ³The Francis Crick Institute, United Kingdom
Disclosures: Jared Thomas, None
- MON-0324** **Knockout and Human Transgenic Mouse Models Reveal a Role for the Cathelicidin Antimicrobial Peptide (Camp/CAMP) Gene in Bone Metabolism**
 Yang Zhang*¹, Carmen P. Wong², Richard L. Gallo³, Amanda R. Gamboa², Dawn A. Olson², Malcolm B. Lowry⁴, Mary L. Fantacone⁵, Claudia S. Maier⁶, Jan F. Stevens⁷, Russell T. Turner², Urszula T. Iwaniec², Adrian F. Gombart⁸. ¹School of Biological and Population Health Sciences, Linus Pauling Institute, Oregon State University, United States, ²School of Biological and Population Health Sciences, Oregon State University, United States, ³Department of Dermatology, University of California San Diego, United States, ⁴Department of Microbiology, Oregon State University, United States, ⁵Linus Pauling Institute, Oregon State University, United States, ⁶Department of Chemistry, Oregon State University, United States, ⁷Linus Pauling Institute, Department of Pharmaceutical Sciences, Oregon State University, United States, ⁸School of Biological and Population Health Sciences, Linus Pauling Institute, Department of Integrative Biology, College of Science, Oregon State University, United States
Disclosures: Yang Zhang, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE

- MON-0337** **Circulating MicroRNA Expression is Upregulated after 30 Days of Head-Down Bed Rest**
 Debra Bembem*¹, Breanne Baker¹, Samuel Buchanan¹, Carl Ade². ¹University of Oklahoma, United States, ²Kansas State University, United States
Disclosures: Debra Bembem, None

MON-0338 **Novel genetic variants of OFD1 gene are associated with a familial form of stress fractures of long bones and a sporadic case of atypical femur fracture associated with bisphosphonate use**
Marie-Eve Boisvert*¹, Jacques P Brown^{1,2}, Rachel Laframboise³, Maxime Vallée¹, Frédéric Fournier¹, Suzanne N Morin⁴, Edith Gagnon¹, Arnaud Droit¹, Laetitia Michou^{1,5}. ¹CHU de Québec-Université Laval Research Centre, Canada, ²Department of medicine, Université Laval, Canada, ³Department of Genetics, CHU de Québec-Université Laval, Canada, ⁴Department of Medicine, McGill University, Canada, ⁵Department of medicine, CHU de Québec-Université Laval, Canada
Disclosures: Marie-Eve Boisvert, None

MON-0339 **Is serum free DNA methylation a bone biomarker?**
Alvaro Del Real*¹, Carolina Sañudo¹, Carmen Garcia Ibarbia¹, Carmen Valero¹, Mario F. Fraga², Agustín F. Fernández³, Flor M. Perez-Campo⁴, Maria Isabel Perez-Núñez⁵, Esther Laguna², Jose A. Riancho¹. ¹Department of Internal Medicine, Hospital Universitario Marqués de Valdecilla-IDIVAL, University of Cantabria, Spain, ²Nanomaterials & Nanotechnology Research Center (CINN-CSIC), University of Oviedo, Spain, ³Cancer Epigenetics Laboratory, Institute of Oncology of Asturias (IUOPA), HUCA, University of Oviedo, Spain, ⁴Department of molecular biology, University of Cantabria-IDIVAL, Santander, Spain, ⁵Department of Traumatology/Hospital U M Valdecilla, University of Cantabria, Santander, Spain
Disclosures: Alvaro Del Real, None

MON-0340 **Search for modifier genes by whole exome sequencing in familial form of Paget's disease of bone linked to the SQSTM1/P392L mutation**
Mariam Dessay*¹, Maxime Vallée¹, Frédéric Fournier¹, Arnaud Droit¹, Edith Gagnon¹, Jacques P. Brown^{1,2}, Laetitia Michou^{1,2,3}. ¹CHU de Québec-Université Laval Research Centre, Quebec, Canada, ²Department of Medicine, Division of Rheumatology, Université Laval, Quebec, Canada, ³Department of Rheumatology, CHU de Québec-Université Laval, Quebec, Canada
Disclosures: Mariam Dessay, None

MON-0341 **Associations Between Single Nucleotide Polymorphisms in the Vitamin D Receptor and Vitamin D Binding Protein Genes and Tibia Bone Mineral Content, Density and Strength in Young Adults Entering Initial Military Training**
Erin Gaffney-Stomberg*¹, Laura Lutz¹, Anna Nakayama¹, Philip Fremont-Smith², Darrell Ricke², Martha Petrovick², James McClung¹. ¹US Army Research Institute of Environmental Medicine, United States, ²MIT Lincoln Laboratory, United States
Disclosures: Erin Gaffney-Stomberg, None

MON-0342 **Differential prevalence of CYP2R1 variants across populations reveals pathway selection for vitamin D homeostasis.**
Alex Casella*¹, Jingman Zhou², Lauren O'Lear², Caela Long², Zahra Tara², Ilana Caplan², Meizhan Lai², Michael Levine², Jeffrey Roizen². ¹University of Maryland, United States, ²The Children's Hospital of Philadelphia, United States
Disclosures: Alex Casella, None

HORMONAL REGULATORS

MON-0376 **Inhibition of FGF23 signaling corrects LPS-induced hypoferrremia through the erythropoiesis-inflammation axis**
Rafiou Agoro*¹, Anna Montagna¹, Moosa Mohammadi², Despina Sitar¹. ¹New York University, United States, ²New York University School of Medicine, United States
Disclosures: Rafiou Agoro, None

MON-0377 **Hypoxia enhances EPO-mediated FGF23 expression in hematopoietic cells**
Erica Clinkenbeard*¹, Maegan Capitano¹, Megan Noonan¹, Pu Ni¹, Mark Hanudel², Kenneth White¹. ¹Indiana University School of Medicine, United States, ²David Geffen School of Medicine at UCLA, United States
Disclosures: Erica Clinkenbeard, None

- MON-0378 FGF23 impairs osteocyte maturation by inhibition of Wnt/b-catenin pathway and is associated with bone alterations in early CKD**
 Juan Miguel Diaz Tocados*¹, Maria Encarnacion Rodriguez Ortiz¹, Yolanda Almaden², Julio Manuel Martinez Moreno¹, Carmen Herencia Bellido¹, Noemi Vergara Segura¹, Antonio Casado Diaz¹, Catarina Carvalho³, João Miguel Frazão⁴, Mariano Rodriguez Portillo¹, Juan Rafael Muñoz Castañeda¹. ¹Maimonides Institute for Biomedical Research (IMIBIC), Reina Sofia University Hospital, University of Cordoba, Spain, ²Maimonides Institute for Biomedical Research (IMIBIC), ⁶Internal Medicine Service, Reina Sofia University Hospital, Spanish Biomedical Research Networking Centre consortium for the area of Physiopathology of Obesity and Nutrition (CIBEROBN), Spain, ³Braga Hospital, Department of Nephrology, Institute of Investigation and Innovation in Health (3S), National Institute of Biomedical Engineer (INEB), University of Porto, Portugal, ⁴Department of Nephrology, São João Hospital Center, Institute of Investigation and Innovation in Health (3S), National Institute of Biomedical Engineer (INEB), University of Porto, Portugal
Disclosures: Juan Miguel Diaz Tocados, None
- MON-0379 Estrogen Receptor- α Knockout Affects Femoral Cortical Geometry and Trabecular Microarchitecture, but not Osteocyte Sclerostin Expression, in Aged Male Mice**
 Rebecca Dirkes*¹, Nathan Winn¹, Thomas Jurrissen¹, Dennis Lubahn², Victoria Vieira-Potter¹, Jaime Padilla¹, Pamela Hinton¹. ¹Department of Nutrition and Exercise Physiology, University of Missouri, Columbia MO, United States, ²Department of Biochemistry, University of Missouri, Columbia MO, United States
Disclosures: Rebecca Dirkes, None
- MON-0380 Effects of Sodium Glucose Cotransporter 2 Deletion on Bone and Mineral Metabolism**
 Claire Gerber*, Nicolae Valentin David, Susan Quaggin, Aline Martin, Tamara Isakova. Northwestern University, United States
Disclosures: Claire Gerber, None
- MON-0381 Estrogens Suppress the Senescence-Accelerated Secretory Phenotype (SASP) in Osteoprogenitors by Restraining NF- κ B Activation, but not GATA4 Expression or Transcriptional Activity**
 Ha-Neui Kim*^{1,2}, Li Han^{1,2}, Srividhya Iyer¹, Aaron Warren^{1,2}, Maria Almeida^{1,2}, Stavros Manolagas^{1,2}. ¹University of Arkansas for Medical Sciences, United States, ²Central Arkansas Veterans Healthcare System, United States
Disclosures: Ha-Neui Kim, None
- MON-0382 Intestinal calcium absorption increases markedly during pregnancy and lactation despite absence of the vitamin D receptor (VDR) or calcitriol**
 Beth J. Kirby*¹, Brittany A. Ryan¹, K. Berit Sellars¹, René St-Arnaud², Christopher S. Kovacs¹. ¹Memorial University of Newfoundland, Canada, ²Shriner's Hospital and McGill University, Canada
Disclosures: Beth J. Kirby, None
- MON-0383 Regulation of IGF-1- and Mechano-responsive Signaling by the RhoGAP MYO9B**
 Monica Sun*¹, Emma Hassell¹, Benjamin Scandling², Beth Lee¹. ¹The Ohio State University College of Medicine, United States, ²The Ohio State University College of Engineering, United States
Disclosures: Monica Sun, None
- MON-0384 Acute Calcitriol-Mediated PTH Suppression Attenuated by High Dietary Phosphate Intervention in Experimental Model of CKD**
 Lok Hang Lee*, Mandy Turner, Cynthia Pruss, Kim Laverty, Rachel Holden, Michael Adams. Queen's University Department of Biomedical and Molecular Sciences, Canada
Disclosures: Lok Hang Lee, None

- MON-0385 Attenuated parathyroid megalin expression contributes to the pathogenesis in hyperfunctioning parathyroid tumors**
Daichi Miyaoka*¹, Yasuo Imanishi¹, Masayo Yamagata², Ikue Kobayashi¹, Noriyuki Hayashi¹, Masaya Ohara¹, Yuki Nagata¹, Katsuhito Mori¹, Masanori Emoto¹, Toshimi Michigami³, Masaaki Inaba¹. ¹Osaka City University Graduate School of Medicine, Japan, ²Osaka Ohtani University, Japan, ³Osaka Women's and Children's Hospital, Japan
Disclosures: Daichi Miyaoka, None
- MON-0386 Directly targeting HIF activity controls FGF23 expression and has implications for translational outcomes**
Megan L. Noonan*¹, Erica L. Clinkenbeard¹, Pu Ni¹, Mircea Ivan¹, Matthew Prideaux¹, Gerald J. Atkins², William R. Thompson¹, Mark R. Hanudel³, Kenneth E. White¹. ¹Indiana University School of Medicine, United States, ²The University of Adelaide, Australia, ³David Geffen School of Medicine at UCLA, United States
Disclosures: Megan L. Noonan, None
- MON-0387 Interference with atrophy signaling prevents GC actions on bone and muscle in vitro and ex vivo.**
Amy Y Sato*¹, Lilian I Plotkin¹, Teresita Bellido². ¹Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, ²Department of Anatomy & Cell Biology, Indiana University School of Medicine, Roudebush Veterans Administration Medical Center, United States
Disclosures: Amy Y Sato, None
- MON-0388 Tributyltin Increases Trabecular Bone in Female C57BL/6J Mice and Protects Against Ovariectomy-Induced Trabecular Bone Loss**
Jennifer Schlezinger*¹, Rachel Fried¹, Amira Hussein Ali², James Watt¹, Paola Divieti Pajevic², Elise Morgan³, Louis Gerstenfeld². ¹Boston University School of Public Health, United States, ²Boston University School of Medicine, United States, ³Boston University College of Engineering, United States
Disclosures: Jennifer Schlezinger, None
- MON-0389 Dynamics of Vitamin D Metabolism in the Maternal-Fetal Dyad in Response to Vitamin D Supplementation**
Inez Schoenmakers*¹, Kerry Jones², Shima Assar², Stefania D'Angelo³, Ann Prentice², Nick Bishop⁴, Stephen Kennedy⁵, Aris Papageorgiou⁶, Robert Fraser⁵, Saurabh Gandhi⁵, Elisabeth Curtis³, Sarah Crozier³, Rebecca Moon³, Keith Godfrey³, Hazel Inskip³, Elaine Dennison³, Richard Eastell⁷, Kassim Javaid⁸, Cyrus Cooper³, Nick Harvey³, The Mavidos Study Group (Arden, Carr, Mughal, Reid, Robinson)³. ¹Department of Medicine, University of East Anglia and MRC Elsie Widdowson Laboratory, United Kingdom, ²MRC Elsie Widdowson Laboratory, United Kingdom, ³MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ⁴Academic Unit of Child Health, Sheffield Children's Hospital, University of Sheffield, United Kingdom, ⁵Nuffield Department of Women's & Reproductive Health, John Radcliffe Hospital, University of Oxford, United Kingdom, ⁶Academic Unit of Bone Metabolism, University of Sheffield, United Kingdom, ⁷NIHR Oxford Biomedical Research Centre, University of Oxford, United Kingdom
Disclosures: Inez Schoenmakers, None
- MON-0390 IN PGE1 BONE ANABOLIC PREDOMINATES MODELING-BASED FORMATION WITHOUT HYPERCALCEMIA**
Francisco Velasquez-Forero*, Mariela Esparza, Pedro Valencia Mayoral. Hospital Infantil de México Federico Gómez, Mexico
Disclosures: Francisco Velasquez-Forero, None
- MON-0391 Salt inducible kinases control responses to parathyroid hormone in the renal proximal tubule**
Maureen Omeara*¹, Han Xie¹, Alexandra Clifford¹, Jinhua Gray², Nathanael Gray², Kei Sakamoto², Michael Mannstadt¹, Marc Wein¹. ¹MGH Endocrine Unit, United States, ²Dana Farber Cancer Institute, United States
Disclosures: Maureen Omeara, None

MECHANOBIOLOGY

- MON-0410** **Loss of Bone Volume and Bone Strength from Unloading is Mouse Strain-Dependent**
Michael Friedman^{*1}, Yue Zhang¹, Jennifer Wayne¹, Charles Farber², Henry Donahue¹.
¹Virginia Commonwealth University, United States, ²University of Virginia, United States
Disclosures: Michael Friedman, None
- MON-0411** **CLINICALLY RELEVANT DOSES OF VITAMIN A DECREASES THE ANABOLIC BONE RESPONSE TO MECHANICAL LOADING BY INHIBITING BONE FORMATION**
Vikte Lionikaite^{*}, Petra Henning, Christina Drevinge, Sara Windahl, Ulf Lerner. Centre for Bone and Arthritis Research, Institute for Medicine, Sahlgrenska Academy at University of Gothenburg, Sweden
Disclosures: Vikte Lionikaite, None
- MON-0412** **Fluid Shear Stress Affects Morphology and Osteogenic Differentiation of Pre-osteoblasts**
Jianfeng Jin^{*1}, Richard T. Jaspers², Astrid D. Bakker¹, Gang Wu³, Johanna F.M. Verstappen¹, Mohammad Haroon², Joannes A.M. Korfage⁴, Behrouz Zandieh-Doulabi¹, Jenneke Klein-Nulend¹. ¹Dept Oral Cell Biology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam and Vrije Universiteit Amsterdam, Amsterdam Movement Sciences, Netherlands, ²Laboratory for Myology, Faculty of Behavioral and Movement Sciences, Vrije Universiteit Amsterdam, Amsterdam Movement Sciences, Netherlands, ³Dept Oral Implantology and Prosthetic Dentistry, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam and Vrije Universiteit Amsterdam, Amsterdam Movement Sciences, Netherlands, ⁴Dept Functional Anatomy, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam and Vrije Universiteit Amsterdam, Amsterdam Movement Sciences, Netherlands
Disclosures: Jianfeng Jin, None
- MON-0413** **Bone (Re)modeling in Response to Load is Targeted to Mechanically Advantageous Structures and Further Enhanced with PTH Treatment**
Samuel Robinson^{*}, Yizhong Hu, X. Edward Guo. Bone Bioengineering Lab, Columbia University, United States
Disclosures: Samuel Robinson, None
- MON-0414** **Cyclosporin A Enhances Loading Induced Trabecular and Cortical Bone Formation at Senescence**
Sundar Srinivasan^{*}, Dewayne Threet, Philip Hubber, Ted Gross, Steven Bain. University of Washington, United States
Disclosures: Sundar Srinivasan, None
- MON-0415** **Is Chronic Hypergravity Able to Protect the Musculoskeletal System in a Murine Model of Knee Osteoarthritis?**
Benoit Dechaumet^{*}, Damien Cleret, Norbert Laroche, Arnaud Vanden-Bossche, Marie-Hélène Lafage-Proust, Laurence Vico. INSERM, U1059, University of Lyon, UJM Saint-Etienne, France
Disclosures: Benoit Dechaumet, None
- MON-0416** **The contribution of TRPV4-dependent calcium influx and purinergic calcium oscillations to the regulation of sclerostin during osteocyte mechano-sensing**
Katrina Williams^{*}, Derek Jones, Christopher Ward, Joseph Stains. University of Maryland, United States
Disclosures: Katrina Williams, None
- MON-0417** **Novel in vitro Microfluidic Platforms for Osteocyte Mechanotransduction Studies**
Liangcheng Xu^{*1}, Lilia Fuller-Thomson², Lidan You^{1,2}. ¹Institute of Biomaterials and Biomedical Engineering, University of Toronto, Canada, ²Department of Mechanical and Industrial Engineering, University of Toronto, Canada
Disclosures: Liangcheng Xu, None

MON-0418 Mechanical loading regulates Hippo signaling in a three-dimensional osteocyte culture model
Mylène Zarka*¹, François Etienne², Morgane Bourmaud¹, Christophe Helary³, François Rannou², Eric Haÿ¹, Martine Cohen-Solal¹. ¹Inserm UMR1132, Hôpital Lariboisière; Univ Paris Diderot, Sorbonne Paris Cité, Paris France, France, ²Inserm UMR-S1124, Université Paris Descartes, Sorbonne Paris Cité, Paris France, France, ³Sorbonne Universités UPMC Univ Paris 06, CNRS, Collège de France, Laboratoire Chimie de la Matière Condensée de Paris UMR7574, France
Disclosures: Mylène Zarka, None

MUSCULOSKELETAL AGING

- MON-0432 A WINDOW OF OPPORTUNITY: IDENTIFICATION OF MEDICALLY HOSPITALIZED PATIENTS WITH FRAGILITY FRACTURE RISK**
Vafa Tabatabaie*, Wanda Horn, Brandon Tauberg, Gabriel Lopez Vega, Mikhail Bekarev, Paul Levin, Sara Merwin. Montefiore Medical Cener, United States
Disclosures: Vafa Tabatabaie, None
- MON-0433 Trends towards Decreased Cortical Thickness and Increased Cortical Porosity in a One-Year Pilot Study of Premenopausal BRCA Mutation Carriers Undergoing Prophylactic Salpingo-Oophorectomy**
Angela Cheung *^{1,2}, Madeline Dwyer², Jeevitha Srighanthan¹, Joan Murphy³, Amy Finch⁴, Joanne Kotsopoulos⁵, Marcus Bernardini¹, Michelle Jacobson⁵, Gabrielle E.V. Ene¹, Irene Ho¹, Suzanne Cohen¹, Paula Harvey⁵, Barry Rosen¹, Steven Narod⁵. ¹University Health Network, Canada, ²University of Toronto, Canada, ³Trillium Health Partners, Canada, ⁴Sunnybrook Health Sciences Centre, Canada, ⁵Women's College Hospital, Canada
Disclosures: Angela Cheung, Clementia, Grant/Research Support, Amgen, Grant/Research Support, Mereo, Grant/Research Support, Amgen, Consultant, Gilead, Consultant
- MON-0434 Hyperkyphosis and Self-reported and Objectively Measured Sleep Quality in Older Men**
Christopher Kaufmann*¹, Jian Shen¹, Katie Stone², Deborah Kado¹. ¹University of California San Diego, United States, ²California Pacific Medical Center Research Institute, United States
Disclosures: Christopher Kaufmann, None
- MON-0435 The Role of Megakaryocytes and Osteomacs in Skeletal Homeostasis and Aging**
Kevin Maupin*¹, Safa Mohamad¹, Alexandra Aguilar-Perez², Artur Plett¹, Hui Lin Chua¹, Paul Childress¹, Marta Alvarez¹, Joydeep Ghosh¹, Irushi Abeysekera¹, Evan Himes¹, Chi Zhang¹, Jung Min Hong², Louis Pelus¹, Christie Orschell¹, Angela Bruzzaniti², Melissa Kacena¹. ¹Indiana University School of Medicine, United States, ²Indiana University School of Dentistry, United States
Disclosures: Kevin Maupin, None
- MON-0436 Comparing CT bone density values of middle-aged daughters with their elderly fall-prone mothers confirms heritability of BMD except in cases of maternal hip fracture**
Kenneth Poole*, Monika Kondratowicz, Karen Blesic, Daniel Chappell. University of Cambridge, United Kingdom
Disclosures: Kenneth Poole, None
- MON-0437 Increased Cortical Porosity and Reduced Trabecular Density are Not Necessarily Synonymous With Bone Loss and Microstructural Deterioration**
Roger Zebaze*^{1,2}, Elizabeth J. Atkinson³, Yu Peng², Ali Ghasem-Zadeh¹, Sundeep Khosla³, Ego Seeman^{1,2,4}. ¹Depts. Medicine and Endocrinology, Austin Health, University of Melbourne, Australia, ²Straxcorp Pty Ltd, Australia, ³Mayo Clinic, United States, ⁴Australian Catholic University, Australia
Disclosures: Roger Zebaze, StrAx Corp, Major Stock Shareholder

MUSCULOSKELETAL DEVELOPMENT

- MON-0456** **Impaired tooth development and mineralization in Slc20a2-deficient mice**
Laure Merametdjian^{*1}, Céline Gaucher², Nina Bon¹, Sophie Sourice¹, Jérôme Guicheux¹, Sarah Beck-Cormier¹, Laurent Beck¹. ¹INSERM UMR 1229, France, ²EA 2496, France
Disclosures: Laure Merametdjian, None
- MON-0457** **Gestational exposure to nicotine administered by e-cig juice accelerates osteogenesis and bone formation in dams, but suppresses bone growth and development in the pups.**
Alyssa Falck^{*}, Marcus Orzabal, Raine Lunde, Shannon Huggins, Alexis Mitchell, Josue Ramirez, Vishal Naik, Jayanth Ramadoss, Dana Gaddy, Larry Suva. Texas A&M University, United States
Disclosures: Alyssa Falck, None
- MON-0458** **Deletion of the Auxiliary Voltage Sensitive Calcium Channel Subunit and Gabapentin Receptor $\alpha 2\delta 1$ Results in Impaired Skeletal Density, Mass, and Strength**
Madison Kelly^{*1}, Karan Sharma¹, Xin Yi², Christian Wright², Megan Noonan², Taylor Gorrell², Aaron Gegg², Brandon Chenoweth², Uma Sankar², Julia Hum¹, Alexander Robling², Mary Farach-Carson³, William Thompson². ¹Marian University, United States, ²Indiana University, United States, ³University of Texas Health Science Center at Houston, United States
Disclosures: Madison Kelly, None
- MON-0459** **Global and Conditional Disruption of the Igf-I Gene in Osteoblasts and/or Chondrocytes Reveals Cell Type- and Compartment-Specific Effects of IGF-I in Bone**
Chandrasekhar Kesavan^{*1}, Jon Wergedal², Catrina Godwin², Subburaman Mohan¹. ¹VA Loma Linda Healthcare System, Loma Linda University, United States, ²VA Loma Linda Healthcare System, United States
Disclosures: Chandrasekhar Kesavan, None
- MON-0460** **Vertebrate Lonesome Kinase is Required in Early Stages of Skeletogenesis**
David Maridas^{*}, Laura Gamer, Leila Revollo, Malcom Whitman, Vicki Rosen. Harvard School of Dental Medicine, United States
Disclosures: David Maridas, None
- MON-0461** **High Bone Mass Phenotype is Present as Early as 8 weeks in CFW Mice**
Meghan Moran^{*1}, Kelsey Carpenter¹, Brittany Wilson¹, Abraham Palmer², D. Rick Sumner¹. ¹Rush University Medical Center, United States, ²University of California San Diego, United States
Disclosures: Meghan Moran, None
- MON-0462** **Trajectories of Human Trabecular Bone Adaptation within a 4D Landscape of Tissue Anisotropy**
Nicolas Piche^{*1}, Natalie Reznikov², Ievgeniia Morozova³, Iskandar Tamimi⁴, Jun Song², Faleh Tamimi². ¹Objects Research Systems Inc., Canada, ²McGill University, Canada, ³Trikon Technologies Inc, Canada, ⁴Hospital Carlos Haya, Spain
Disclosures: Nicolas Piche, Object Research Systems Inc, Major Stock Shareholder
- MON-0463** **Forward-genetic ENU screen identifies genes regulating skeletal development in mice**
Jonathan Rios^{*1}, Carol Wise¹, Bruce Beutler². ¹Texas Scottish Rite Hospital for Children, United States, ²University of Texas Southwestern Medical Center, United States
Disclosures: Jonathan Rios, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION

- MON-0489** **NF- κ B Activation in BMSC's Drives Bone Loss Via Cell Intrinsic and Extrinsic Effects**
Manoj Arra^{*}, Gaurav Swarnkar, Gabriel Mbalaviele, Yousef Abu-Amer. Washington University in St. Louis School of Medicine, United States
Disclosures: Manoj Arra, None

- MON-0490** **Loss of the histone methyltransferase Ezh2 induces cellular senescence in mesenchymal stem cells**
 Amel Dudakovic*, Catalina Galeano-Garces, Christopher Paradise, Daniela Galeano-Garces, Farzaneh Khani, Roman Thaler, Andre Van Wijnen. Mayo Clinic, United States
Disclosures: Amel Dudakovic, None
- MON-0491** **The Effect of Ascorbic Acid on BMP-2 Treated C3H10T1/2 Mesenchymal Stem Cells in Phosphate Deficient Conditions**
 Matthew Bui*, Amira Hussein, Louis Gerstenfeld. Boston University School of Medicine, United States
Disclosures: Matthew Bui, None
- MON-0492** **Notch and Wnt Signaling Crosstalk Regulates Skeletal Stem/Progenitor Cell Behavior during the Early Stages of Fracture Repair**
 Sooyeon Lee*¹, Anna Josephson², Philipp Leucht¹. ¹Dept. of Orthopaedic Surgery, NYU Langone Orthopedic Hospital, United States, ²Dept. of Cell Biology, NYU School of Medicine, United States
Disclosures: Sooyeon Lee, None
- MON-0493** **Differences in osteoprogenitor populations between bone compartments**
 Brya Matthews*¹, Francesca Sbrana², Sanja Novak², Danka Grcevic³, Ivo Kalajic². ¹Department of Molecular Medicine and Pathology, University of Auckland, New Zealand, ²School of Dental Medicine, University of Connecticut, United States, ³Department of Physiology and Immunology, University of Zagreb, Croatia
Disclosures: Brya Matthews, None
- MON-0494** **Cartilage is Derived from Nerve in Trauma-Induced Heterotopic Ossification**
 Elizabeth Olmsted-Davis*¹, Elizabeth Salisbury². ¹Baylor College of Medicine, United States, ²UTMB, United States
Disclosures: Elizabeth Olmsted-Davis, None
- MON-0495** **Nucleoskeletal Actin-Lamin Architecture Regulates MSC Runx2 Directed Osteogenesis**
 Jeyantt S. Sankaran*¹, Buer Sen¹, Zhihui Xie¹, Cody Mcgrath¹, Maya Styner¹, Amel Dudakovic², Andre J. Van Wijnen², Janet Rubin¹. ¹UNC Chapel Hill, United States, ²Mayo Clinic, United States
Disclosures: Jeyantt S. Sankaran, None
- MON-0496** **Oxidized Phospholipids Are Ligands for LRP6 in Bone Marrow MSCs**
 Lei Wang*, Weiping Su, Xiaonan Liu, Janet Crane, Xu Cao, Mei Wan. Johns Hopkins University School of Medicine, United States
Disclosures: Lei Wang, None
- MON-0497** **The Power and Potential of Alternative Splicing to Dictate Stem Cell Fates in Bone**
 Yuanyuan Wang*¹, Rene Chun², Emad Bahrami-Samani³, Lan Lin³, Yi Xing³, John Adams⁴. ¹Bioinformatics Interdepartmental Graduate Program, University of California, Los Angeles, United States, ²Department of Orthopaedic Surgery, University of California, Los Angeles, United States, ³Department of Microbiology, Immunology and Molecular Genetics, University of California, Los Angeles, United States, ⁴Department of Orthopaedic Surgery, Department of Molecular, Cell & Developmental Biology, University of California, Los Angeles, United States
Disclosures: Yuanyuan Wang, None
- MON-0498** **Multipotent Schwann cell precursors contribute to chondro- and osteo-progenitors during embryogenesis**
 Meng Xie*¹, Dmitrii Kamenev², Baoyi Zhou¹, Maria Eleni Kastriti¹, Kaj Fried², Igor Adameyko¹, Viacheslav Dyachuk², Andrei Chagin¹. ¹Department of Physiology and Pharmacology, Karolinska Institutet, Stockholm SE-171 77, Sweden., Sweden, ²Department of Neuroscience, Karolinska Institutet, Stockholm SE-171 77, Sweden., Sweden
Disclosures: Meng Xie, None

- MON-0499** **The perivascular progenitor cell vesicular secretome incites bone repair via pleiotropic effects on endogenous skeletal progenitor cells**
 Jiajia Xu^{*1}, Carolyn Meyers¹, Leslie Chang¹, Leititia Zhang¹, Yiyun Wang¹, Kristen Broderick¹, Bruno Peault², Aaron James¹. ¹Johns Hopkins University, United States, ²University of California, Los Angeles, United States
Disclosures: Leslie Chang, None
- MON-0500** **Specific Knockout of Gsα in Murine Osteoblast Precursors Leads to Blunted Response to Intermittent PTH Administration in vivo**
 Mingxin Xu^{*}, Deepak H. Balani, Sophia Trinh, Henry M. Kronenberg. Endocrine Unit, Massachusetts General Hospital, Harvard Medical School, United States
Disclosures: Mingxin Xu, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS

- MON-0525** **Quantitative analysis of juxta-articular osteoporosis by HR-pQCT in patients with rheumatoid arthritis**
 Ko Chiba^{*1}, Kounosuke Watanabe¹, Oki Nozomi², Naoki Iwamoto³, Narihiro Okazaki¹, Atsushi Kawakami², Makoto Osaki¹. ¹Department of Orthopedic Surgery, Nagasaki University Graduate School of Biomedical Sciences, Japan, ²Department of Radiological Sciences, Nagasaki University Graduate School of Biomedical Sciences, Japan, ³naoki_iwa@hotmail.com, Japan
Disclosures: Ko Chiba, None
- MON-0526** **The Therapeutic Effect of GPNMB in a Traumatically-Induced Osteoarthritic Model**
 Bryson Cook^{*1}, Asaad Aladlaan¹, Matthew Desanto², Fayeze Safadi^{1,3}. ¹Musculoskeletal Research Group, NEOMED, United States, ²Musculoskeletal Research Group, United States, ³Akron Children's Hospital Research Institute, United States
Disclosures: Bryson Cook, None
- MON-0527** **CCL21 Promotes Post Knee Injury Inflammation and Osteoarthritis Progression In part via Inducing T-Cell Recruitment**
 Bouchra Edderkaoui^{*1}, Neha Mohindroo², Salma Khan³, Mohan Subburaman¹. ¹VALLHCS, LLU, United States, ²VALLHCS, United States, ³Loma Linda University, United States
Disclosures: Bouchra Edderkaoui, None
- MON-0528** **Cell Death and IL-1β Release Induced by TI Particles Depends on Lysosomal Membrane Disruption**
 Brian Fort^{*}, Edward Greenfield, Givenchy Manzano, Alexander Rascoe, Matthew Hoffa, George Dubyak. Case Western Reserve University, United States
Disclosures: Brian Fort, None
- MON-0529** **Circulating sclerostin is associated with preserved joint space in non-weight bearing joints in a population enriched for high Bone Mineral Density**
 April Hartley^{*}, Lavinia Paternoster, Aaron Murphy, Sarah Hardcastle, Jon H Tobias, Celia L Gregson. Bristol Medical School, University of Bristol, United Kingdom
Disclosures: April Hartley, None
- MON-0530** **Blood-Induced Bone Loss In A Mouse Model Of Hemophilic Arthropathy Is Prevented By Blocking The iRhom2/ADAM17/TNFα Pathway**
 Coline Haxaire^{*1}, Narine Hakobyan², Tania Panellini¹, Camila Carballo¹, David McIlwain³, Tak W. Mak⁴, Suchitra Acharya⁵, Dan Li¹, Jackie Szymonifka¹, Scott Rodeo¹, Xiangqian Song⁵, Sébastien Monette⁶, Alok Srivastava⁷, Jane Salmon¹, Carl Blobel¹. ¹Hospital for Special Surgery at Weill Cornell Medicine, United States, ²Pediatric Hematology/Oncology, Rush University Medical Center, United States, ³Baxter Laboratory in Stem Cell Biology, Department of Microbiology and Immunology, Stanford University, United States, ⁴Campbell Family Institute for Breast Cancer Research, Princess Margaret Cancer Center, University Health Network, Canada, ⁵Pediatric Hematology/Oncology, Northwell Health, United States, ⁶Laboratory of Comparative Pathology, Memorial Sloan Kettering Cancer Center, The Rockefeller University, Weill Cornell Medicine, United States, ⁷Department of Hematology, Christian Medical College, India
Disclosures: Coline Haxaire, None

- MON-0531 Vitamin D Status in Patients with Hip Dysplasia Undergoing Periacetabular Osteotomy and Its Influence on the Postoperative Results**
Taro Mawatari*¹, Kazuki Kitade¹, Shinya Kawahara¹, Satoshi Ikemura², Gen Matsui¹, Takahiro Iguchi¹, Hiroaki Mitsuyasu¹, Reima Sueda¹. ¹Hamanomachi Hospital, Japan, ²Kyushu University, Japan
Disclosures: Taro Mawatari, None
- MON-0532 Chronic Antibiotic Use Pre-Injury Reduces Severity of Post-Traumatic Osteoarthritis on ACL rupture STR/ort Mouse Models**
Melanie Mendez*¹, Deepa Muruges², Jillian Mccool¹, Edward Kuhn², Allison Hsia³, Blaine Christiansen³, Gabriela Loots⁴. ¹University of California-Merced, Lawrence Livermore National Laboratory, United States, ²Lawrence Livermore National Laboratory, United States, ³University of California-Davis, United States, ⁴Lawrence Livermore National Laboratory, University of California-Merced, United States
Disclosures: Melanie Mendez, None
- MON-0533 An ectosteric tanshinone inhibitor of cathepsin K prevents the progression of joint inflammation and destruction in an arthritis mouse model**
Preety Panwar*, Dieter Bromme. University of British Columbia, Canada
Disclosures: Preety Panwar, None
- MON-0534 Synovial B-cell infiltration as a novel candidate mediator of OA in obese mice and humans**
Eric Schott*¹, Jacquelyn Lillis¹, Christopher Farnsworth², Javier Rangel-Moreno¹, John Ketz¹, Douglas Adams³, Jennifer Anolik¹, Cheryl Ackert-Bicknell¹, Robert Mooney¹, Michael Zuscik¹. ¹University of Rochester School of Medicine and Dentistry, United States, ²Washington University in St. Louis, United States, ³University of Connecticut, United States
Disclosures: Eric Schott, None
- MON-0535 Blocking Transforming Growth Factor- β 1 By Oral Intake Of Losartan Can Improve Microfracture-Mediated Cartilage Healing- A Rabbit Model**
Hajime Utsunomiya*¹, Xueqin Gao², Zhenhan Deng², Gilberto Nakama¹, Haizi Cheng², Sudheer Ravuri¹, Julia Goldman², Tamara Alliston³, Walter Lowe², William Rodkey¹, Marc J Philippon¹, Johnny Huard¹. ¹Steadman Philippon Research Institute, United States, ²University of Texas Health, United States, ³University of California San Francisco, United States
Disclosures: Hajime Utsunomiya, None
- MON-0536 Conditional Bone and Muscle Correlates of Osteoarthritis Influenced by Use of Antiresorptive Therapy in Postmenopausal Women– the AMBERS study**
Andy Kin On Wong*¹, Shannon Reitsma², Hana Gillick², Abinaa Chandrakumar³, Eva Szabo³, Justin Chee³, Angela M Cheung³, Jonathan D Adachi². ¹Joint Department of Medical Imaging, University Health Network, Canada, ²Department of Medicine, McMaster University, Canada, ³CESHA, University Health Network, Canada
Disclosures: Andy Kin On Wong, None
- OSTEOBLASTS**
- MON-0577 Dephosphorylation of NACA by PP1A enhances c-JUN transcriptional activity**
William N. Addison*, Martin Pellicelli, René St-Arnaud. Shriners Hospitals for Children - Canada, Canada
Disclosures: William N. Addison, None
- MON-0578 miR-219a-5p Regulates Ror β During Osteoblast Differentiation and in Age-related Bone Loss**
Ruben Aquino-Martinez*, David Monroe. MAYO CLINIC, United States
Disclosures: Ruben Aquino-Martinez, None
- MON-0579 Blastema formation and periosteal ossification in the regenerating adult mouse digit.**
Lindsay A. Dawson*, Connor Dolan, Felisha Imholt, Osama Qureshi, Katherine Zimmel, Ken Muneoka. Texas A&M University, United States
Disclosures: Lindsay A. Dawson, None

- MON-0580 CALMI and GARS: novel biomarkers to diagnose Pseudarthrosis**
Thaqif El Khassawna^{*1}, Stefanie Kern¹, Deeksha Malhan¹, Markus Rupp², Christian Heiss².
¹Institute for Experimental Trauma Surgery, Faculty of Medicine, Justus Liebig University of Giessen, Germany, ²Department of Trauma, Hand, and Reconstructive Surgery, University Hospital of Giessen and Marburg, Germany
Disclosures: Thaqif El Khassawna, None
- MON-0581 Long Non-coding RNA RP11-45A16.3 Promotes Osteoblast Differentiation of Human Periodontal Ligament Stem Cells via Runt-Related Transcription Factor 2 by Sponging miR-103a-2-5p**
Fuchun Fang^{*1,2}, Jianjia Li², Qisheng Tu¹, Jake Chen^{1,3}. ¹Division of Oral Biology, Tufts University School of Dental Medicine, Boston, MA 02111, USA, American Samoa, ²Department of Stomatology of Nanfang Hospital, Southern Medical University, Guangzhou 510515, China, ³Department of Cellular, Molecular and Developmental Biology, Tufts University School of Medicine, Boston, MA 02111, USA, American Samoa
Disclosures: Fuchun Fang, None
- MON-0582 Grainyhead-like 3 Mediates BMP and Wnt Signaling in Skeletal Stem Cells during Bone Formation and Repair**
Laura Gamer^{*}, Valerie Salazar, David Maridas, Vicki Rosen. Harvard School of Dental Medicine, United States
Disclosures: Laura Gamer, None
- MON-0583 MACF1 Promotes Osteoblast Differentiation by Sequestering Repressors of Wnt Signaling**
Lifang Hu^{*}, Chong Yin, Zixiang Wu, Zizhan Huang, Aironq Qian. Laboratory for Bone Metabolism, Key Laboratory for Space Biosciences and Biotechnology, School of Life Sciences, Northwestern Polytechnical University, China
Disclosures: Lifang Hu, None
- MON-0584 How Acid Transport Supports Formation of Dense Bone Mineral**
Quitterie C Larrouture^{*1}, Harry C Blair², Irina L Tourkova³, Jing H Bian³, Li Liu³, Donna Beer Stolz⁴, Deborah J Nelson⁵, Paul H Schlesinger⁶. ¹Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, Botnar Research Centre, Oxford University, United Kingdom, ²Veteran's Affairs Medical Center and Department of Pathology, University of Pittsburgh, United States, ³Department of Pathology, University of Pittsburgh, United States, ⁴Department of Cell Biology, University of Pittsburgh, United States, ⁵Department of Pharmacological and Physiological Sciences, University of Chicago, United States, ⁶Department of Cell Biology, Washington University, United States
Disclosures: Quitterie C Larrouture, None
- MON-0585 Bone formation in osteoblast cell culture**
Elena Makareeva^{*}, Edward Mertz, Anna Roberts-Pilgrim, Sergey Leikin. NICHD, NIH, United States
Disclosures: Elena Makareeva, None
- MON-0586 Opposing Effects of Inorganic Phosphate and Trps1 Transcription Factor on Expression of SerpinB2 in Bone and Tooth**
Mairobys Socorro^{*}, Daisy Monier, Sana Khalid, Victoria Smethurst, Dobrawa Napierala. Center for Craniofacial Regeneration, Dept. of Oral Biology, McGowan Institute for Regenerative Medicine, University of Pittsburgh School of Dental Medicine, United States
Disclosures: Mairobys Socorro, None
- MON-0587 PTHrP (1-36) and Abaloparatide: Weaker Modulators of SIK2/CRTC2-CRTC3 Signaling Axis Compared with PTH (1-34)**
Florante Ricarte^{*1}, Carole Le Henaff², Nicola Partridge². ¹New York University School of Medicine, United States, ²New York University College of Dentistry, United States
Disclosures: Florante Ricarte, None

- MON-0588 A Comparison Between Osteoactivin and Bone Morphogenetic Protein-2 in Rat Spinal Fusion Model**
 Jeremy Robinson *¹, Scott Mcdermott¹, Kevin Budge², Nazar Hussein², Fatima Jaber², Omar Azem³, Matt Desanto⁴, Adnan Raslan⁴, Maleck Saleh⁵, Bradley Inkrott¹, Fayez Safadi⁴.
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Disclosures: Jeremy Robinson, None
- MON-0589 Global Gene Expression Analysis Identifies Mef2c as a Wnt16 Target in Osteoblasts**
 Aimy Sebastian*, Nicholas Hum, Cesar Morfin, Deepa Muruges, Gabriela Loots.
 Lawrence Livermore National Laboratory, United States
Disclosures: Aimy Sebastian, None
- MON-0590 Potential usefulness of osteogenic exosomes as a therapeutic agent for bone engineering**
 Takaki Sugihara*¹, Yoshinori Sumita², Myumi Iwatake², Naomi Sakashita², Izumi Asahina¹.
¹Department of Regenerative Oral Surgery, Unit of Translational Medicine, Graduate School of Biomedical Science, Nagasaki University, Nagasaki, Japan, ²Basic and Translational Research Center for Hard Tissue Disease, Nagasaki University Graduate School of Biomedical Sciences, Nagasaki, Japan
Disclosures: Takaki Sugihara, None
- MON-0591 Bone Morphometric and Immunohistological Study on Mechanism of Longitudinal Overgrowth of Femur of Developing Rat Following Circumferential Periosteal Division**
 Shinjiro Takata*. Tokushima National Hospital, National Hospital Organization, Japan
Disclosures: Shinjiro Takata, None
- MON-0592 Lnc-OIF, A newly identified Long noncoding RNA, Inhibits Osteoblast Differentiation and Bone Formation**
 Ye Tian*, Chong Yin, Xue Wang, Chaofei Yang, Zixiang Wu, Xiaoli Ma, Zizhan Huang, Airong Qian. Northwestern Polytechnical University, China
Disclosures: Ye Tian, None
- MON-0593 JNK MAP Kinase is required for both BMP and Notch induced Human Osteoblast Differentiation**
 Yadav Wagley*, Kurt D. Hankenson. Department of Orthopaedic Surgery, University of Michigan, United States
Disclosures: Yadav Wagley, None
- MON-0594 The Regulatory Actions of TRPC3 Channels in the Differentiation and Functions of Osteoblastic Cells**
 Yu-Mi Yang*, Dong Min Shin. Department of Oral Biology, Yonsei University College of Dentistry, Republic of Korea
Disclosures: Yu-Mi Yang, None
- MON-0595 Effect of Cannabinoid Receptor Ligands on Osteogenic Differentiation**
 Chawon Yun*¹, Adam Driscoll¹, Ryan Lubbe¹, Soyeon Jeong¹, Kevin Chang¹, Meraaj Harleem¹, Richard Pahapill¹, Mark Oyer¹, Stuart Stock², Wellington Hsu³, Erin Hsu³.
¹Northwestern University Department of Orthopaedic Surgery, Chicago, IL, United States, ²Northwestern University Cell and Molecular Biology, United States, ³Northwestern University Feinberg School of Medicine Department of Orthopaedic Surgery, United States
Disclosures: Chawon Yun, None

OSTEOCLASTS

- MON-0636 WITHDRAWN**
- MON-0637 Phlpp1 controls osteoclastogenesis and bone resorption**
 Dana Begun*, David Molstad, Jennifer Westendorf, Merry Jo Oursler, Elizabeth Bradley.
 Mayo Clinic, United States
Disclosures: Dana Begun, None

- MON-0638** **Trpm8 Knockout causes compartment-specific bone loss and altered osteoclast number and activity**
Adriana Carvalho*, Trevor Morin, Katherine Motyl. MMCRI, United States
Disclosures: Adriana Carvalho, None
- MON-0639** **Models of Elevated Cortical Bone Remodeling in the Rabbit: Platforms for Longitudinal Imaging of Basic Multicellular Units**
Beverly Hiebert*, Kim Harrison¹, Arash Panahifar², Amir Ashique¹, Terra Arnason¹, Janna Andronowski³, Kurtis Swekla¹, David Cooper¹. ¹University of Saskatchewan, Canada, ²Canadian Light Source, Canada, ³University of Akron, United States
Disclosures: Beverly Hiebert, None
- MON-0640** **miR-29 Targets E-cadherin Complex Members in the Osteoclast Lineage**
Henry Hrdlicka*, Sun-Kyeong Lee, Anne Delany. UConn Health, United States
Disclosures: Henry Hrdlicka, None
- MON-0641** **WITHDRAWN**
- MON-0642** **IgG complex with protein A of Staphylococcus aureus enhances osteoclastogenesis and bone resorption.**
Asana Kamohara*¹, Xianghe Xu¹, Makoto Shiraki², Hirohito Hirata¹, Toshio Kukita³, Akiko Kukita¹. ¹Department of Microbiology, Faculty of Medicine, Saga University, Japan, ²Department of Orthopedic Surgery, Faculty of Medicine, Saga University, Japan, ³Department of Molecular Cell Biology & Oral Anatomy, Faculty of Dentistry, Kyushu University, Japan
Disclosures: Asana Kamohara, None
- MON-0643** **Effect of C-X-C Motif Chemokine 12 in Lipopolysaccharide-induced Osteoclast Formation and Bone Resorption**
Hideki Kitaura*, Kazuhiro Shima, Keisuke Kimura, Masahiko Ishida, Akiko Kishikawa, Saika Ogawa, Jiawei Qi, Wei-Ren Shen, Fumitoshi Ohori, Takahiro Noguchi, Aseel Marahleh. Division of Orthodontics and Dentofacial Orthopedics, Department of Translational Medicine, Tohoku University Graduate School of Dentistry, Japan
Disclosures: Hideki Kitaura, None
- MON-0644** **Haptoglobin acts as a novel ligand for TLR4, suppressing osteoclastogenesis via activation of TLR4 - INF- β signaling pathway**
Zang Hee Lee*, Hong-Hee Kim, Jun-Oh Kwon. Department of Cell and Developmental Biology, Dental Research Institute, School of Dentistry, Seoul National University, Republic of Korea
Disclosures: Zang Hee Lee, None
- MON-0645** **RANK PVQEEET560-565 and PVQEEQG604-609 Motifs play important roles in Porphyromonas gingivalis-mediated regulation of osteoclastogenesis**
Yuyu Li*¹, Shenyuan Chen², Zhenqu Shi³, Xu Feng³, Ping Zhang⁴. ¹Sichuan University, China, ²Stomatological Hospital of Chongqing Medical University, Chongqing Key Laboratory of Oral Diseases and Biomedical Sciences, Chongqing Municipal Key Laboratory of Oral Biomedical Engineering of Higher Education, Chongqing, 400015, China, ³Department of Pathology, University of Alabama at Birmingham, AL35284, United States, ⁴Department of Pediatric Dentistry, University of Alabama at Birmingham, AL35294, United States
Disclosures: Yuyu Li, None
- MON-0646** **Asiatic Acid Attenuates Bone Loss by Regulating Smad7/TAK1/NF- κ B Signaling Pathway in Osteoclastogenesis**
Sien Lin*¹, Haixing Wang¹, Bo Wei², Yuk Wai Lee¹, Liao Cui², Gang Li¹. ¹The Chinese University of Hong Kong, Hong Kong, ²Guangdong Medical University, China
Disclosures: Wayne Yuk Wai Lee, None

- MON-0647** **Protease Activated Receptor 2 (PAR2): A Novel Regulator of Osteoclastogenesis**
 Sarah Mcgrath*¹, Leif Hultin², John C Lockhart³, Carl S. Goodyear¹. ¹Institute of Infection, Immunity, and Inflammation, University of Glasgow, United Kingdom, ²Respiratory, Inflammation and Autoimmunity, Innovative Medicines and Early Development, AstraZeneca, Sweden, ³Institute of Biomedical & Environmental Health Research, University of the West of Scotland, Paisley, United Kingdom
Disclosures: Sarah Mcgrath, None
- MON-0648** **Targeted Deletion of TAF12 in Osteoclasts Decreases Osteoclast Activity in Vivo**
 Kazuaki Miyagawa*¹, Yasuhisa Ohata¹, Jolene J. Windle², G. David Roodman^{1,3}, Noriyoshi Kurihara¹. ¹Medicine/Hematology-Oncology; Indiana University, United States, ²Human and Molecular Genetics, Virginia Commonwealth University, United States, ³Roudebush VA Medical Center, United States
Disclosures: Kazuaki Miyagawa, None
- MON-0649** **Effects of advanced glycation end products on bone cells**
 Hyoung-Moo Park*¹, Ho-Yeon Chung², In-Jin Cho², You Cheol Hwang², In-Kyung Jeong², Kyu Jeung Ahn². ¹Grace woman's Hospital, Republic of Korea, ²Kyung Hee University, Republic of Korea
Disclosures: Hyoung-Moo Park, None
- MON-0650** **SLIT2 inhibits osteoclastogenesis and bone resorption via the suppression of Cdc42 activity**
 So Jeong Park*¹, Beom-Jun Kim², Mi Kyung Kwak³, Seung Hun Lee³, Jung-Min Koh³. ¹ASAN Institute for Life Sciences, Republic of Korea, ²ASAN MEDICAL CENTER, Republic of Korea, ³Division of Endocrinology and Metabolism, Asan Medical Center, University of Ulsan College of Medicine, Republic of Korea
Disclosures: So Jeong Park, None
- MON-0651** **CD55 is a negative regulator of inflammation induced osteoclastogenesis**
 Bongjin Shin*, Sun-Kyeong Lee. University of Connecticut Health Center, United States
Disclosures: Bongjin Shin, None
- MON-0652** **Sialic acid-binding immunoglobulin-like lectin 15 (Siglec-15) plays important roles in the induction of both bone-resorbing activity of osteoclasts and osteoblast differentiation**
 Nobuyuki Udagawa*¹, Masanori Koide², Shunsuke Uehara³, Atsushi Arai², Toshihide Mizoguchi², Teruhito Yamashita², Midori Nakamura⁴, Yasuhiro Kobayashi², Naoyuki Takahashi², Seiichiro Kumakura⁵, Chie Fukuda⁵, Eisuke Tsuda⁵. ¹Department of Biochemistry, Institute for Oral Science, Matsumoto Dental University, Japan, ²Institute for Oral Science, Matsumoto Dental University, Japan, ³Department of Biochemistry, Matsumoto Dental University, Japan, ⁴Department of Biochemistry, Institute for Oral Science, Matsumoto Dental University, Japan, ⁵Rare Disease & LCM Laboratories, R&D Division, Daiichi Sankyo Co., Ltd., Japan
Disclosures: Nobuyuki Udagawa, Daiichi Sankyo Co., Ltd., Grant/Research Support
- MON-0653** **IL-3 inhibits osteoclastogenesis by upregulating the cytoprotective enzymes and diverts the cells toward M2 macrophages**
 Suhas Mhaske*¹, Anil Kumar¹, Mohan Wani¹. ¹National Centre for Cell Science, India
Disclosures: Suhas Mhaske, None
- MON-0654** **Zscan10 Suppresses Osteoclast Differentiation through Expression of Haptoglobin.**
 Yuta Yanagihara*¹, Kazuki Inoue¹, Noritaka Saeki¹, Yuichiro Sawada², Jiwon Lee³, Tadahiro Iimura³, Yuuki Imai¹. ¹Division of Integrative Pathophysiology, Proteo-Science Center, Ehime University, Japan, ²Department of Urology, Ehime University Graduate School of Medicine, Japan, ³Division of Bio-Imaging, Proteo-Science Center, Ehime University, Japan
Disclosures: Yuta Yanagihara, None

OSTEOCYTES

- MON-0672** **Enhancement of Morphological and Functional Changes of Osteocyte in Osteoporotic Metaphyseal Fracture Healing Model with Low-Magnitude High-Frequency Vibration**
Man Huen Victoria Choy*¹, Ronald Man Yeung Wong¹, Simon Kwoon Ho Chow², Meng Chen Li², Jack Chun Yiu Cheng¹, Wing-Hoi Cheung¹. ¹Department of Orthopaedics and Traumatology, Faculty of Medicine, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, NT, Hong Kong, ²Department of Orthopaedics and Traumatology, The Chinese University of Hong Kong, Shatin, NT, Hong Kong SAR, China, Hong Kong
Disclosures: Man Huen Victoria Choy, None
- MON-0673** **Osteocyte regulates osteoclasts formation through Neuropilin1**
Ehab Azab*¹, Kevin Chandler², Yuhei Uda¹, Amira Hussein³, Raghad Shuwaikan¹, Ningyuan Sun¹, Mark McComb², Paola Divieti Pajevic¹. ¹Molecular and Cell Biology, Boston University, United States, ²Department of Biochemistry, Boston University, United States, ³Department of Orthopedics, Boston University, United States
Disclosures: Ehab Azab, None
- MON-0674** **MLO-Y4 osteocyte response to simulated microgravity in a 3D scaffolding**
Roxanne Fournier*, Rene Harrison. University of Toronto, Scarborough, Canada
Disclosures: Roxanne Fournier, None
- MON-0675** **WITHDRAWN**
- MON-0676** **Exogenous Irisin Treatment Ameliorates Inflammatory Changes in Osteocyte Proteins and Altered Bone Turnover in Chronic DSS-induced Inflammatory Bowel Disease**
Corinne E Metzger*¹, S Anand Narayanan², Anne Michal Anderson¹, David C Zawieja², Susan A Bloomfield¹. ¹Texas A&M University, United States, ²Texas A&M University Health Science Center, United States
Disclosures: Corinne E Metzger, None
- MON-0677** **Osteocytes Maintain Mechanosensing Following Long-Term Dosing with Sclerostin Antibody**
Andrea Morrell*¹, Samuel Robinson¹, Jingyi Wang², Gill Holdsworth³, Hua Zhu Ke³, X. Edward Guo¹. ¹Columbia University, United States, ²Southern University of Science and Technology, China, ³UCB Pharma, United Kingdom
Disclosures: Andrea Morrell, UCB Pharma, Grant/Research Support
- MON-0678** **Voluntary Wheel Running Exercise Maintains Osteocyte Connectivity and Muscle-Secreted Osteocyte Protective Factors in Aged C57BL/6 Mice**
Leann Tiede-Lewis*¹, Yukiko Kitase², Kaitlyn Tom¹, Mark Dallas¹, Hong Zhao², Yixia Xie¹, Michael Wacker¹, Marco Brotto³, Lynda Bonewald², Sarah Dallas¹. ¹University of Missouri, Kansas City, United States, ²Indiana University, United States, ³University of Texas, Arlington, United States
Disclosures: Leann Tiede-Lewis, None
- MON-0679** **The Role of Osteocyte Estrogen Receptor β in Bone Turnover and Skeletal Mechanotransduction Differs in Male and Female Mice.**
Xiaoyu Xu*¹, Haisheng Yang², Rachel Embry³, Whitney Bullock⁴, Teresita Bellido⁴, Russell Main³. ¹Weldon School of Biomedical Engineering Purdue University, United States, ²Beijing University of Technology, China, ³Musculoskeletal Biology and Mechanics Lab, Department of Basic Medical Sciences, Purdue University, United States, ⁴Department of Anatomy and Cell Biology, Indiana University School of Medicine, United States
Disclosures: Xiaoyu Xu, None

OSTEOPOROSIS - ASSESSMENT

- MON-0719** **IMMINENT RISK OF NEW VERTEBRAL FRACTURE IN PATIENTS WITH RECENT CLINICAL VERTEBRAL FRACTURE**
Enrique Casado*¹, Silvia García-Cirera¹, Marta Arévalo¹, Luís Del Río², Joan Carles Oliva³, Jordi Gratacós¹. ¹Rheumatology Dpt. University Hospital Parc Taulí (UAB), Spain, ²CETIR Centre Med, Spain, ³Statistics Dpt. University Hospital Parc Taulí (UAB), Spain
Disclosures: Enrique Casado, None

- MON-0720 High bone marrow fat in osteopenic older adults may cause overestimation of DXA-measured BMD: A quantitative MRI study**
Wing P. Chan*¹, Shiou-Ping Lee¹, Yi-Chien Lu¹, Hou-Ting Yang², Yi-Jui Liu³. ¹Department of Radiology, Wan Fang Hospital, Taipei Medical University, Taiwan, ²Department of Nuclear Medicine, Chang Gung Memorial Hospital, Taiwan, ³Department of Automatic Control Engineering, Feng Chia University, Taiwan
Disclosures: Wing P. Chan, None
- MON-0721 Trabecular Bone Score in Conditions of Extremely High BMD. Does it have any utility?**
Manju Chandran*¹, Ann Kerwen Kwee², Matthew Bingfeng Chuah². ¹Osteoporosis and Bone Metabolism Unit, Singapore General Hospital, Singapore, ²Department of Endocrinology, Singapore General Hospital, Singapore
Disclosures: Manju Chandran, None
- MON-0722 The association between muscle mass deficits estimated from bioelectrical impedance analysis and osteoporosis in elderly people**
Hee-Jeong Choi*¹, Han-Jin Oh¹, Hyeok-Jung Kweon². ¹Department of Family Medicine, Eulji University School of Medicine, Republic of Korea, ²Department of Family Medicine, Konkuk University School of Medicine, Republic of Korea
Disclosures: Hee-Jeong Choi, None
- MON-0723 Cortical and Trabecular Bone Response in Proximal Femur from Women with Osteoporosis Treated with Denosumab or Zoledronic Acid using 3D Modelling Techniques obtained from DXA.**
Fidencio Cons Molina*¹, Mario Feuchter¹, Luis Ernesto Bejarano¹, Diana Wiluzanski², Carla Altieri², Edison Edgardo Romero Galvan², Jose Luis Mansur³, Yves Martelli⁴, Ludovic Humbert⁴. ¹Centro de Investigacion Artritis & Osteoporosis, Mexico, ²CENTROSEO, Uruguay, ³Centro de Endocrinología y Osteoporosis, Argentina, ⁴Galgo Medical, Spain
Disclosures: Fidencio Cons Molina, None
- MON-0724 Sandwich Immunoassay for the Specific Detection of Circulating Bioactive Sclerostin in comparison with other Sclerostin ELISA**
Jacqueline Wallwitz*, Elisabeth Gadermaier, Gabriela Berg, Gottfried Himmler. The Antibody Lab GmbH, Austria
Disclosures: Jacqueline Wallwitz, None
- MON-0725 Combined model of QCT derived bone mass and microarchitecture parameters for improved vertebral fracture discrimination**
Lukas Maximilian Huber*¹, Timo Damm¹, Stefan Reinhold², Wolfram Timm³, Jan Borggrefe⁴, Julian Ramin Andresen⁵, Claus-Christian Glüer¹, Reimer Andresen⁶. ¹Section Biomedical Imaging, Department of Radiology and Neuroradiology, UKSH, Christian-Albrechts-Universität zu Kiel, Germany, ²Department of Computer Science, Multimedia Information Processing Group, Christian-Albrechts-Universität zu Kiel, Germany, ³MINDWAYS CT, United States, ⁴Department of Diagnostic and Interventional Neuroradiology, University Hospital Cologne, Germany, ⁵Medical School, Sigmund Freud University, Austria, ⁶Institute of Diagnostic and Interventional Radiology/Neuroradiology, Westkuestenklinikum Heide, Academic Teaching Hospital of the Universities of Kiel, Luebeck and Hamburg, Germany
Disclosures: Lukas Maximilian Huber, None
- MON-0726 Prevalence of Diabetes in Patients with Osteoporotic Hip Fractures: A tertiary Care Center Fracture Consultation Service Experience**
Sabrina Huq*, Lakshmi Das, Arti Bhan, Mahalakshi Honasoge, Sudhaker D. Rao. Henry Ford Hospital, United States
Disclosures: Sabrina Huq, None
- MON-0727 Peripheral Quantitative Computed Tomography Based Finite Element Modeling (pQCT-FE) in the Classification of Fracture Patients**
Hongyuan Jiang*¹, Dale Robinson¹, Peter Lee¹, Christopher Yates², John Wark¹. ¹The University of Melbourne, Australia, ²The Royal Melbourne Hospital, Australia
Disclosures: Hongyuan Jiang, None

- MON-0728 Bone Marrow Fat and its Associations with Bone Quality in the Proximal Femur**
 Roland Krug*¹, Julio Carballido-Gamio². ¹Department of Radiology and Biomedical Imaging, University of California, San Francisco, CA, United States, ²Department of Radiology, School of Medicine, University of Colorado Denver, Denver, CO, United States
Disclosures: Roland Krug, None
- MON-0729 Low-grade morphometric vertebral deformities result from historical events and are unlikely to be primarily osteoporotic in provenance**
 Brian C Lentle*¹, Jacques P Brown², Linda Probyn³, Ian Hammond⁴, Jeffrey Hu¹, Ben Fine³, Kevin Lian¹, Arvind Shergill³, Jacques Trollip¹, Claudie Berger⁵, William D Leslie⁶, Jerilynn C Prior¹, David A Hanley⁷, Jonathan D Adachi⁸, Robert G Josse³, Angela M Cheung³, K Shawn Davison⁹, Stephanie M Kaiser¹⁰, Tanveer Towheed¹¹, Christopher S Kovacs¹², Andy Ko Wong³, David Goltzman¹³. ¹University of British Columbia, Canada, ²Université Laval, Canada, ³University of Toronto, Canada, ⁴University of Ottawa, Canada, ⁵Research Institute of the McGill University Health Centre, Canada, ⁶University of Manitoba, Canada, ⁷University of Calgary, Canada, ⁸McMaster University, Canada, ⁹A Priori Medical Sciences Inc, Canada, ¹⁰Dalhousie University, Canada, ¹¹Queen's University, Canada, ¹²Memorial University, Canada, ¹³McGill University, Canada
Disclosures: Brian C Lentle, None
- MON-0730 Feasibility of QCT internal density calibration for site-specific osteoporosis assessment**
 Andrew Michalski*, Bryce Besler, Geoff Michalak, Steven Boyd. University of Calgary, Canada
Disclosures: Andrew Michalski, None
- MON-0731 Utility of the Forearm Dual X-ray Absorptiometry (DXA) as a Screening Tool for Early Osteoporosis Diagnosis in Postmenopausal Women with Primary Fragility Fractures at Distal Radius**
 Satoshi Miyamura*¹, Kosuke Ebina¹, Kohji Kuriyama², Kunihiro Oka¹, Hiroyuki Tanaka¹, Tsuyoshi Murase¹. ¹Department of Orthopaedic Surgery, Osaka University, Graduate School of Medicine, Japan, ²Department of Orthopaedic Surgery, Japan Community Health Care Organization Hoshigaoka Medical Center, Japan
Disclosures: Satoshi Miyamura, None
- MON-0732 Opportunistic Screening of FDG-PET/CT Reveals Undiagnosed Low Bone Mass in Patients Being Evaluated for Oncology Purposes**
 Fernando Kay*¹, Edmund Dosunmu², Keenan Brown³, Orhan Oz². ¹UT Southwestern Medical Center, United States, ²UT Southwestern Medical Center - Radiology, United States, ³Mindways Software, United States
Disclosures: Fernando Kay, None
- MON-0733 Lower Trabecular Bone Score is Associated with the Use of Proton Pump Inhibitors**
 Young Ho Shin*¹, Hyun Sik Gong². ¹Department of Orthopedic Surgery, Asan Medical Center, Republic of Korea, ²Department of Orthopedic Surgery, Seoul National University Bundang Hospital, Seoul National University College of Medicine, Republic of Korea
Disclosures: Young Ho Shin, None
- MON-0734 Percent total body fat, independent of muscle mass, is negatively associated with bone mineral density in women**
 Harshvardhan Singh*¹, Roshita Rathore², Gary Hunter³, Debra Bembem⁴, Zhaojing Chen⁵, Kenneth Saag⁶. ¹Department of Physical Therapy, University of Alabama at Birmingham, United States, ²Department of Physical Therapy, Temple University, United States, ³Nutrition and Obesity Research Core, University of Alabama at Birmingham, United States, ⁴Department of Health and Exercise Science, University of Oklahoma, United States, ⁵Department of Kinesiology, California State University San Bernardino, United States, ⁶School of Medicine, University of Alabama at Birmingham, United States
Disclosures: Harshvardhan Singh, None

MON-0735 **The risk of incident vertebral fractures in current or former heavy smokers with and without COPD is associated with baseline vertebral bone attenuation and prevalent vertebral fractures: a 3-year chest-CT follow-up study**
Mayke Van Dort*¹, Johanna Driessen^{1,2,3}, Piet Geusens⁴, Elisabeth Romme⁵, Frank Smeenk⁵, Emiel Wouters⁶, Joop Van Den Bergh⁷. ¹NUTRIM School of Nutrition and Translational Research in Metabolism, Maastricht University Medical Centre+ (MUMC+), Netherlands, ²CAPHRI Care and Public Health Research Institute, Netherlands, ³Department of Clinical Pharmacy and Toxicology; Maastricht University Medical Centre+ (MUMC+), Netherlands, ⁴Department of Internal Medicine, Rheumatology, Maastricht University Medical Centre+ (MUMC+), Netherlands, ⁵Department of Respiratory Medicine, Catharina Hospital, Eindhoven, Netherlands, ⁶Department of Respiratory Diseases, Maastricht University Medical Centre+ (MUMC+), Netherlands, ⁷Department of Internal Medicine, VieCuri Medical Centre, Venlo; and Department of Internal Medicine, NUTRIM School of Nutrition and Translational Research in Metabolism, Maastricht University Medical Centre+ (MUMC+), Netherlands
Disclosures: Mayke Van Dort, None

MON-0736 **Investigation of Second-Generation HR-pQCT to Improve Assessment of Hip Fracture Risk in Women**
Danielle E Whittier*, Lauren A Burt, Prism S Schneider, Steven K Boyd. McCaig Institute for Bone & Joint Health, Cumming School of Medicine, University of Calgary, Canada
Disclosures: Danielle E Whittier, None

MON-0737 **The true relationship between bone marrow adipose tissue and volumetric BMD in the human spine**
Xiaoguang Cheng*¹, Kai Li¹, Yong Zhang¹, Ling Wang¹, Li Xu¹, Yangyang Duanmu¹, Cliff J Rosen², Glen M Blake³. ¹Department of Radiology, Beijing Jishuitan Hospital, China, ²Center for Clinical & Translational Research, Maine Medical Center Research Institute, United States, ³Biomedical Engineering Department, King's College London, United Kingdom
Disclosures: Xiaoguang Cheng, None

OSTEOPOROSIS - EPIDEMIOLOGY

MON-0782 **Fall Risk Is a Predictor of Fracture Independent of Bone Mineral Density and Bone Strength: Results from the FOCUS study**
Annette L. Adams*¹, Heidi Fischer¹, David L. Kopperdahl², David C. Lee², Tony M. Keaveny³. ¹Kaiser Permanente Southern California, United States, ²O.N. Diagnostics, United States, ³University of California, Berkeley, United States
Disclosures: Annette L. Adams, Merck, Grant/Research Support, Amgen, Grant/Research Support

MON-0783 **Cognitive Decline Is Associated with an Accelerated Rate of Bone Loss and Increased Fracture Risk in Women 65 years or Older in the Population-based Canadian Multicentre Osteoporosis Study (CaMos)**
Dana Bliuc*¹, Thach Tran¹, Tineke Van Geel², Jonathan Adachi³, Claudie Berger⁴, Joop Van Den Bergh², John Eisman¹, Piet Geusens², David Goltzman⁵, David Hanley⁶, Robert Josse⁷, Stephanie Kaiser⁸, Christopher Kovacs⁹, Lisa Langsetmo¹⁰, Jerilynn Prior¹¹, Tuan Nguyen¹, Jacqueline Center¹. ¹Bone Biology Group, Garvan Institute of Medical Research, Australia, ²Maastricht University Medical Center, Netherlands, ³Department of Medicine, McMaster University, Canada, ⁴CaMos National Coordinating Centre, McGill University, Canada, ⁵Department of Medicine, McGill University, Canada, ⁶Department of Medicine, University of Calgary, Canada, ⁷Department of Medicine, University of Toronto, Canada, ⁸Department of Medicine, Dalhousie University, Canada, ⁹Faculty of Medicine, Memorial University, Canada, ¹⁰School of Public Health, University of Minnesota, Twin cities, United States, ¹¹Department of Medicine and Endocrinology, University of British Columbia, Canada
Disclosures: Dana Bliuc, None

- MON-0784** **Thiazide Diuretics and Fracture Risk: A Systematic Review and Meta-Analysis of Randomized Clinical Trials**
Louis-Charles Desbiens*, Nada Khelifi, Yue-Pei Wang, Aboubacar Sidibe, Alexis F-Turgeon, Fabrice Mac-Way. CHU de Québec - Université Laval, Canada
Disclosures: Louis-Charles Desbiens, None
- MON-0785** **The association between prevalent vertebral fractures and coronary artery calcification on chest CT in smokers with and without COPD**
Johanna Driessen^{*1}, Mayke Van Dort², Piet Geusens³, Elisabeth Romme⁴, Frank Smeenk⁴, Braim Rahel⁵, Emiel Wouters⁶, Joop Van Den Bergh⁷. ¹CAPHRI Care and Public Health Research Institute, NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Clinical Pharmacy and Toxicology, Maastricht University Medical Centre+ (MUMC+), Netherlands, ²NUTRIM School of Nutrition and Translational Research in Metabolism, Maastricht University Medical Centre+ (MUMC+), Netherlands, ³Department of Internal Medicine, Rheumatology, Maastricht University Medical Centre+ (MUMC+), the Netherlands, Netherlands, ⁴Department of Respiratory Medicine, Catharina Hospital, Eindhoven, the Netherlands; Netherlands, ⁵Department of Cardiology, VieCuri Medical Centre, Venlo, the Netherlands; Netherlands, ⁶Department of Respiratory Diseases, Maastricht University Medical Centre+ (MUMC+), the Netherlands; Netherlands, ⁷Department of Internal Medicine, VieCuri Medical Centre, Venlo and Department of Internal Medicine, NUTRIM School of Nutrition and Translational Research in Metabolism, Maastricht University Medical Centre+ (MUMC+), the Netherlands; Netherlands
Disclosures: Johanna Driessen, None
- MON-0786** **Impact of Comorbidity and Prognosis on Hip Fracture and Mortality Incidence Among Women in Late Life**
Kristine Ensrud^{*1,2}, Allyson Kats¹, Cynthia Boyd², Susan Diem^{1,2}, John Schousboe³, Brent Taylor^{1,2}, Douglas Bauer⁴, Katie Stone⁴, Lisa Langsetmo¹. ¹University of Minnesota, United States, ²Johns Hopkins University, United States, ³HealthPartners Institute / University of Minnesota, United States, ⁴University of California - San Francisco, United States
Disclosures: Kristine Ensrud, None
- MON-0787** **High Prevalence of Vertebral Fractures in Healthy Community-Dwelling Oldest Old: Longevous Study**
Fernanda Gazoni^{*1}, Jane Erika Frazão Okazaki², Daniela Regina Brandão Tavares¹, Lais Abreu Bastos³, Flavia Kurebayashi⁴, Fania Cristina Santos⁵. ¹Doctorate Student at São Paulo Federal University, Brazil, ²Associated Physician at São Paulo Federal University, Brazil, ³Affiliated physician at São Paulo Federal University, Brazil, ⁴Pos-graduate student at São Paulo Federal University, Brazil, ⁵Professor at São Paulo Federal University, Brazil
Disclosures: Fernanda Gazoni, None
- MON-0788** **Impact Microindentation in Impaired Fasting Glucose and Diabetes**
Kara Holloway-Kew^{*1}, Pamela Rufus¹, Adolfo Diez-Perez², Lelia De Abreu¹, Mark Kotowicz¹, Muhammad Sajjad¹, Julie Pasco¹. ¹Deakin University, Australia, ²Autonomous University of Barcelona, Spain
Disclosures: Kara Holloway-Kew, None

- MON-0789 Comparing Utility Loss Due to Fractures, in Cohorts With and Without a Previous Fracture**
 Helena Johansson*¹, John A Kanis², Anders Odén³, Nicholas C Harvey⁴, Vilundur Gudnason⁵, Kerrie Sanders⁶, Gunnar Sigurdsson⁵, Kristin Siggeirsdottir⁵, Lorraine Fitzpatrick⁷, Mattias Lorentzon⁸, Fredrik Borgström⁹, Eugene Mccluskey¹⁰. ¹Institute for Health and Aging, Australian Catholic University, Melbourne, Australia, Sweden, ²Institute for Health and Aging, Catholic University of Australia, Melbourne, Australia, Austria, ³Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, United Kingdom, ⁴MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton, United Kingdom, ⁵Icelandic Heart Association Research Institute, Kopavogur, Iceland, ⁶Department of Medicine, The University of Melbourne and Western Health, Sunshine hospital, Melbourne, VIC, Australia, ⁷Radius Health, Waltham, MA, United States, ⁸Centre for Bone and Arthritis Research, Geriatric Medicine, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden., Sweden, ⁹LIME/MMC, Karolinska Institutet, Stockholm, Sweden, ¹⁰Mellanby Centre for bone research, Department of Oncology and Metabolism, University of Sheffield, Sheffield, United Kingdom
Disclosures: Helena Johansson, None
- MON-0790 Impact of a personal history of breast cancer on bone mineral density among women with a BRCA1 or BRCA2 mutation undergoing prophylactic bilateral salpingo-oophorectomy**
 Joanne Kotsopoulos*¹, Elizabeth Hall², Amy Finch¹, Barry Rosen³, Joan Murphy⁴, Steven A. Narod¹, Angela M. Cheung⁵. ¹Women's College Research Institute, Women's College Hospital, Canada, ²University of Toronto, Canada, ³Beaumont Health, United States, ⁴Trillium Health Partners, Canada, ⁵University Health Network, Canada
Disclosures: Joanne Kotsopoulos, None
- MON-0791 Calcaneal Quantitative Ultrasonography Measures and Cardiovascular and All-Cause Mortality in Older Women: a Prospective Study**
 Joshua Lewis*¹, Kun Zhu², Wai Lim³, Richard Prince⁴. ¹School of Medical and Health Sciences, Edith Cowan University, Australia, ²University of Western Australia, Australia, ³Sir Charles Gairdner Hospital, Australia, ⁴Medical School, University of Western Australia, Australia
Disclosures: Joshua Lewis, None
- MON-0792 Influence of combined hormonal contraception on 10-year areal bone mineral density change in premenopausal women in the population-based Canadian Multicentre Osteoporosis Study (CaMos)**
 Heather Macdonald*¹, Claudie Berger², Suzanne Morin², Christopher Kovacs³, David Hanley⁴, Tassos Anastassiades⁵, Stephanie Kaiser⁶, David Goltzman², Jerilynn Prior¹. ¹University of British Columbia, Canada, ²McGill University, Canada, ³Memorial University of Newfoundland, Canada, ⁴University of Calgary, Canada, ⁵Queen's University, Canada, ⁶Dalhousie University, Canada
Disclosures: Heather Macdonald, None
- MON-0793 Osteoporosis risk factors in elder Chinese and Caucasian Canadians: the Canadian Multicentre Osteoporosis Study**
 Suzanne N Morin*¹, Claudie Berger², David A Hanley³, Steven K Boyd³, Jerilynn C Prior⁴, Andy Ko Wong⁵, Angela M Cheung⁵, Alexandra Papaioannou⁶, Elham Rahme¹, David Goltzman¹. ¹McGill University, Canada, ²Research Institute of the McGill University Health Centre, Canada, ³University of Calgary, Canada, ⁴University of British Columbia, Canada, ⁵University of Toronto, Canada, ⁶McMaster University, Canada
Disclosures: Suzanne N Morin, None

- MON-0794** **Prospective Study of Body Mass Index, Waist Circumference and Risk of Clinical Vertebral Fracture in Women**
Julie M Paik*¹, Harold N Rosen², Jeffrey N Katz¹, Bernard A Rosner¹, Catherine M Gordon³, Gary C Curhan¹. ¹Brigham and Women's Hospital, Harvard Medical School, United States, ²Beth Israel Deaconess Medical Center, Harvard Medical School, United States, ³Cincinnati Children's Hospital Medical Center, University of Cincinnati College of Medicine, United States
Disclosures: Julie M Paik, None
- MON-0795** **Long-Term Effect of Aromatase Inhibitors on Fracture Risk Compared to Tamoxifen: a "Real World" Cohort Study of Continued Treatment Up to Ten Years of Follow-Up**
Marta Pineda-Moncusí*¹, Natalia Garcia-Giralt¹, Adolfo Diez-Perez¹, Ignasi Tusquets², Sonia Servitja², Joan Albanell^{2,3}, Daniel Prieto-Alhambra⁴, Xavier Nogues¹. ¹IMIM (Hospital del Mar Research Institute), Centro de Investigación Biomédica en Red de Fragilidad y Envejecimiento Saludable (CIBERFES), Spain, ²Cancer Research Program, IMIM (Hospital del Mar Research Institute), Spain, ³Medical Oncology Department of Hospital del Mar- CIBERONC, Spain, ⁴Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, University of Oxford, and NIHR Oxford Biomedical Research Centre, United Kingdom
Disclosures: Marta Pineda-Moncusí, None
- MON-0796** **Community dwelling Premenopausal Women with Polycystic Ovary Syndrome/ Anovulatory Androgen Excess (PCOS/AEE) Experience more Prevalent Fractures than Regional Population-based Control Women from the BC Centre of the Canadian Multicentre Osteoporosis Study (CaMos)**
Azita Gostasebi *, Shirin Kalyan, Bernice Liang, Jerilynn Prior. University of British Columbia, Canada
Disclosures: Azita Gostasebi , None
- MON-0797** **Why does low self-rated health increase the risk of hip fractures?**
Hans Ranch Lundin*, Helena Salminen. Karolinska Institutet, Sweden
Disclosures: Hans Ranch Lundin, None
- MON-0798** **Differences in Geometric Strength at the Contralateral Hip between Men with Hip Fracture and Non-Fractured Comparators**
Alan Rathbun*¹, Jay Magaziner¹, Michelle Shardell², Thomas Beck³, Laura Yerges-Armstrong⁴, Denise Orwig¹, Gregory Hicks⁵, Shabnam Salimi¹, Alice Ryan¹, Marc Hochberg¹. ¹University of Maryland School of Medicine, United States, ²National Institute on Aging, United States, ³Beck Radiological Innovations, United States, ⁴GlaxoSmithKline, United States, ⁵University of Delaware, United States
Disclosures: Alan Rathbun, None
- MON-0799** **The Impact of a Beta Trabecular Bone Score (TBS) Algorithm Accounting for Soft Tissue Thickness Correction on the Prediction of Incident Major Osteoporotic Fracture (MOF) Risk in Postmenopausal Women: The OsteoLaus Study**
Enisa Shevroja*, Olivier Lamy, Berengere Aubry-Rozier, Gabriel Hans, Elena Gonzalez Rodriguez, Delphine Stoll, Didier Hans. Center of Bone Diseases, Bone and Joint Department, Lausanne University Hospital, Switzerland
Disclosures: Enisa Shevroja, None
- MON-0800** **WITHDRAWN**
- MON-0801** **Weight Gain is Associated with Increased Bone Mineral Density (BMD) Even in Postmenopausal Women**
Sikarin Upala*, Amber Olson, Tamara Vokes. University of Chicago, United States
Disclosures: Sikarin Upala, None
- MON-0802** **Fracture Risk is not Increased in Transwomen and Transmen Receiving Long-term Gender-affirming Hormonal Treatment: a Nationwide Cohort Study**
Chantal Wiepjes*, Christel De Blok, Renate De Jongh, Martin Den Heijer. VU University Medical Center, Netherlands
Disclosures: Chantal Wiepjes, None

MON-0803 Decreased mortality risk, but unchanged subsequent fracture risk after introduction of a fracture liaison service: a 3 year follow-up survey

Caroline E Wyers^{*1,2}, Johanna Hm Driessen², Lisanne Vranken^{3,4}, Irma Ja De Bruin^{3,4}, Piet P Geusens⁵, Robert Y Van Der Velde^{3,4}, Heinrich M Janzing⁶, Sjoerd Kaarsemaker⁷, Jacqueline Center^{8,9}, Dana Bliuc⁸, John A Eisman¹⁰, Joop Pw Van Den Bergh^{3,4}. ¹Department of Internal Medicine, VieCuri Medical Center, Netherlands, ²Maastricht UMC+, CAPHRI Care and Public Health Research Institute, NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Clinical Pharmacy and Toxicology, Netherlands, ³VieCuri Medical Center, Department of Internal Medicine, Netherlands, ⁴Maastricht UMC+, NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Internal Medicine, Netherlands, ⁵Maastricht UMC+, CAPHRI Care and Public Health Research Institute, Department of Internal Medicine subdivision of Rheumatology; Hasselt University, Netherlands, ⁶VieCuri Medical Center, Department of Surgery, Netherlands, ⁷VieCuri Medical Center, Department of Orthopedic Surgery, Netherlands, ⁸Osteoporosis and Bone Biology Program, Garvan Institute of Medical Research, Australia, ⁹Clinical School St Vincent's Hospital, Faculty of Medicine, UNSW Australia, Australia, ¹⁰Osteoporosis and Bone Biology Department, Clinical Translation and Advanced Education, Garvan Institute, Clinical School, St Vincent's Hospital, Faculty of Medicine UNSW Australia, School of Medicine, University of Notre Dame, Australia
Disclosures: Caroline E Wyers, None

OSTEOPOROSIS - HEALTH SERVICES RESEARCH

MON-0818 Health Literacy and Readiness to Initiate Treatment for Osteoporosis in an At-risk Sample of US Women

Michael Miller*, Maria I. Danila, Amy Mudano, Ryan Outman, Elizabeth Rahn, Kenneth Saag. University of Alabama at Birmingham, United States
Disclosures: Michael Miller, None

MON-0819 The Burden of Recurrent Fragility Fractures in a Regional Hospital in Singapore

Linsey Gani*, Nicholas Tan , Vivien Tan , Joan Khoo, Thomas King. Changi General Hospital, Singapore
Disclosures: Linsey Gani, None

MON-0820 Service level predictors of bone treatment recommendations after a fragility fracture: Baseline findings from the first UK patient level Fracture Liaison Service Audit

Muhammad Javaid^{*1}, Xavier Griffin¹, David Stephens², Tim Jones³, Sonya Stephenson³, Michael Stone⁴, Clare Cockill⁵, Alison Smith⁶, Iona Price⁶, Celia Gregson⁷, Frances Dockery⁸, Rachel Bradley⁹, Neil Gittoes¹⁰, Daniel Prieto-Alhambra¹, Cyrus Cooper¹¹, Catherine Gallagher¹², Naomi Vasilakis¹². ¹NDORMS, University of Oxford, United Kingdom, ²NHS West Kent CCG, United Kingdom, ³National Osteoporosis Society, United Kingdom, ⁴Bone Research Unit, University Hospital Llandough, United Kingdom, ⁵Rheumatology Department, Yeovil Hospital, United Kingdom, ⁶Patient representative, Royal College of Physicians, United Kingdom, ⁷School of Clinical Sciences, University of Bristol, United Kingdom, ⁸Ageing and Health Services, Guy's and St Thomas' NHS Foundation Trust, United Kingdom, ⁹Geriatric Medicine, University Hospitals Bristol NHS Foundation Trust, United Kingdom, ¹⁰Centre for Endocrinology, Diabetes and Metabolism, University of Birmingham, United Kingdom, ¹¹MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ¹²Royal College of Physicians, United Kingdom
Disclosures: Muhammad Javaid, UCB, Speakers' Bureau, UCB, Amgen, Consultant, Amgen, Grant/Research Support

- MON-0821** **Cost-effectiveness Evaluation of a Screening Programme for Fracture Risk in UK**
 Fredrik Borgström*¹, Emma Jonsson¹, Nick Harvey², Lee Shepstone³, Elizabeth Lenaghan³, Shane Clarke⁴, Neil Gittoes⁵, Ian Harvey⁶, Richard Holland³, Alison Heawood⁷, Niamh Redmond⁸, Amanda Howe³, Tanya Marshall¹⁰, Tim Peters⁷, David Torgerson¹¹, Terence O'Neill⁹, Eugene McCloskey¹², Cyrus Cooper², John Kanis¹². ¹Quantify Research, Sweden, ²MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ³University of East Anglia, School of Medicine, United Kingdom, ⁴University Hospitals Bristol BS2 8HW, United Kingdom, ⁵University Hospital Birmingham, Endocrinology, United Kingdom, ⁶University of East Anglia, School of Medicine, Health Policy and Practice, United Kingdom, ⁷Bristol Medical School, University of Bristol, United Kingdom, ⁸University of Bristol, United Kingdom, ⁹University of Manchester, United Kingdom, ¹⁰Norfolk and Norwich University Hospital, Department of Rheumatology, United Kingdom, ¹¹York University, York Trials Unit, United Kingdom, ¹²University of Sheffield, United Kingdom
Disclosures: Fredrik Borgström, None
- MON-0822** **Understanding the Patient Experience and Challenges to Osteoporosis Care Delivered Virtually by Telemedicine**
 Patricia Palcu*¹, Sarah Munce², Susan B. Jaglal³, Sonya Allin¹, Arlene Silverstein⁴, Sandra Kim⁵. ¹University of Toronto, Canada, ²Toronto Rehabilitation Institute, University Health Network, Canada, ³University of Toronto, Department of Physical Therapy, Canada, ⁴Women's College Hospital, Canada, ⁵University of Toronto, Women's College Hospital, Canada
Disclosures: Patricia Palcu, None
- MON-0823** **Knowledge Translation: Implementation of Recommendations for Fracture Prevention in Long-Term Care**
 Alexandra Papaioannou*¹, George Ioannidis¹, Mary-Lou Van Der Horst², Caitlin Mcarthur², Loretta M. Hillier², Ravi Jain³, Susan Jaglal⁴, Jonathan D. Adachi¹, Lora Giangregorio⁴. ¹McMaster University, Canada, ²Geriatric Education and Research In Aging Sciences (GERAS) Centre, Canada, ³Osteoporosis Canada, Canada, ⁴University of Toronto, Canada
Disclosures: Alexandra Papaioannou, None

OSTEOPOROSIS - NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY

- MON-0848** **Hip Bone Loss Persists One Year Following an Intentional Weight Loss Intervention in Older Adults**
 Kristen Beavers*¹, Michael Walkup², Walter Ambrosius², Leon Lenchik², Sue Shapses³, Barbara Nicklas², Anthony Marsh¹, Jack Rejeski¹. ¹Wake Forest University, United States, ²Wake Forest School of Medicine, United States, ³Rutgers University, United States
Disclosures: Kristen Beavers, None
- MON-0849** **Effective exercise for osteoporosis in the real world: Three year observations from The Bone Clinic**
 Belinda Beck*¹, Lisa Weis². ¹Griffith University, Australia, ²The Bone Clinic, Australia
Disclosures: Belinda Beck, The Bone Clinic, Other Financial or Material Support
- MON-0850** **Effect of high dose vitamin D on free 25(OH)D and ionised calcium in vitamin D-deficient postmenopausal women**
 Simon Bowles*¹, Jennifer Walsh¹, Richard Jacques¹, Eastell Richard¹, Thomas Hill². ¹University of Sheffield, United Kingdom, ²Newcastle University, United Kingdom
Disclosures: Simon Bowles, None

- MON-0851** **Effect of Home Exercise on Functional Performance, Posture, Quality of Life and Pain in Older Women with Vertebral Fractures: A Pilot Feasibility Trial**
 Jenna C. Gibbs*¹, Jonathan D. Adachi², Maureen C. Ashe³, Robert Bleakney⁴, Angela M. Cheung⁴, Keith D. Hill⁵, David L. Kendler³, Aliya Khan², Sandra Kim⁶, Judi Laprade⁴, Caitlin McArthur⁷, Nicole Mittmann⁸, Alexandra Papaioannou², Sadhana Prasad², Samuel C. Scherer⁹, Lehana Thabane², John D. Wark⁹, Lora M. Giangregorio¹. ¹University of Waterloo, Canada, ²McMaster University, Canada, ³University of British Columbia, Canada, ⁴University of Toronto, Canada, ⁵Curtin University, Australia, ⁶Women's College Hospital, Canada, ⁷GERAS Centre for Aging Research, Canada, ⁸Cancer Care Ontario, Canada, ⁹University of Melbourne, Australia
Disclosures: Jenna C. Gibbs, None
- MON-0852** **Changes in Vascular Calcification and Bone Mineral Density in Calcium Supplement Users from the Canadian Multi-center Osteoporosis Study (CaMOS).**
 Maggie Hulbert*¹, Rachel Holden². ¹Queen's University, Canada, ²Kingston General Hospital, Canada
Disclosures: Maggie Hulbert, None
- MON-0853** **3D analysis of the cortical and trabecular bone of elite female athletes involved in high- and low-impact sports**
 Ludovic Humbert*¹, Luis Del Río², Antonia Lizarraga³, Montserrat Bellver⁴, Renaud Winzenrieth¹, Amineh Amani², Franckek Drobnic³. ¹Galgo Medical, Spain, ²CETIR Centre Medic, Spain, ³Football Club Barcelona, Spain, ⁴Centro de alto Rendimiento, Spain
Disclosures: Ludovic Humbert, Galgo Medical, Major Stock Shareholder
- MON-0854** **Yoga-related bony spine injuries**
 Melody Lee*, Mehrsheed Sinaki. Mayo Clinic, United States
Disclosures: Melody Lee, None
- MON-0855** **Relationships between high sodium intake and trabecular bone score as well as fracture in postmenopausal women**
 Kiyoko Nawata*¹, Mika Yamauchi², Masahiro Yamamoto², Toshitsugu Sugimoto². ¹Health and Nutrition, The University of Shimane, Faculty of Nursing and Nutrition, Japan, ²Internal Medicine 1, Shimane University Faculty of Medicine, Japan
Disclosures: Kiyoko Nawata, None
- MON-0856** **A Randomized Trial of Vitamin D Supplementation in Healthy Inner-city Children**
 Christine Simpson*¹, Jane Zhang², Dirk Vanderschueren³, Lei Fu⁴, Teresita Pennestri¹, Roger Bouillon³, David Cole⁴, Thomas Carpenter¹. ¹Yale University School of Medicine, United States, ²VA Connecticut Healthcare System, United States, ³Katholieke Universiteit Leuven, Belgium, ⁴University of Toronto, Canada
Disclosures: Christine Simpson, None
- MON-0857** **Low T3 is Associated with Decreased Bone Turnover Rate in Exercising Women with Eumenorrhea and Amenorrhea**
 Emily Southmayd*, Andrew Oneglia, Rebecca Mallinson, Nancy Williams, Mary Jane De Souza. The Pennsylvania State University, United States
Disclosures: Emily Southmayd, None
- MON-0858** **Supervised high intensity resistance and impact training does not cause vertebral crush fractures and improves thoracic kyphosis in postmenopausal women with low to very low bone mass: The LIFTMOR Trial**
 Steven Watson*¹, Benjamin Weeks¹, Lisa Weis², Amy Harding¹, Sean Horan¹, Belinda Beck¹. ¹School of Allied Health Sciences, Griffith University, Gold Coast, Australia, ²The Bone Clinic, Brisbane, Queensland, Australia
Disclosures: Steven Watson, None

OSTEOPOROSIS - PATHOPHYSIOLOGY

- MON-0871** **Kynurenine Regulates Osteogenesis in Aging Through miRNAs 29b-1-5p and 141-3p**
Khaled Hussein*¹, Ahmed Elmansi¹, Sudharsan Periyasamy-Thandavan², Galina Kondrikova¹, Wendy Bollag³, Sadanand Fulzele⁴, Xingming Shi⁵, Meghan Mcgee-Lawrence¹, Mark Hamrick¹, Carlos Isales⁵, William Hill². ¹Department of Cellular Biology and Anatomy, Augusta University, United States, ²Department of Cellular Biology and Anatomy, Augusta University, Georgia, ³Department of Physiology, Augusta University, United States, ⁴Department of Orthopedic Surgery, Medical College of Georgia, United States, ⁵Department of Neuroscience and Regenerative Medicine, Augusta University, United States
Disclosures: Khaled Hussein, None
- MON-0872** **Exome sequencing and functional follow-up identifies KIF26B as a novel genetic determinant of familial osteoporosis**
Melissa M Formosa*¹, Robert Formosa², Herma C Van Der Linde³, Juriaan R Metz⁴, Gert Flik⁴, Deepak Kumar Khajuria⁵, David Karasik⁵, M Carola Zillikens⁶, Rob Willemsen³, Andre G Uitterlinden⁶, Tjakkko J Van Ham³, Fernando Rivadeneira⁶, Annemieke Jmh Verkerk⁶, Angela Xuereb-Anastasi¹. ¹Department of Applied Biomedical Science, Faculty of Health Sciences, University of Malta, Msida, Malta, ²Department of Medicine, Faculty of Medicine and Surgery, University of Malta, Msida, Malta, ³Department of Clinical Genetics, Erasmus University Medical Center, Rotterdam, Netherlands, ⁴Department of Animal Physiology, Institute for Water and Wetland Research, Faculty of Science, Radboud University Nijmegen, Nijmegen, Netherlands, ⁵The Musculoskeletal Genetics Laboratory, Azrieli Faculty of Medicine, Bar-Ilan University, Safed 1311502, Israel, ⁶Department of Internal Medicine, Erasmus University Medical Center, Rotterdam, Netherlands
Disclosures: Melissa M Formosa, None
- MON-0873** **MIR4697HG knockdown prevents ovariectomy-induced osteoporosis in mice**
Chanyuan Jin*, Yongsheng Zhou. Peking University School and Hospital of Stomatology, China
Disclosures: Chanyuan Jin, None
- MON-0874** **Age related changes in bone microstructure, bone turnover markers, and serum pentosidine levels: HR-pQCT study in healthy Japanese men**
Narihiro Okazaki*, Ko Chiba, Mitsuru Doi, Kazuaki Yokota, Makoto Osaki. Department of Orthopaedic Surgery, Nagasaki University Hospital, Japan
Disclosures: Narihiro Okazaki, None
- MON-0875** **Upregulated osteoclastogenesis and accelerated mineralization associated with perlecan deficiency were rescued by exogenous heparin treatment in vitro**
Ashutosh Parajuli*, Ping Li, Jerahme Martinez, Catherine Kirn-Safran, Liyun Wang. University of Delaware, United States
Disclosures: Ashutosh Parajuli, None
- MON-0876** **Atrophic Non-union Fracture is Caused by Severe Damage on Periosteal Mesenchymal Progenitors and Fibrosis Derived from Non-osseous Tissue.**
Luqiang Wang*¹, Robert Tower¹, Abhishek Chandra², Yeji Zhang¹, Xiaowei Liu¹, Joel Boerckel¹, Xiaodong Guo³, Jaimo Ahn⁴, Ling Qin¹. ¹Department of Orthopaedic Surgery, Perelman School of Medicine, University of Pennsylvania, United States, ²Department of Physiology and Biomedical Engineering, Division of Geriatric Medicine & Gerontology, Mayo Clinic, United States, ³Department of Orthopaedics, Union Hospital, Tongji Medical college, Huazhong University of science and Technology, China, ⁴Orthopaedic Trauma and Fracture Reconstruction, Perelman School of Medicine, University of Pennsylvania, United States
Disclosures: Luqiang Wang, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS

- MON-0895 Bone mass of bariatric patients may recalibrate to new body weight**
Andrew Froehle*¹, Richard Sherwood², Richard Laughlin³, Dana Duren². ¹Wright State University, United States, ²University of Missouri, United States, ³University of Cincinnati, United States
Disclosures: Andrew Froehle, None
- MON-0897 Evaluation of bone indices by DXA and HR-pQCT in newly diagnosed hyperthyroidism due to Graves' Disease and associations with disease severity.**
Diana Grove-Laugesen*¹, Klavs Würzler Hansen², Eva Ebbelhoej¹, Torquil Watt³, Lars Rejnmark¹. ¹Aarhus University Hospital, Denmark, ²Regionshospitalet Silkeborg, Denmark, ³Rigshospitalet, Denmark
Disclosures: Diana Grove-Laugesen, None
- MON-0898 Bone Fragility after Spinal Cord Injury: Reductions in Stiffness and Bone Mineral at the Distal Femur and Proximal Tibia as a Function of Time.**
Ifaz Haider*¹, Stacey Lobos¹, Narina Simonian², Thomas Schmitzer², W Brent Edwards¹. ¹University of Calgary, Canada, ²Northwestern University, United States
Disclosures: Ifaz Haider, None
- MON-0899 EFFECT OF TNF INHIBITORS ON BONE MICROARCHITECTURE IN PATIENTS WITH ANKYLOSING SPONDYLITIS: A LONGITUDINAL STUDY BASED ON HIGH-RESOLUTION PERIPHERAL QUANTITATIVE BASED (HRPQCT)**
Nisha Nigil Haroon*¹, Angela Cheung², Robert Inman². ¹NOSM, Canada, ²University of Toronto, Canada
Disclosures: Nisha Nigil Haroon, AMGEN, Grant/Research Support
- MON-0900 Bone Mass, Geometry and Strength in Postmenopausal Women with Type 1 Diabetes**
Viral Shah*, Prakriti Joshee, Rachel Sippl, Dana Carpenter, Wendy Kohrt, Janet Snell-Bergeon. University of Colorado Denver, United States
Disclosures: Viral Shah, None
- MON-0901 Longitudinal Analysis of the Association between Glycemic Control and Sclerostin in Male Patients with Type 2 Diabetes**
Reiko Watanabe*, Nobuyuki Tai, Junko Hirano, Yoshiyuki Ban, Daisuke Inoue, Ryo Okazaki. Teikyo University Chiba Medical Center, Japan
Disclosures: Reiko Watanabe, None

OSTEOPOROSIS – TREATMENT

- MON-0943 Improvement of the functional status after CT-guided radiofrequency sacroplasty (RFS) and cement sacroplasty (CSP) in patients with insufficiency fractures of the sacrum – a prospective randomised comparison of methods**
Reimer Andresen*¹, Sebastian Radmer², Julian Ramin Andresen³, Mathias Wollny⁴, Urs Nissen⁵, Hans-Christof Schober⁶. ¹Institute of Diagnostic and Interventional Radiology/Neuroradiology, Westkuestenlinikum Heide, Academic Teaching Hospital of the Universities of Kiel, Luebeck and Hamburg, Heide, Germany, ²Centre of Orthopaedics, Germany, ³Sigmund Freud University, Medical School, Austria, ⁴Medimbursement, Germany, ⁵Department of Neurosurgery and Spine Surgery, Westkuestenlinikum Heide, Academic Teaching Hospital of the Universities of Kiel, Luebeck and Hamburg, Heide, Germany, ⁶Department of Internal Medicine I, Municipal Hospital Suedstadt Rostock, Academic Teaching Hospital of the University of Rostock, Germany
Disclosures: Reimer Andresen, None
- MON-0944 Abaloparatide Increases Bone Formation and Mass in Orchiectomized Male Rats with No Effect on Bone Resorption**
Heidi Chandler*¹, Daniel Brooks², Kenichi Nagano³, Dorothy Hu³, Mary Bouxsein², Roland Baron³, Gary Hattersley¹, Beate Lanske¹. ¹Radius Health Inc, United States, ²Beth Israel Hospital, Harvard Medical School, United States, ³Harvard School of Dental Medicine and Harvard Medical School, United States
Disclosures: Heidi Chandler, Radius Health Inc, Other Financial or Material Support

- MON-0945** **A Bisphosphonate with Low HA-Binding Affinity Prevents Bone Loss after Estrogen Loss and Reverses Rapidly when Treatment Ceases**
 Abigail Coffman*¹, Robert J. Majeska¹, Jelena Basta-Pljakic¹, Mark W. Lundy², Frank H. Ebetino³, Mitchell B. Schaffler¹. ¹City College of New York, United States, ²Indiana University School of Medicine, United States, ³University of Rochester, United States
Disclosures: Abigail Coffman, None
- MON-0946** **Denosumab treatment improves health related quality of life in patients with osteoporosis**
 Koji Fukuda*, Shinya Hayashi, Hanako Nishimoto, Yoshitada Sakai, Yasushi Miura, Ryosuke Kuroda, Tomoyuki Matsumoto, Koji Takayama, Shingo Hashimoto. Kobe University Graduate School of Medicine, Japan
Disclosures: Koji Fukuda, None
- MON-0947** **Multiple spontaneous vertebral fractures only 2 months after a missed dose of Denosumab**
 Sonaina Imtiaz*, Tamara Vokes. University of Chicago, United States
Disclosures: Sonaina Imtiaz, None
- MON-0948** **Assessing the Ability of Baseline Bone Turnover Markers to Predict the BMD Response for Denosumab Treatment in Patients with Osteoporosis: A Multicenter, Retrospective, Observational Study.**
 Koji Ishikawa*¹, Takashi Nagai¹, Yusuke Oshita², Msayuki Miyagi³, Gen Inoue³, Takeshi Eguro⁴, Kazuaki Handa¹, Tomoaki Toyone¹, Katsunori Inagaki¹. ¹Department of Orthopaedic Surgery, Showa University School of Medicine, Japan, ²Department of Orthopaedic Surgery, Showa University Northern Yokohama Hospital, Japan, ³Department of Orthopaedic Surgery, Kitasato University, School of Medicine, Japan, ⁴Department of Orthopaedic Surgery, Yamanashi Red Cross Hospital, Japan
Disclosures: Koji Ishikawa, None
- MON-0949** **An Approach to Defining Bisphosphonate Exposure in Observational Studies Using Pharmacy Databases**
 Monika Izano*¹, Romain Neugebauer¹, Bruce Ettinger¹, Rita Hui², Malini Chandra¹, Annette Adams³, Fang Niu², Susan Ott⁴, Joan Lo¹. ¹Division of Research, Kaiser Permanente Northern California, United States, ²Pharmacy Outcomes Research Group, Kaiser Permanente California, United States, ³Department of Research & Evaluation, Kaiser Permanente Southern California, United States, ⁴Department of Medicine, University of Washington, United States
Disclosures: Monika Izano, None
- MON-0950** **Denosumab therapy improved bone mineral density in Japanese geriatric osteoporotic patients previously treated with bisphosphonates**
 Jiro Kato*, Shusuke Ota, Takanobu Doi, Daiki Yonezu, Yasuyoshi Okamoto, Yuji Joyo. Department of Orthopaedic Surgery, Shizuoka Medical Center, National Hospital Organization, Japan
Disclosures: Jiro Kato, None
- MON-0951** **Osteoporosis Treatment Rate Following Hip Fracture in a Community Hospital**
 Farhan Tariq*¹, Moin Khan¹, Madiha Tauqir¹, Paul Zalzal¹, Sacha Dubois², Rafik El Werfalli¹, Simona Abid¹, Bradley Weening¹, Mark Ginty¹, Hajar Abu Alrob¹, Aliya Khan¹. ¹McMaster University, Canada, ²Lakehead University, Canada
Disclosures: Farhan Tariq, None
- MON-0952** **Improvement of anti-osteoporosis medication after multimodal intervention in patients with hip fracture: prospective multicenter study**
 Deog-Yoon Kim*¹, Hyoung Moo P², Yong-Chan Ha³. ¹Kyung Hee University Hospital, Republic of Korea, ²Grace Women's Hospital, Republic of Korea, ³Chung-Ang University, Republic of Korea
Disclosures: Deog-Yoon Kim, None

- MON-0953** **A retrospective review of initial bisphosphonate infusion in an inpatient vs. outpatient setting for bisphosphonate naïve patients.**
 Rose Kreikemeier*, Eric Rush, Lisa Halbur, Heather Gosnell. Childrens Hospital & Medical Center, United States
Disclosures: Rose Kreikemeier, None
- MON-0954** **Local Osteo-Enhancement Procedure Increases Femoral Raw Trabecular Bone Score (rTBS) at 5-7 Year Follow-up in Osteoporotic Patients**
 Christophe Lelong*¹, John Stroncek², James Howe², Bryan Huber³, Ronald Hill², Didier Hans⁴. ¹Medimaps Group Plan-les-Ouates, Switzerland, ²AgNovos Healthcare, United States, ³Copley Hospital, United States, ⁴Lausanne University Hospital, Switzerland
Disclosures: Christophe Lelong, Medimaps, Other Financial or Material Support
- MON-0955** **Global Development of Bone Health TeleECHO to Improve the Care of Patients with Skeletal Diseases**
 E. Michael Lewiecki*¹, Rachele Rochelle², Matthew F. Bouchonville II², Avery Jackson³, Anne Lake⁴, John Carey⁵, Zhanna Belaya⁶, Varta Babalyan⁷, Diana Wiluzanski⁸. ¹New Mexico Clinical Research & Osteoporosis Center, United States, ²UNM Health Sciences Center, United States, ³Michigan Neurosurgical Institute, United States, ⁴Wake Forest University, United States, ⁵NUI Galway, Ireland, ⁶National Centre for Endocrinology, Russian Federation, ⁷Armenian Osteoporosis Association, Armenia, ⁸Centroseo - Densitometria Osea, Uruguay
Disclosures: E. Michael Lewiecki, None
- MON-0956** **The Effects of Bisphosphonate at the Nanoscale: Effects on Bone Collagen, Mineral Strain and Collagen-Mineral Interaction**
 Shaocheng Ma*¹, En Lin Goh², Angelo Karunaratne³, Crispin Wiles⁴, Yong Wu⁴, Oliver Boughton⁵, Tabitha Tay⁴, John Churchwell⁶, Rajarshi Bhattacharya⁷, Nick Terrill⁸, Justin Cobb⁹, Ulrich Hansen⁸, Richard Abel⁸. ¹MEng, United Kingdom, ²BSc, United Kingdom, ³PhD, MEng, Sri Lanka, ⁴MSc, United Kingdom, ⁵MBBS, MRCS, BSc, United Kingdom, ⁶PhD, MSc, United Kingdom, ⁷MBBS, MRCS, MRCS, FRCS, United Kingdom, ⁸PhD, United Kingdom, ⁹MBBS, MRCS, FRCS, United Kingdom
Disclosures: Shaocheng Ma, None
- MON-0957** **A multicenter, randomized, open label, parallel group study to evaluate the efficacy of loxoprofen on acute-phase reactions in Japanese primary osteoporosis patients treated with zoledronic acid**
 Akinori Sakai*¹, Satoshi Ikeda², Hidehiro Matsumoto³, Nobukazu Okimoto⁴, Kunitaka Menuki¹, Tomohiro Kobayashi⁵, Toru Yoshioka⁵, Toru Ishikura⁶, Saeko Fujiwara⁷.
¹Department of Orthopedic surgery, School of Medicine, University of Occupational and Environmental Health, Fukuoka, Japan, ²Department of Orthopedic Surgery, Ken-Ai Memorial Hospital, Japan, ³Department of Orthopedic Surgery, Sanzai Hospital, Japan, ⁴Okimoto Clinic, Japan, ⁵Department of Orthopedic surgery, Shimura Hospital, Japan, ⁶Department of Orthopedics, Youmeikai Obase Hospital, Japan, ⁷Faculty of Pharmacy, Yasuda Women's University, Japan
Disclosures: Akinori Sakai, None
- MON-0958** **Anti-sclerostin Antibodies for the Treatment of Osteoporosis: A Systematic Review and Meta-analysis**
 Xerxes Pundole*, Maria Lopez-Olivo, Maria Suarez-Almazor, Huifang Lu. Department of General Internal Medicine, Section of Rheumatology and Clinical Immunology, The University of Texas MD Anderson Cancer Center, United States
Disclosures: Xerxes Pundole, None

- MON-0959 Effectiveness of Intravenous Ibandronate on Bone Mineral Density in Patient with Osteoporosis Treated with Oral Bisphosphonate Low-responders -MOVEMENT Study-**
 Hiroshi Hagino*¹, Akinori Sakai², Satoshi Ikeda³, Yasuo Imanishi⁴, Hiroshi Tsurukami⁵, Satoru Nakajo⁶, Naohisa Miyakoshi⁷. ¹Tottori University, Japan, ²University of Occupational and Environmental Health, Japan, ³Ken-Ai Memorial Hospital, Japan, ⁴Osaka City University Graduate School of Medicine, Japan, ⁵Tsurukami Clinic of Orthopedics and Rheumatology, Japan, ⁶Nakajou Orthopaedic Clinic, Japan, ⁷Akita University Graduate School of Medicine, Japan
Disclosures: Hiroshi Hagino, Mitsubishi Tanabe Pharma Corp., Grant/Research Support, Ono Pharmaceutical Co., Ltd., Speakers' Bureau, Astellas Pharma Inc., Speakers' Bureau, Takeda Pharmaceutical Co., Ltd., Speakers' Bureau, Daiichi Sankyo Co., Ltd., Speakers' Bureau, Eli Lilly Japan K.K., Speakers' Bureau, Asahi Kasei Pharma Corp., Speakers' Bureau, MSD, Speakers' Bureau, Pfizer Inc., Grant/Research Support, Teijin Pharma Co., Ltd., Speakers' Bureau, Chugai Pharmaceutical Co., Ltd., Speakers' Bureau, Eisai Co., Ltd., Speakers' Bureau
- MON-0960 A fracture liaison in an orthopaedic office did not improve adherence to treatment for patients with osteoporosis**
 Patricia Seuffert*¹, Carlos A. Sagebein², Dorene O' Hara². ¹University Orthopaedic Associates, LLC, United States, ²UOA, LLC, United States
Disclosures: Patricia Seuffert, None
- MON-0961 Teriparatide improves healing of medication-related osteonecrosis of the jaw: a placebo-controlled, randomized trial**
 Ie-Wen Sim*¹, Gelsomina Borromeo², John Seymour³, Peter Ebeling⁴. ¹Melbourne Medical School, University of Melbourne, Australia, ²Eastern Health Clinical School, Monash University, Australia, ³Department of Haematology, Peter MacCallum Cancer Centre, Australia, ⁴Department of Medicine, Monash University, Australia
Disclosures: Ie-Wen Sim, None
- PARACRINE REGULATORS**
- MON-0970 Sex and Diet Specific Differences In Bone Mass of 4 Mouse Strains: Can Mice Tell Us What to Eat for Bone Health?**
 Rihana Bokhari*, Peter Schneider, William Barrington, Alyssa Falck, Alexis Mitchell, Shannon Huggins, Diarra Williams, Larry Suva, David Threadgill, Dana Gaddy. Texas A&M University, United States
Disclosures: Rihana Bokhari, None
- MON-0971 Immune system, bone and fat axis: the role of LIGHT/TNFSF14**
 Giacomina Brunetti*¹, Graziana Colaianni², Sara Bortolotti², Giuseppina Storlino², Adriana Di Benedetto³, Maria Felicia Faienza⁴, Carl Ware⁵, Silvia Colucci¹, Maria Grano². ¹Department of Basic and Medical Sciences, Neurosciences and Sense Organs, Section of Human Anatomy and Histology, University of Bari, Italy, ²Department of Emergency and Organ Transplantation, Section of Human Anatomy and Histology, University of Bari, Italy, ³Department of Clinical and Experimental Medicine, University of Foggia, Foggia, Italy, ⁴Department of Biomedical Sciences and Human Oncology, Section of Pediatrics University of Bari, Bari, Italy, ⁵Infectious and Inflammatory Disease Center, Sanford Burnham Prebys Medical Discovery Institute, La Jolla, CA, United States
Disclosures: Giacomina Brunetti, None
- MON-0972 Deletion of CXCL12 in Osteoblasts and Osteocytes Results in Lower Trabecular Bone Volume**
 Chao Liu*, Pamela Cabahug, Shahar Qureshi, Olivia Patton, Cinyee Cai, Alesha Castillo. New York University, United States
Disclosures: Chao Liu, None

PRECLINICAL MODELS: NUTRITION AND PHARMACOLOGY

- MON-1004 Intra-articular Parathyroid Hormone (1-34) Improved Knee function in Aging-related Osteoarthritis without Affecting Subchondral Bone**
Chung-Hwan Chen^{*1}, Ling-Hua Chang¹, Sung-Yen Lin¹, Lin Kang², Yi-Shan Lin¹, Shun-Cheng Wu¹, Je-Ken Chang¹, Mei-Ling Ho¹, Shih-Tse Chen³. ¹Kaohsiung Medical University, Taiwan, ²National Cheng Kung University, Taiwan, ³National Taiwan University Hospital Hsin-Chu Branch, Taiwan
Disclosures: Chung-Hwan Chen, None
- MON-1005 Bariatric Surgery in mice leads to decreased bone mass over time**
Katrien Corbeels^{*}, Lieve Verlinden, Matthias Lannoo, Ann Mertens, Christophe Mathys, Annemieke Verstuyf, Ann Meulemans, Geert Carmeliet, Bart Van Der Schueren. KU Leuven, Department of Chronic Diseases, Metabolism & Ageing (CHROMETA), Clinical and Experimental Endocrinology, Leuven, Belgium
Disclosures: Katrien Corbeels, None
- MON-1006 High Dose Calcitriol Induces Vascular Calcification in Non-CKD Rats**
Corey Forster^{*1}, Kimberly Laverty¹, Cynthia Pruss¹, Mandy Turner¹, Rachel Holden², Michael Adams¹. ¹Queen's University Department of Biomedical and Molecular Sciences, Canada, ²Queen's University Department of Medicine, Canada
Disclosures: Corey Forster, None
- MON-1007 Treatment with LpPLA2 inhibitor reduces osteopenic bone loss in diabetic and hypercholesterolemic pig model.**
Theresa Freeman^{*}. Thomas Jefferson University, United States
Disclosures: Theresa Freeman, None
- MON-1008 Combined Caloric and Dietary Protein Restriction Has a Synergistic Negative Impact on Bone Mass**
Ke-Hong Ding^{*1}, Tianyang Guo¹, Jianrui Xu¹, Qing Zhong¹, Wendy Bollag^{1,2}, Meghan Mcgee-Lawrence¹, William Hill^{1,2}, Xing-Ming Shi¹, Mohammed Elsalanty³, Sadanand Fulzele¹, Beom-Jun Kim⁴, Mark Hamrick¹, Carlos Isales¹. ¹Medical College of Georgia, United States, ²Charlie Norwood VA Medical Center, United States, ³School of Dental Medicine, United States, ⁴University of Ulsan College of Medicine, Republic of Korea
Disclosures: Ke-Hong Ding, None
- MON-1009 Repurposing PDE5 Inhibitors for Osteoporosis – Erecting Bone**
Se-Min Kim^{*}, Li Sun, Lubna Munshi, Tony Yuen, Mone Zaidi. Icahn School of Medicine at Mount Sinai, United States
Disclosures: Se-Min Kim, None
- MON-1010 Apolipoprotein A-I Prevents Osteoporosis and Promotes Osteogenesis of Mesenchymal Stem Cells via STAT3 and CXCL6/8**
Yu-Chuan Liu^{*}, Jean Lu. Genomic Research Center, Academia Sinica, Taiwan
Disclosures: Yu-Chuan Liu, None
- MON-1011 Butyrate Mediates The Bone Anabolic Activity Of The Probiotic *L. rhamnosus* GG Via A Regulatory T Cell Mediated Pathway**
Abdul Malik Tyagi^{*}, Mingcan Yu, Trevor M. Darby, Chiara Vaccaro, Jau-Yi Li, Joshua A. Owens, Emory Hsu, Jonathan Adams, Rheinallt M. Jones, Roberto Pacifici. Emory University, United States
Disclosures: Abdul Malik Tyagi, None
- MON-1012 Influence of a 17 β -hydroxysteroid dehydrogenase type 2 (17 β -HSD2) selective inhibition on ovariectomy induced bone loss in Wistar rats**
Sebastian T. Müller^{*1}, Sophie Pählig¹, Ahmed Merabet², Chris Van Koppen³, Sandrine Marchais-Oberwinkler², Rolf W. Hartmann³, Oliver Zierau¹, Günter Vollmer¹. ¹Technische Universität Dresden, Molecular Cell Physiology and Endocrinology, Institute for Zoology, Dresden, Germany, ²Institute for Pharmaceutical Chemistry, Philipps University Marburg, 35032 Marburg, Germany, ³Pharmaceutical and Medicinal Chemistry, Saarland University, Campus E8.1, 66123 Saarbrücken, Germany
Disclosures: Sebastian T. Müller, None

- MON-1013 Bilateral Distal Femoral Epiphyseal Defect Models for Safety Testing: A 5-Week Rat Bone Healing Study**
Luis Fernando Negro Silva*¹, Julius Haruna¹, Pritpal Malhi¹, Simon Authier¹, Yannick Trudel², Raluca Kubaszyk¹, Michel Assad². ¹Citoxlab North America, Canada, ²AccelLAB Inc., Canada
Disclosures: Luis Fernando Negro Silva, None
- MON-1014 Prevention of spaceflight-induced Osteoarthritis: a potential dietary countermeasure**
Elizabeth Blaber*, Ann-Sofie Schreurs. NASA USRA, United States
Disclosures: Elizabeth Blaber, None
- MON-1015 Anatomic Deconvolution of Vascular and Osteoanabolic Responses in Osseointegration**
Kathleen Turajane*¹, Ed Purdue¹, Gang Ji¹, Ugur Ayturk¹, Matthew Greenblatt², Xu Yang¹, Mathias Bostrom¹. ¹Hospital for Special Surgery, United States, ²Weill Cornell Medical College, United States
Disclosures: Kathleen Turajane, None
- MON-1016 Measurement of lipid metabolites in a mouse model of breast cancer using imaging mass spectrometry shows specific signals linked to CYP27B1 gene ablation**
Mengdi Xing *¹, Jiarong Li¹, Ethan Yang ², Pierre Chaurand ², Richard Kremer¹. ¹RI MUHC, Canada, ²University Montreal, Canada
Disclosures: Mengdi Xing , None
- MON-1017 Calcium absorption is positively affected by feeding a yogurt containing GOS obtained from enzymatic action on milk lactose. Experimental study.**
M Seijo*¹, C Vénica ², MI Pita Martin De Portela ³, C Bergamini ², I Wolf ², Mc Perotti ², Sn Zeni¹. ¹Laboratorio de Enfermedades Metabólicas Óseas, Instituto de Inmunología, Genética y Metabolismo (INIGEM). Facultad de Farmacia y Bioquímica. Hospital de Clínicas, CONICET- UBA, Argentina, ²Instituto de Lactología Industrial (INLAIN) –Universidad Nacional del Litoral/CONICET, Facultad de Ingeniería Química, Santa Fe. Argentina, Argentina, ³Cátedra de Nutrición. Facultad de Farmacia y Bioquímica – UBA, Argentina
Disclosures: M Seijo, None
- MON-1018 Engineering Dual-Specific M-CSF Antagonists That Inhibit c-FMS And $\alpha v \beta 3$ Integrin As Anti Resorptive Compounds**
Yuval Zur*¹, Lior Rosenfeld¹, Gali Guterman - Ram², Niv Papo¹, Noam Levaot².
¹Department of Biotechnology Engineering and the National Institute of Biotechnology in the Negev, Ben-Gurion University of the Negev, Beer-Sheva, Israel. ²Department of Physiology and Cell Biology, Ben-Gurion University of the Negev, Beer-Sheva, Israel
Disclosures: Yuval Zur, None

RARE BONE DISEASES: CLINICAL

- MON-1058 Novel mutations in fibronectin associated with metaphyseal fractures – Expanding the phenotype of patients with a subtype of spondylomethaphyseal dysplasia with “corner fractures”**
Jessica J. Alm*¹, Alice Costantini¹, Helena Valta², Nissan Vida Baratang³, Patrick Yap⁴, Débora Bertola⁵, Guilherme Yamamoto⁵, Chong A. Kim⁵, Jiani Chen⁶, Klaas J. Wierenga⁶, Elizabeth A Fanning⁶, Luis Escobar ⁷, Kirsty Mcwalter⁸, Heather Mclaughlin⁸, Rebecca Willaert ⁸, Amber Begtrup ⁸, Dieter P. Reinhardt⁹, Outi Mäkitie^{1,10}, Philippe M Campeau^{3,11}.
¹Clinical Genetics, Center for Molecular Medicine, Karolinska Institutet, Sweden, ²Children’s Hospital, University of Helsinki and Helsinki University Hospital, Finland, ³CHU Sainte Justine Research Centre, University of Montr, Canada, ⁴Genetic Health Service New Zealand (Northern Hub), New Zealand, ⁵Clinical Genetics Unit, Instituto da Criança HC-FMUSP and Instituto de Biociências- Universidade de São Paulo, Brazil, ⁶University of Oklahoma Health Sciences Center, United States, ⁷Medical Genetics and Neurodevelopmental Pediatrics, St Vincent Children’s Hospital, Indianapolis, United States, ⁸GeneDx, United States, ⁹Department of Anatomy and Cell Biology, McGill University, Montreal, Canada, ¹⁰Children’s Hospital, University of Helsinki and Helsinki University Hospital, Finland, ¹¹Department of pediatrics, University of Montreal, Canada
Disclosures: Jessica J. Alm, None

- MON-1059 Quality Of Life is Not Impaired In Patients With Isolated Craniofacial Fibrous Dysplasia**
 Marlous Rotman*, Natasha Appelman-Dijkstra, Stijn Genders, Sander Dijkstra, Neveen Hamdy, LUMC, Netherlands
Disclosures: Marlous Rotman, None
- MON-1060 High prevalence of enthesopathies in patients with X-Linked Hypophosphatemia**
 Axelle Salcion *¹, Louis Lassalle², Valérie Merzoug³, Alessia Usardi ⁴, Anya Rothenbuhler⁴, Peter Kamenicky⁵, Christian Roux ⁶, Agnès Linglart ⁷, Karine Briot ⁶. ¹French Reference Center for Genetic Bone Diseases, Cochin Hospital, AssistancePublique- Hôpitaux de Paris, Paris, France, ²Department of Radiology, Cochin Hospital, AssistancePublique- Hôpitaux de Paris, France, ³Kremlin Bicêtre, France, ⁴Department of Pediatric Endocrinology, Reference Center for Rare Disorders of Calcium and Phosphate, Kremlin Bicêtre Hospital Assistance, France, ⁵Department of Endocrinology, Kremlin Bicetre Hospital, Assistance, France, ⁶Department of Rheumatology, French Reference Center for Genetic Bone Diseases, Cochin Hospital, AssistancePublique- Hôpitaux de Paris, France, ⁷Department of Pediatric Endocrinology, Reference Center for Rare Disorders of Calcium and Phosphate, France
Disclosures: Axelle Salcion , None
- MON-1061 Homozygous Calcium-sensing Receptor Polymorphism R544Q Presents as Hypocalcemic Hypoparathyroidism**
 Lucie Canaff*¹, Branca M. Cavaco², Alexis Nolin-Lapalme¹, Margarida Vieira², Tiago Silva², Ana Saramago², Rita Domingues², Valeriano Leite², Geoffrey N. Hendy¹. ¹Metabolic Disorders and Complications, McGill University Health Centre Research Institute, Canada, ²Instituto Português de Oncologia de Lisboa Francisco Gentil, Portugal
Disclosures: Lucie Canaff, None
- MON-1062 Cardiopulmonary Outcomes in Adults with Osteogenesis Imperfecta**
 Sobiah Khan*¹, Erin Carter¹, Robert Sandhaus², Cathleen Raggio¹. ¹Hospital for Special Surgery, United States, ²National Jewish Health, United States
Disclosures: Sobiah Khan, None
- MON-1063 Asymmetric metaphyseal dysplasia due to COL2A1 mutation with mosaicism**
 Lisa Cruz-Aviles, Md*¹, Thomas O. Carpenter, Md¹, Allen E. Bale, Md², Cemre Robinson, Md¹. ¹Yale University School of Medicine, Department of Pediatrics, Section of Endocrinology, United States, ²Department of Genetics, Yale School of Medicine, United States
Disclosures: Lisa Cruz-Aviles, Md, None
- MON-1064 Multiple Endocrine Neoplasia, type 4 - a Novel CDKN1B Mutation with High Penetrance of Primary Hyperparathyroidism**
 Anja Lisbeth Frederiksen*¹, Maria Rossing², Anne Pernille Hermann³, Charlotte Ejersted⁴, Morten Frost⁵. ¹Dept.of Clinical Genetics, Odense University Hospital, Denmark, ²Center of Genomic Medicin, Copenhagen University Hospital, Denmark, ³Dept. of Endocrinology M, Odense University Hospital, Denmark, ⁴Department of Endocrinology M, Odense University Hospital, Denmark, ⁵Steno Diabetes Centre, Odense, Dept. of Endocrinology M and KMEB, Odense University Hospital, Denmark
Disclosures: Anja Lisbeth Frederiksen, None
- MON-1065 WITHDRAWN**

- MON-1066 Palovarovtene Reduces New Heterotopic Ossification in Fibrodysplasia Ossificans Progressiva (FOP)**
 Frederick S. Kaplan*¹, Edward C. Hsiao², Geneviève Baujat³, Richard Keen⁴, Carmen De Cunto⁵, Maja Di Rocco⁶, Matthew A. Brown⁷, Mona M. Al Mukaddam⁸, Donna R. Grogan⁹, Robert J. Pignolo¹⁰. ¹Perelman School of Medicine, The University of Pennsylvania, United States, ²Division of Endocrinology and Metabolism, University of California, San Francisco, United States, ³Groupe Hospitalier Necker Enfants Malades, France, ⁴Royal National Orthopaedic Hospital, Brockely Hill, United Kingdom, ⁵Affiliation Department of Pediatrics/Hospital Italiano de Buenos Aires, Argentina, ⁶Unit of Rare Diseases, Department of Pediatrics, Gaslini Institute, Italy, ⁷Institute of Health and Biomedical Innovation, Queensland University of Technology, Australia, ⁸The University of Pennsylvania, Center for Research in FOP and Related Disorders, United States, ⁹Clementia Pharmaceuticals Inc., United States, ¹⁰Mayo Clinic College Of Medicine, Division of Geriatric Medicine & Gerontology, United States
Disclosures: Frederick S. Kaplan, None
- MON-1067 Melorheostosis: a case series of different imaging phenotypes**
 Anupam Kotwal*¹, Bart Clarke¹, Jane Matsumoto². ¹Division of Endocrinology, Diabetes, Metabolism, and Nutrition, Mayo Clinic, United States, ²Department of Radiology, Mayo Clinic, United States
Disclosures: Anupam Kotwal, None
- MON-1068 Vitamin D Deficiency Rickets Complicating Severe Childhood Hypophosphatasia: Response to Sequential Therapy with Vitamin D then Asfotase Alfa**
 Elizabeth L. Lin*¹, Gary S. Gottesman², William H. Mcalister³, Steven Mumm¹, Michael P. Whyte². ¹Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine, United States, ²Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States, ³Mallinckrodt Institute of Radiology, Washington University School of Medicine at St. Louis Children's Hospital, United States
Disclosures: Elizabeth L. Lin, None
- MON-1069 Early Diagnosis of Gaucher Disease with Focus in Bone Affection (BIG Project) Argentinian Experience**
 Beatriz Oliveri*¹, Diana Gonzalez², Paula Rozenfeld³, Camilo Lis⁴, Omar Riemersma⁴, Martin Kot⁴. ¹Laboratorio de Osteoporosis y Enfermedades Metabólicas Óseas. Instituto de inmunología, Genética y Metabolismo (INIGEM) CONICET-UBA Hospital de Clínicas., Argentina, ²Mautalen, Salud e Investigación, Argentina, ³IIFP, Universidad Nacional de La Plata, CONICET, Facultad de Ciencias Exactas, Departamento de Ciencias Biológicas, Argentina, ⁴Shire, Argentina
Disclosures: Beatriz Oliveri, shire, Speakers' Bureau
- MON-1071 Cone-Beam Computed Tomography of Osteogenesis Imperfecta Types III and IV: Three-Dimensional Evaluation of Craniofacial Features and Upper Airways**
 Natalie Reznikov*, Didem Dagdeviren, Faleh Tamimi, Francis Glorieux, Frank Rauch, Jean-Marc Retrouvey. McGill University, Canada
Disclosures: Natalie Reznikov, None
- MON-1072 A Novel Case of Human Osteopetrosis Associated with Glanzmann's Thrombasthenia Due to a Homozygous Pathogenic Mutation in ITGB3**
 Jennifer Sarhis Avigdor*. Gary M Kupfer, Allen Bale, Thomas O Carpenter. Yale University School of Medicine, United States
Disclosures: Jennifer Sarhis Avigdor, None
- MON-1073 Complications in patients with autosomal dominant hypocalcemia compared with non-surgical hypoparathyroidism**
 Line Underbjerg*¹, Tanja Sikjaer¹, Lars Rejnmark². ¹MD, PhD, Denmark, ²Professor, senior consultant, Denmark
Disclosures: Line Underbjerg, None

MON-1074 Identification and Molecular Analysis of a Potential Disease-causing Mutation in ZMAT2 in Congenital Radioulnar Synostosis
Takako Suzuki*¹, Yukio Nakamura¹, Tatsuya Kobayashi², Hiroyuki Kato¹. ¹Shinshu University School of Medicine, Japan, ²Endocrine Unit, Massachusetts General Hospital and Harvard Medical School, United States
Disclosures: Takako Suzuki, None

MON-1075 Follow-up After Discontinuation of Bisphosphonate Treatment in Osteogenesis Imperfecta When Skeletal Maturity is Complete
Pamela Trejo*¹, Telma Palomo², Francis Glorieux², Frank Rauch². ¹Clinica Alemana Santiago, Chile, ²Shriners Hospital for Children Canada, Canada
Disclosures: Pamela Trejo, None

MON-1076 Lifelong Hyperphosphatasemia Without Low Plasma Pyridoxal 5'-Phosphate In A Healthy Boy With Uniquely Aberrant Bone Alkaline Phosphatase Yet Normal ALPL Gene Structure
Michael P. Whyte*¹, Nina S. Ma², Gary S. Gottesman¹, Pamela S. Smith³, Vinieth N. Bijanki¹, Steven Mumm⁴, Per Magnusson⁵. ¹Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States, ²Division of Endocrinology, Boston Children's Hospital, United States, ³Division of Pediatric Endocrinology and Diabetes, Washington University School of Medicine, United States, ⁴Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine at Barnes-Jewish Hospital, United States, ⁵Department of Clinical Chemistry, Linköping University, Sweden
Disclosures: Michael P. Whyte, None

RARE BONE DISEASES: TRANSLATIONAL

MON-1105 Controlling Periodontitis Prevents Medication-related Osteonecrosis of the Jaw-like Lesions in Rice Rats (*Oryzomys palustris*)
Evelyn Castillo*¹, Abel Abraham¹, Jessica Jiron¹, Jonathan Messer¹, Joshua Yarrow², Donald Kimmel¹, Jose Aguirre¹. ¹University of Florida, United States, ²Malcom Randall VAMC; University of Florida, United States
Disclosures: Evelyn Castillo, None

MON-1106 Pyrophosphate regulators, ANK and ENPP1, regulate cementogenesis and extracellular matrix protein expression
Emily Chu*¹, Atsuhiko Nagasaki¹, Michael Chavez², Daniel Leigh¹, Tammy Vo¹, Alyssa Coulter¹, Vivek Thumbigere-Math³, Demetrios Braddock⁴, Martha Somerman¹, Brian Foster². ¹NIAMS/NIH, United States, ²College of Dentistry, The Ohio State University, United States, ³University of Maryland School of Dentistry, United States, ⁴Yale School of Medicine, United States
Disclosures: Emily Chu, None

MON-1107 Health Burden of Hypophosphatasia in Adults: Results from a Self-Reported Study in the United Kingdom
Sara Jenkins-Jones*¹, Laura Scott¹, Robert Desborough², Ioannis Tomazos³, Richard Eastell². ¹Global Epidemiology and Medical Statistics, Pharmatelligence, United Kingdom, ²University of Sheffield, United Kingdom, ³Alexion Pharmaceuticals, Inc., United States
Disclosures: Sara Jenkins-Jones, Alexion Pharmaceuticals, Inc, Other Financial or Material Support

MON-1108 Activation of the RANKL/OPG pathway is central to the pathophysiology of fibrous dysplasia and is associated with disease burden and pain
Luis Fernandez De Castro Diaz*¹, Andrea B Burke¹, Howard Wang¹, Pablo Florenzano¹, Jeffrey Tsai², Kristen Pan¹, Bhattacharyya Nisan¹, Alison M Boyce¹, Rachel I Gafni¹, Alfredo Molinolo³, Pamela G Robey², Michael Collins². ¹Section on Skeletal Disorders and Mineral Homeostasis, National Institute of Dental and Craniofacial Research, National Institutes of Health, United States, ²National Institutes of Health, United States, ³University of California, San Diego, United States
Disclosures: Luis Fernandez De Castro Diaz, None

- MON-1109** **When bone collagen cross-linking fails: how abnormal collagen post-translational chemistry and cross-linking causes bone fragility in Bruck syndrome caused by PLOD2 mutations.**
Charlotte Gistelinc*¹, Maryann Weis, Jyoti Rai, Peter H. Byers, David R. Eyre. University of Washington, United States
Disclosures: Charlotte Gistelinc, None
- MON-1110** **Inhibition of tyrosine kinase receptor C-ROS-1 as a novel treatment for patients with TWIST haploinsufficiency induced craniosynostosis**
Esther Camp*¹, Peter Anderson², Andrew Zannettino³, Stan Gronthos¹. ¹Mesenchymal Stem Cell Laboratory, Adelaide Medical School, Faculty of Health and Medical Sciences, The University of Adelaide, Australia, ²Australian Craniofacial Unit Women's & Children's Hospital, Australia, ³Myeloma Research Laboratory, Adelaide Medical School, Faculty of Health and Medical Sciences, The University of Adelaide, Australia
Disclosures: Esther Camp, None
- MON-1111** **Identifying Molecular Pathways in Autosomal Recessive Hypophosphatemic Rickets Type 2 (ARHR2) by Mapping Genetic Changes Associated with ENPP1 Loss of Function**
Nathan Maulding*¹, Kristin Zimmerman², Dillon Kavanagh², Mark Horowitz², Thomas Carpenter², Demetrios Braddock². ¹Yale University, United States, ²Yale, United States
Disclosures: Nathan Maulding, None
- MON-1112** **Continuous infusion of PTHrP(7-36) Inverse Agonist Ameliorates the Delay in Endochondral Bone Formation in a Mouse Model of Jansen's Metaphyseal Chondrodysplasia**
Shigeki Nishimori*¹, Hiroshi Noda¹, Ernestina Schipani², Jun Guo¹, Thomas Gardella¹, Harald Jueppner¹. ¹Massachusetts General Hospital, United States, ²University of Michigan, United States
Disclosures: Shigeki Nishimori, None
- MON-1113** **X-Linked Hypophosphatemia: PHEX 3'UTR c.*231A>G Causes a Uniquely Mild Phenotype Including Three Large American Kindreds (A Retrospective, Case-Control Study)**
Pamela S. Smith*¹, Gary S. Gottesman², Fan Zhang², William H. Mcalister³, Fiona Cook⁴, Valerie Wollberg², Margaret Huskey³, Steven Mumm⁵, Michael P. Whyte². ¹Division of Pediatric Endocrinology and Diabetes, Washington University School of Medicine, United States, ²Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States, ³Mallinckrodt Institute of Radiology, Washington University School of Medicine at St. Louis Children's Hospital, United States, ⁴Division of Endocrinology, Brody School of Medicine, United States, ⁵Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine at Barnes-Jewish Hospital, United States
Disclosures: Pamela S. Smith, None
- MON-1114** **Novel c.G630A TCIRG1 Mutation Causes Aberrant Splicing Resulting in Unusually Mild Form of Osteopetrosis**
Ralph Zirngibl*¹, Andrew Wang¹, Yeqi Yao¹, Morris Manolson¹, Joerg Krueger², Roberto Mendoza-Londono², Irina Voronov¹. ¹University of Toronto, Canada, ²Hospital for Sick Children, Canada
Disclosures: Ralph Zirngibl, None
- MON-1115** **Development and characterization of a hypophosphatasia (HPP) tooth and muscle phenotype in sheep to model disease in an index HPP patient**
Diarra Williams*¹, Shannon Huggins¹, Alexis Mitchell¹, Alyssa Falck¹, Jane Pryor¹, Cassandra Skenandore¹, Grant Read¹, Hays Boyd¹, Sierra Long¹, Brian Foster², Mark Westhusin¹, Charles Long¹, Larry Suva¹, Dana Gaddy¹. ¹Texas A&M University, United States, ²Ohio State University, United States
Disclosures: Diarra Williams, None

- MON-1116** **Continued development of hiPSCs as an in vivo platform for exploring heritable disorders of the human skeleton**
 Xiaonan Xin*, Kronenberg Mark, Alexander Lichtler, David Rowe. School of Dental Medicine, University of Connecticut Health, United States
Disclosures: Xiaonan Xin, None
- MON-1117** **Clinical characteristics and pathogenic gene mutations identification of Paget's disease of bone in Chinese population**
 Hua Yue*, Zhenlin Zhang. Metabolic Bone Disease and Genetic Research Unit, Department of Osteoporosis and Bone Diseases, Shanghai Jiao Tong University Affiliated Sixth People's Hospital, China
Disclosures: Hua Yue, None

SARCOPENIA, MUSCLE AND FALLS

- MON-1138** **Prospective Associations of Sarcopenic obesity and dynapenic obesity with joint replacement over 13 years in Community-dwelling Older Adults**
 Saliu Balogun*¹, David Scott², Stephen Graves³, Michelle Lorimer⁴, Flavia Cicuttini⁵, Graeme Jones¹, Dawn Aitken¹. ¹Menzies Institute for Medical Research, University of Tasmania, Australia, ²Department of Medicine, School of Clinical Sciences at Monash Health, Faculty of Medicine, Nursing and Health Sciences, & Peninsula Clinical School, Central Clinical School, Monash University, Australia, ³Australian Orthopaedic Association, University of Melbourne, Parkville, Australia, ⁴South Australian Health and Medical Research Institute (SAHMRI), Australia, ⁵Department of Epidemiology and Preventive Medicine, Monash University, Australia
Disclosures: Saliu Balogun, None
- MON-1139** **Secular Trends in Mortality Due to Falls and Hip Fracture in the US**
 Jane Cauley*, Kendra Jean Bobby, Elsa Strotmeyer, Jeanine Buchanich. University of Pittsburgh, United States
Disclosures: Jane Cauley, None
- MON-1140** **A new CT based approach to quantify adipose tissue in paraspinal muscle**
 Klaus Engelke*¹, Oleg Museyko², Daniel Günzel¹, Andreas Meier³, Jean-Denis Laredo⁴. ¹Inst. of Medical Physics, University of Erlangen-Nuremberg, Germany, ²Inst. of Medical Physics, Univ. of Erlangen, Germany, ³Inst. of Informatics, University of Erlangen-Nuremberg, Germany, ⁴Radiologie Ostéo-Articulaire, Hôpital Lariboisière, AP-HP, CNRS UMR 7052, France
Disclosures: Klaus Engelke, None
- MON-1141** **Neither Sarcopenia, Body Composition Parameters, nor Salivary Cortisol Circadian Rhythm are Associated to Increased Risk of Falls in Women 50 to 80 Years. The OsteoLaus Cohort**
 Elena Gonzalez Rodriguez*^{1,2}, Didier Hans¹, Georgios Papadakis³, Peter Vollenweider⁴, Martin Preisig⁵, Gerard Waerber⁴, Pedro-Manuel Marques-Vidal⁴, Olivier Lamy^{1,6}. ¹Center of Bone Diseases, Rheumatology Unit, Bone and Joint Department, CHUV, Switzerland, ²Endocrinology, Diabetology and Metabolism Unit, Internal Medicine Department, CHUV, Switzerland, ³Endocrinology, Diabetology and Metabolism Unit, Internal Medicine Department, CHUV, Switzerland, ⁴Internal Medicine Unit, Internal Medicine Department, CHUV, Switzerland, ⁵Epidemiology and Psychopathology Research Unit, Psychiatric Department, CHUV, Switzerland, ⁶Internal Medicine Unit, Internal Medicine Department, CHUV, Switzerland
Disclosures: Elena Gonzalez Rodriguez, None
- MON-1142** **Dysmobility syndrome is associated with prevalent morphometric vertebral fracture in older adults: The Korean Urban-Rural Elderly (KURE) study**
 Namki Hong*, Chang Oh Kim, Yoosik Youm, Jin-Young Choi, Hyeon Chang Kim, Yumie Rhee. Yonsei University College of Medicine, Republic of Korea
Disclosures: Namki Hong, None

- MON-1143** **Alteration in Skeletal Muscle Mass in Women with Primary Aldosteronism**
 Mi Kyung Kwak*¹, Jae Hyeon Kim², So Jeong Park³, Seong Hee Ahn⁴, Hyeonmok Kim⁵, Yoon Young Cho⁶, Sunghwan Suh⁷, Beom-Jun Kim⁸, Kee-Ho Song⁹, Seung Hun Lee⁸, Jung-Min Koh⁸. ¹Division of Endocrinology and Metabolism, Asan Medical Center, University of Ulsan College of Medicine, Republic of Korea, ²Division of Endocrinology and Metabolism, Department of Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine, Republic of Korea, ³Asan Institute for Life Sciences, Republic of Korea, ⁴Department of Endocrinology, Inha University School of Medicine, Republic of Korea, ⁵Division of Endocrinology and Metabolism, Department of Internal Medicine, Seoul Medical Center, Republic of Korea, ⁶Division of Endocrinology and Metabolism, Department of Medicine, Gyeongsang National University School of Medicine, Republic of Korea, ⁷Division of Endocrinology and Metabolism, Department of Medicine, Dong-A University Medical Center, Dong-A University School of Medicine, Republic of Korea, ⁸Division of Endocrinology and Metabolism, Department of Medicine, Asan Medical Center, University of Ulsan College of Medicine, Republic of Korea, ⁹Division of Endocrinology and Metabolism, Department of Medicine, Konkuk University Medical Center, Konkuk University School of Medicine, Republic of Korea
Disclosures: Mi Kyung Kwak, None
- MON-1144** **Leisure-time aerobic physical activity and vitamin D concentrations in U.S. older adults**
 Carlos Orces*¹, Daniella Orces². ¹Laredo Medical Center, United States, ²Southwestern University, United States
Disclosures: Carlos Orces, None
- MON-1145** **Alterations in Body Composition and Appendicular Lean Mass Assessed Using Whole-Body Dual-Energy X-ray Absorptiometry in BRCA Carriers Undergoing Prophylactic Salpingo-oophorectomy**
 Jeevitha Srighanthan*¹, Joan Murphy², Joanne Kotsopoulos³, Gabrielle E. V. Ene¹, Marcus Q. Bernardini¹, Queenie Wong¹, Diana Yau¹, Paula Harvey³, Steven Narod³, Barry Rosen¹, Amy Finch⁴, Angela M. Cheung¹. ¹University Health Network, Canada, ²Trillium Health Partners, Canada, ³Women's College Hospital, Canada, ⁴Sunnybrook Hospital, Canada
Disclosures: Jeevitha Srighanthan, None
- MON-1146** **Falls are the most frequent provocative factor for subsequent clinical fractures during 1-year follow-up in patients with a recent clinical fracture evaluated and treated according to current osteoporosis guideline at a Fracture Liaison Service**
 Lisanne Vranken*^{1,2}, Caroline E Wyers^{1,2}, Robert Y Van Der Velde^{1,2}, Irma Ja De Bruin^{1,2}, Heinrich Mj Janzing⁴, Sjoerd Kaarsemaker⁵, Piet Pm Geusens^{3,4}, Joop Pw Van Den Bergh^{1,2,3}. ¹VieCuri Medical Center, Department of Internal Medicine, Netherlands, ²Maastricht UMC+, NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Internal Medicine, Netherlands, ³Hasselt University, Netherlands, ⁴VieCuri Medical Center, Department of Surgery, Netherlands, ⁵VieCuri Medical Center, Department of Orthopaedic Surgery, Netherlands
Disclosures: Lisanne Vranken, None

LATE-BREAKING POSTERS III

12:00 pm - 2:00 pm

Palais des congrès de Montréal
 ASBMR Discovery Hall - Exhibit Hall 220 B-E

ADULT METABOLIC BONE DISORDERS

- LB MON - 1149** **Evidence for a direct role of Erythropoietin in the Regulation of FGF23 in Humans**
 Kelly Roszko*, Sydney Brown, Ying Pang, Thanh Huynh, Karel Pacak, Michael Collins. NIDCR, NIH, United States
Disclosures: Kelly Roszko, None

BIOMECHANICS AND BONE QUALITY

LB MON - 1155 **Gene expression changes are associated with severe bone loss and delayed fracture healing in paraplegic rats**

Mariana Butezloff*¹, Kelly Astolpho¹, Vitor Corrello², Rui Reis², João Paulo Ximenez¹, João Paulo Issa¹, Raquel Assed Silva¹, Antonio Carlos Shimano¹, José Batista Volpon¹, Ariane Zamarioli¹. ¹University of Sao Paulo, Brazil, ²University of Minho, Portugal

Disclosures: Mariana Butezloff, None

LB MON - 1156 **Age and Gender Effects on Architectural, Biomechanical and Muscle Performance in C57BL/6 Mice**

Hammad Mumtaz*, Julian Vallejo, Mark Dallas, Nuria Lara-Castillo, Joanna Scott, Michael Wacker, Mark Johnson, Thiagarajan Ganesh. University of Missouri Kansas City, United States

Disclosures: Hammad Mumtaz, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS

LB MON - 1159 **Quantifying Bone Marrow Adiposity Using T1-weighted Magnetic Resonance Images in Children With Typical Development and in Children With Cerebral Palsy**

Chuan Zhang*¹, Freeman Miller², Christopher Modlesky¹. ¹University of Georgia, United States, ²AI duPont Hospital for Children, United States

Disclosures: Chuan Zhang, None

BONE INTERACTIONS WITH MUSCLE AND OTHER TISSUES

LB MON - 1162 **Late adulthood skeletal muscle weakness and atrophy in osteoporotic OPG null mice**

Dounia Hamoudi*¹, Laetitia Marcadet¹, Louis-Benedict Landry², Antoine Boulanger-Piette¹, Francoise Morin³, Anteneh Agraw⁴, Jérôme Frenette⁵. ¹PhD student, Canada, ²Trainee, Canada, ³Professional Research, Canada, ⁴PhD, Canada, ⁵Professor, Canada

Disclosures: Dounia Hamoudi, None

BONE TUMORS AND METASTASIS

LB MON - 1169 **Heterozygous ZNF687 P937R mutation underlies giant cell tumors arising from Paget's disease of bone also in non-Caucasian patients**

Fernando Gianfrancesco*¹, Giuseppina Divisato¹, Deborah J Veis^{2,3}, Yasmine Abbes¹, Federica Scotto Di Carlo¹, Teresa Esposito^{1,4}, Michael P Whyte^{5,6}. ¹Institute of Genetics and Biophysics, National Research Council of Italy, Italy, ²Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine at Barnes-Jewish Hospital, United States, ³Department of Pathology, Washington University School of Medicine at Barnes-Jewish Hospital, United States, ⁴IRCCS INM Neuromed, Italy, ⁵Department of Internal Medicine, and Department of Pathology, Washington University School of Medicine at Barnes-Jewish Hospital, United States, ⁶Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States

Disclosures: Fernando Gianfrancesco, None

LB MON - 1170 **Ultra-Fast Na18F Whole Body Dynamic Using Digital PET/CT in a Preclinical Phase I Study**

Maria Menendez*, Richard Moore, Katherine Binzel, Zhang Jun, Rebecca Jackson, Michael Knopp. The Ohio State University, United States

Disclosures: Maria Menendez, None

CHONDROCYTES

LB MON - 1171 **Heat Increases IGF-I Uptake in Growth Plate and Perichondrium Measured by in vivo Multiphoton Imaging**

Maria A Serrat*, Gabriela Ion, Dominic Thomas. Marshall University School of Medicine, United States

Disclosures: Maria A Serrat, None

ENERGY METABOLISM, BONE, MUSCLE AND FAT

- LB MON - 1176** **Differentiated Osteocytes Synthesize Taurine Which Reduces Sclerostin Expression and Prevents Osteocyte Cell Death**
Matt Prideaux*, Yukiko Kitase, Morris Kimble, Thomas O'Connell, Lynda Bonewald.
Indiana University, United States
Disclosures: Matt Prideaux, None

GENETIC MODELS OF MUSCULOSKELETAL DISEASES

- LB MON - 1177** **A Novel Mouse Model to Elucidate the Role of Gdf5 in Postnatal Joints**
Steven Pregizer*¹, Vicki Rosen². ¹Boston Children's Hospital, United States, ²Harvard School of Dental Medicine, United States
Disclosures: Steven Pregizer, None

HORMONAL REGULATORS

- LB MON - 1179** **Bone is a major contributor of plasma FGF23 elevation in a model of chronic kidney disease in wildtype mice and mice lacking the extra-large G protein α -subunit (XL α s)**
Julia Matthias*¹, Lauren Shumate¹, Antonius Plagge², Harald Jüppner¹, Qing He¹, Murat Bastepe¹. ¹Endocrine Unit, Massachusetts General Hospital, Harvard Medical School, United States, ²Institute of Translational Medicine, University of Liverpool, United Kingdom
Disclosures: Julia Matthias, None

MUSCULOSKELETAL AGING

- LB MON - 1183** **Associations of Joint Trajectories of Appendicular Lean Mass and Grip Strength with Risk of Non-Spine Fractures**
Rodrigo Valderrabano*¹, Neeta Parimi², Peggy M. Cawthon², Jennifer S. Lee^{3,4}, Joy Y. Wu³, Andrew R Hoffman^{3,4}, Marcia L. Stefanick⁵. ¹Division of Endocrinology, University of Miami Miller School of Medicine, Miami, FL, United States, ²California Pacific Medical Center, San Francisco, CA and Department Epidemiology and Biostatistics, UCSF, SF, United States, ³Division of Endocrinology, Stanford University School of Medicine, Stanford, CA, United States, ⁴Palo Alto Veteran Affairs Health Care System, Palo Alto, CA, United States, ⁵Stanford University School of Medicine, Stanford, CA, United States
Disclosures: Rodrigo Valderrabano, None

MUSCULOSKELETAL DEVELOPMENT

- LB MON - 1186** **Qsox1 is a novel genetic determinant of bone size in mice**
Basel Al-Barghouthi*^{1,2}, Gina Calabrese¹, Larry Mesner¹, Kevin Nguyen¹, Mary Bouxsein³, Daniel Brooks³, Mark Horowitz⁴, Clifford Rosen⁵, Steve Tommasini⁶, Petr Simecek⁷, Gary Churchill⁷, Cheryl Ackert-Bicknell⁸, Daniel Pomp⁹, Charles Farber^{1,10}. ¹Center for Public Health Genomics, University of Virginia, Charlottesville, VA 22911, United States, ²Department of Biochemistry and Molecular Genetics, University of Virginia, Charlottesville, VA 22911, United States, ³Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, Department of Orthopedic Surgery, Harvard Medical School, Boston, MA 02215, United States, ⁴Department of Orthopaedics and Rehabilitation, Yale School of Medicine, New Haven, CT 06520, United States, ⁵Maine Medical Center Research Institute, 81 Research Drive, Scarborough, ME 04074, United States, ⁶Department of Orthopaedics and Rehabilitation, Yale School of Medicine, New Haven, CT 06520, United States, ⁷The Jackson Laboratory, Bar Harbor, Maine 06409, United States, ⁸Center for Musculoskeletal Research and Department of Orthopaedics & Rehabilitation, University of Rochester Medical Center, Rochester, NY, 14627, United States, ⁹Department of Genetics, University of North Carolina Medical School, Chapel Hill, NC 27599, United States, ¹⁰Departments of Public Health Sciences and Biochemistry and Molecular Genetics, University of Virginia, Charlottesville, VA 22911, United States
Disclosures: Basel Al-Barghouthi, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION

LB MON - 1189 **Deletion of the auxiliary $\alpha 2\delta 1$ voltage sensitive calcium channel subunit regulates adipogenesis**

Christian S. Wright*, Xin Yi, Madison M. Kelly, Karan Sharma, William R. Thompson.
Department of Physical Therapy, School of Health and Rehabilitation Sciences, Indiana University, United States

Disclosures: Christian S. Wright, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS

LB MON - 1190 **Risk of Osteoarthritis by Bone Mineral Density Status in US and Korean Older Adults: NHANES 2005-2010 & 2013-2014 and KNHANES 2008-2011**

Han-Saem Park*, Seung-Hee Kim, Clara Yongjoo Park. Dept of Food and Nutrition, Chonnam National University, Republic of Korea

Disclosures: Han-Saem Park, None

OSTEOBLASTS

LB MON - 1197 **Zika virus infection perturbs osteoblast function**

Bram Van Der Eerden*¹, Noreen Mumtaz², Marijke Schreuders-Koedam¹, Marion Koopmans², Barry Rockx², Johannes Van Leeuwen¹. ¹Erasmus MC, Internal Medicine, Netherlands, ²Erasmus MC, Viroscience, Netherlands

Disclosures: Bram Van Der Eerden, None

OSTEOCLASTS

LB MON - 1204 **Role of fibrillin-1 fragments in bone resorption**

Muthu Lakshmi Muthu*, Kerstin Tiedemann, Svetlana Komarova, Dieter Reinhardt. McGill University, Canada

Disclosures: Muthu Lakshmi Muthu, None

LB MON - 1205 **Fluid flow shear stress alters interactions of osteoclasts to migratory tumor cells**

Yao Fan*¹, Aydin Jalali¹, Andy Chen¹, Bai-Yan Li², Ping Zhang³, Hiroki Yokota¹. ¹Indiana University, United States, ²Harbin Medical University, United States, ³Tianjin Medical University, China

Disclosures: Yao Fan, None

OSTEOPOROSIS - ASSESSMENT

LB MON - 1209 **Including Iodine based IV-Contrast Enhanced CT-Images into Screening Techniques for Osteoporosis**

Wolfram Timm*¹, J. Keenan Brown², Reimer Andresen³. ¹Mindways Software, Inc., Kiel, Germany, ²Mindways Software, Inc., Austin, TX, United States, ³Institute of Diagnostic and Interventional Radiology/Neuroradiology, Westkuestenlinikum Heide, Academic Teaching Hospital of the Universities of Kiel, Luebeck and Hamburg, Heide, Germany

Disclosures: Wolfram Timm, Mindways Software, Inc., Other Financial or Material Support

LB MON - 1210 **Differences in Bone Mineral Density and Trabecular Bone Score in Hip Fracture Patients with Type 2 Diabetes**

Linsey Gani*, Thomas King, K. Reddy Saripalli, Karen Fernandes, Carmen Kam, Le Roy Chong. Changi General Hospital, Singapore

Disclosures: Linsey Gani, None

OSTEOPOROSIS - HEALTH SERVICES RESEARCH

LB MON - 1213 **The effect of screening of high fracture risk and subsequent treatment on osteoporotic fractures: a systematic review and meta-analysis**

Thomas Merlijn*¹, Karin Swart¹, Coen Netelenbos², Petra Elders¹. ¹Department of General Practice and Elderly Care Medicine, VU University Medical Center, Netherlands, ²Department of Internal Medicine, Endocrine Section, VU University Medical Center, Netherlands

Disclosures: Thomas Merlijn, None

OSTEOPOROSIS - NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY

- LB MON - 1217** **Time-dependent enhancement of osteoblast mineral deposition by green and black tea polyphenols originates during mineralization and not the differentiation phase**
William Gittings*, Michael D. Mcalpine, Adam J. Macneil, Wendy E. Ward. Brock University, Canada
Disclosures: William Gittings, None

OSTEOPOROSIS - PATHOPHYSIOLOGY

- LB MON - 1220** **Microglial Progranulin Promotes Age-Related Bone Loss in Female Mice**
Liping Wang*, Jiasheng Zhang², Eric Huang², Robert Nissenson¹. ¹San Francisco VA Medical Center, United States, ²University of California San Francisco, United States
Disclosures: Liping Wang, None

OSTEOPOROSIS – TREATMENT

- LB MON - 1229** **An oral PTH 1-34 formulation with a pharmacokinetic profile optimized for the treatment of osteoporosis**
Gregory Burshtien*, Hillel Galitzer¹, Ariel Rothner¹, Phillip Schwartz¹, Eric Lang², Roger Garceau², Jonathan C.Y. Tang³, William D. Fraser³, Yoseph Caraco⁴. ¹Entera Bio Ltd., Israel, ²Entera Bio Ltd., United States, ³University of East Anglia, United Kingdom, ⁴Hadassah Clinical Research Center, Israel
Disclosures: Gregory Burshtien, None
- LB MON - 1230** **Patient Engagement in Clinical Guidelines Development: Input from > 1000 Members of the Canadian Osteoporosis Patient Network**
Larry Funnel*, Marija Djekic-Ivankovic², Rachel Chepesiuk¹, Lora Giangregorio³, Isabel Braganca Rodrigues³, Rowena Ridout⁴, Sidney Feldman⁴, Sandra Kim⁴, Heather Mcdonald-Blumer⁴, Gregory Kline⁵, Wendy E Ward⁶, Nancy Santesso⁷, William D Leslie⁸, Suzanne N Morin⁹. ¹Osteoporosis Canada, Canada, ²Research Institute of the McGill University Health Center, Canada, ³University of Waterloo, Canada, ⁴University of Toronto, Canada, ⁵University of Calgary, Canada, ⁶Brock University, Canada, ⁷McMaster University, Canada, ⁸University of Manitoba, Canada, ⁹McGill University, Canada
Disclosures: Larry Funnel, None
- LB MON - 1231** **Osteoporosis Treatment In Patients With Atypical Femur Fractures**
Denise Van De Laarschot*, Malachi Mckenna², M Carola Zillikens¹. ¹Erasmus Medical Centre, Netherlands, ²St. Vincent's University Hospital, Ireland
Disclosures: Denise Van De Laarschot, None

PRECLINICAL MODELS: NUTRITION AND PHARMACOLOGY

- LB MON - 1235** **Macromolecular Dexamethasone Prodrug Ameliorates Neuroinflammation and Prevents Bone Loss Associated with Traumatic Brain Injury**
Gang Zhao*, Xin Wei¹, Rongguo Ren¹, Zhifeng Zhao¹, Yuanyuan Sun¹, Ningrong Chen¹, Dexuan Kong², Dong Wang¹. ¹University of Nebraska Medical Center, United States, ²China Pharmaceutical University, China
Disclosures: Gang Zhao, None

SARCOPENIA, MUSCLE AND FALLS

LB MON -
1244

Association between nutritional status and sarcopenia in a community dwelling older population: The Bushehr Elderly Health (BEH) Program

Bagher Larijani*¹, Gita Shafiee², Zhaleh Shadman¹, Afshin Ostovar³, Ramin Heshmat², Ehsaneh Taheri³, Farshad Sharifi⁴, Iraj Nabipour⁵. ¹Endocrinology and Metabolism Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, ²Chronic Diseases Research Center, Endocrinology and Metabolism Population Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, ³Osteoporosis Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran., Islamic Republic of Iran, ⁴Elderly Health Research Center, Endocrinology and Metabolism Population Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, ⁵The Persian Gulf Tropical Medicine Research Center, Bushehr University of Medical Sciences, Bushehr, Iran, Islamic Republic of Iran

Disclosures: Bagher Larijani, None

AccelLAB, Inc.**Booth #: 817**

Now a Citoxlab Company, AccelLAB is a preclinical CRO that conducts safety and efficacy GLP studies on medical devices and biologics. Specialized services include surgical suites, imaging (CT, X-Ray, MRI, μ CT), routine/non-decalcified histology, histomorphometry, histopathology, hematology, blood biochemistry and report production. Fully AAALAC-certified, AccelLAB was successfully audited by the FDA.

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Alexion Pharmaceuticals**Booth #: 601**

Alexion is a global biopharmaceutical company focused on serving patients and families affected by rare diseases, including hypophosphatasia (HPP), through the innovation, development and commercialization of life-changing therapies.

Amgen**Booth #: 500**

Amgen is committed to unlocking the potential of biology for patients suffering from serious illnesses by discovering, developing, manufacturing and delivering innovative human therapeutics. A biotechnology pioneer since 1980, Amgen has grown to be one of the world's leading independent biotechnology companies, has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential.

Ascendis Pharma A/S**Booth #: 400**

Ascendis Pharma is applying its unique TransCon technology with clinically validated parent drugs to create new therapies with potential for best-in-class efficacy, safety and/or convenience. Ascendis has a wholly-owned pipeline of three rare disease endocrinology product candidates in clinical development, including TransCon PTH, a long-acting prodrug of parathyroid hormone for hypoparathyroidism.

Bindex**Booth #: 209**

Bindex® is the game changer point-of-care technology in osteoporosis management (a new reimbursement code in US). Bindex® measures the cortical bone thickness of the tibia and the algorithm calculates the Density Index, a parameter which estimates bone mineral density at the hip with 90% sensitivity and specificity thresholds for osteoporosis.

BIOMEDICA

Booth #: 708

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Booth #: 617

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BIOQUANT Image Analysis Corporation

Booth #: 317

BIOQUANT OSTEO is automated and easy-to-use software for bone and muscle phenotyping, osseointegration, muscle fibertyping, arthritis, immunofluorescence, cell counting, and more. Support includes video tutorials, a searchable manual, one-on-one remote desktop training, and application customization. BIOQUANT SCAN upgrades your microscope to scan brightfield or fluorescence. BIOQUANT RESEARCH SERVICES support basic and pre-clinical research. <https://osteobioquant.com>

Bone Research, West China School of Stomatology, Sichuan University

Booth #: 703

Bone Research, West China School of Stomatology, Sichuan University, China www.nature.com/boneres/ ; <http://www.hxkq.org>

Bruker BioSpin

Booth #: 414

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Booth #: 611

With a mission to deliver custom, flexible solutions, Charles River provides clients with exactly what they need to improve and expedite the development of new therapies. From discovery all the way through to clinical support, our scientific experts leverage an expansive safety assessment portfolio, a range of laboratory support services and global, state-of-the-art facilities to produce the quality data you need to optimize your drug development program, every step of the way.

Clementia Pharmaceuticals, Inc.**Booth #: 314**

Clementia is a clinical-stage company innovating new treatments for ultra-rare bone disorders and other diseases. Clementia is developing palovarotene, an RAR γ agonist, is currently being evaluated in the Phase 3 MOVE Trial for fibrodysplasia ossificans progressiva (FOP) and in the Phase 2 MO-Ped Trial for multiple osteochondromas (MO, aka MHE).

Cyagen Biosciences**Booth #: 701**

Cyagen is the world's largest provider of custom-engineered mouse and rat models. Cyagen's services have become well known for their top quality, full guarantee, and competitive prices. Additionally, Cyagen offers a comprehensive series of stem cell products for research use, including cell lines, media, and differentiation kits.

CyberLogic, Inc.**Booth #: 110**

CyberLogic® is a research and development firm, founded in 1992, and has been working in the field of biomedical ultrasound since then. CyberLogic® has over 40 patents, and is presently marketing its flagship medical diagnostic product, the UltraScan™ 650, the only ultrasound device that measures bone mineral density (BMD).

DEXA Solutions**Booth #: 614**

DEXA Solutions is the leading service provider for all your Bone Densitometry needs. We specialize in providing onsite service, parts sales, system relocations, annual PMs, service contracts and equipment sales for all current and end of life GE Lunar and Hologic Bone Densitometers.

DIAsource ImmunoAssays**Booth #: 808**

DIAsource ImmunoAssays, an international diagnostic company based in Belgium, develops, manufactures and markets clinical diagnostic kits in the field of endocrinology, autoimmunity and infectious diseases, with a strong focus on VitaminD assays. DIAsource is selling and servicing instruments for our RIA and ELISA kits, offering automation to our worldwide distributor network.

Elsevier**Booth #: 517**

Elsevier's Bone and Mineral Research Journals and Books

Elsevier is a leading publisher of bone and mineral research, our peer-reviewed journals and books provide a home for research that advances this important field and related disciplines. elsevier.com/endocrinology

Eli Lilly & Company**Booth #: 801**

Lilly is a global healthcare leader that unites caring with discovery to make life better for people around the world. We were founded in 1876 by a man committed to creating high-quality medicines that meet real needs, and today we remain true to that mission. To learn more, visit www.lilly.com.

Faxitron

Booth #: 615

Faxitron brings you compact, fully-shielded, ultra high-resolution ($> 8 \mu\text{m}$) cabinet x-ray systems and true DXA analysis to screen, track and evaluate structural, density and body composition changes longitudinally. We offer systems with multiple detector sizes (up to 43 cm X 43 cm) to match system performance to specific in vivo and ex vivo applications.

Galgo Medical

Booth #: 315

Galgo Medical is specialized in medical imaging and post-processing software development to better serve the needs of the medical industry and provide physicians with solutions to optimize individual patient management. 3D-SHAPER(r) is an innovative program that turns DXA images into 3D patient-specific models and provides separate measurements of cortical and trabecular bone.

GE Healthcare

Booth #: 312

As a leading provider of medical imaging, monitoring, biomanufacturing, and cell and gene therapy technologies, GE Healthcare enables precision health in diagnostics, therapeutics and monitoring through intelligent devices, data analytics, applications and services. Through our Bone and Metabolic Health division, GE Healthcare provides high precision and reliable DXA and QUS technology for reliable measurement of bone mineral density and body composition.

Glenbrook Technologies

Booth #: 802

Glenbrook Technologies introduces The LabScope. Affordable and patented x-ray imaging technology for Bone and Small Animal models. Low Dose, High Resolution Micro-Fluoroscopy that permits x-ray observation of motion and surgical procedures.

Hologic

Booth #: 300

Hologic, Inc., a leading supplier of innovative imaging solutions showcases the HorizonTM DXA System. The Horizon DXA System provides high quality images that go beyond accurately determining bone mineral density. The powerful images can assess vertebral fractures, pinpoint incomplete atypical femur fractures, identify aortic calcifications, and measure body composition.

IMMUNDIAGNOSTIK AG

Booth #: 616

Immundiagnostik is an internationally active diagnostics company that develops and produces innovative immunoassays and other analytical methods for clinical routine and life science research. We provide effective tools for prevention, differential diagnosis and therapy monitoring in the areas of disorders of the skeletal system, oxidative stress, gastroenterology and cardiovascular diseases.

Inter Media

Booth # 114

IDS provides laboratories worldwide with clinical and research solutions to enhance efficiency, improve diagnostic accuracy and enrich diagnostic outcomes for patients. We offer a unique and full panel of fully automated and manual assays, including bone turnover markers, for the measurement and monitoring of bone resorption and formation.

International Federation of Musculoskeletal Research Societies

Booth #: 102

The IFMRS is an international, not for profit federation of musculoskeletal research societies. The IFMRS mission is to advance musculoskeletal research globally in order to prevent and treat musculoskeletal diseases by collaborating with international societies to share resources, raise public awareness and provide education. Full details on current activities at [HYPERLINK "http://www.ifmrs.org"](http://www.ifmrs.org) www.ifmrs.org or visit our stand in the exhibition hall.

KUBTEC SCIENTIFIC

Booth #: 716

Kubtec is demonstrating the PARAMETER© 3D Cabinet X-ray System with DIGIMUS® Software, the only system to offer tomosynthesis imaging and BMD/BMC measure applications. The Parameter 3D System shows your specimens in 1mm digital slices giving you unprecedented levels of anatomical detail, together with 2-D X-ray and HD optical image capability.

Medimaps Group SA

Booth #: 310

Medimaps Group offers seamless solutions for clinical routine and research. TBS iNsiGht allows clinicians from DXA images to quickly estimate TBS which is reflecting bone microarchitecture. TBS improves osteoporosis management in conjunction with BMD and clinical risk factors. In research, our TRIP platform evaluates bone fragility from different image modalities (e.g. DXA, X-ray, CT) at different skeletal sites.

Micro Photonics

Booth #: 416

Micro Photonics and partner Bruker MicroCT are leading the advancement in 3D high resolution micro-CT for bone, biomaterials, orthopedics, and other life science research with a focus on bone morphology and BMD. The SkyScan products offer the high resolution and versatility required for any demanding research laboratory.

MilliporeSigma

Booth #: 705

MilliporeSigma helps answer your toughest research questions with immunoassay quantification of protein biomarkers. Look closer at our highly validated assays: ELISAs; MILLIPLEX® MAP multiplex for Luminex®, high sensitivity SMC™ for SMCxPRO™. We offer instrumentation and custom assay development services to meet your research needs.

Mindways Software, Inc.

Booth #: 304

Mindways produces Quantitative CT (QCT) products for measurement of bone mineral density from CT scans. QCT Pro and CliniQCT are FDA-cleared, reimbursable, and compatible with FRAX, all for a fraction of the cost of DXA. For researchers, Mindways BIT adds investigational tools for analysis capability beyond bone density.

National Institute of Arthritis, Musculoskeletal and Skin Disease

Booth #: 804

The mission of the National Institute of Arthritis and Musculoskeletal and Skin Diseases is to support research into the causes, treatment, and prevention of arthritis and musculoskeletal and skin diseases; the training of basic and clinical scientists to carry out this research; and the dissemination of information on research progress in these diseases.

National Osteoporosis Foundation (NOF)

Booth #: 112

The National Osteoporosis Foundation (NOF) is the leading health organization dedicated to preventing osteoporosis and broken bones, promoting strong bones for life and reducing human suffering through programs of public and clinician awareness, education, advocacy and research. NOF is the nation's only health organization solely dedicated to osteoporosis and bone health.

Northwestern Polytechnical University

Booth #: 916

Located in the historic city of Xi'an, cradle of Chinese civilization and terminus of the ancient Silk Road, Northwestern Polytechnical University (NPU) is the only multidisciplinary and research-oriented in China that is simultaneously developing education and research programs in the fields of aeronautics, astronautics, and marine technology engineering. It is now affiliated to the Ministry of Industry and Information Technology (MIIT).

Object Research Systems, Inc.

Booth #: 810

ORS is an ISO and IEC standards compliant software maker whose products are deployed by registered users in more than 80 countries. Our intuitive software platforms for scientific and biomedical imaging deliver high-impact visualization, advanced image segmentation, quantitative analysis, animation, and other powerful features with endless user extensibility in Python.

Orimed Pharma

Booth #: 709

Orimed Pharma is an up-and-coming, innovative Canadian pharmaceutical company actively involved in the fields of bone health and sexual dysfunction, among others. Through its own research and development, as well as through partnerships with international companies, Orimed provides innovative solutions to health care providers to better treat and serve patients.

OsteoMetrics, Inc.

Booth #: 515

Redefining Bone Histomorphometry since 1989. The system of choice, OsteoMeasure now available with live digital imaging, on-screen pen measurement, automated measurement, a complete set of Cortical Bone measurements and an expanded set of non-specific measurements. Comprehensive GLP validation package.

Perkinelmer

Booth#: 100

PharmaLegacy laboratories

Booth #: 205

PharmaLegacy Laboratories is a leading speciality pharmacology Contract Research Organization located in Shanghai Zhangjiang High-Tech Park, China. PharmaLegacy is equipped with a world-class facility, working to international pharmaceutical industrial standards. PharmaLegacy provides preclinical in vivo pharmacology efficacy services as well a therapeutic antibody discovery service program.

Pharmatest Services

Booth #: 217

Pharmatest is a CRO that offers preclinical efficacy services in the fields of skeletal diseases and oncology. Our services include in vitro bone cell assays (osteoclasts and osteoblasts) and in vivo models of bone safety, osteoporosis, osteoarthritis and cancer-induced bone disease. We also offer clinical bone turnover marker measurements.

Radius Health, Inc.

Booth #: 105

Radius is a science-driven fully integrated biopharmaceutical company that is committed to developing and commercializing innovative endocrine therapeutics in the areas of osteoporosis and oncology. For more information, please visit www.radiuspharm.com.

Rare Bone Disease Patient Network

Booth #: 215

The Rare Bone Disease Alliance(RBDA)/Rare Bone Disease Patient Network(RBDPN) is a coalition of patient advocacy organizations, scientific thought leaders and industry. The mission of the Alliance and Network is to advance understanding, education and research related to rare bone diseases and assist patients and caregivers.

Ratoc System Engineering Co., Ltd.

Booth #: 316

Our new product TRI/3D-BON-FCSCCL measures bone strength, 3D morphometry and bone mineral density using DICOM files of clinical CT. This software enables to qualify the bone destruction, bone formation and bone resorption. Our software will best assist your osteoporosis study.

Research Diets, Inc.

Booth #: 308

Research Diets, Inc. formulates and produces purified OpenSource Diets® for laboratory animals. Custom diets shipped in 5-7 days. BioDAQ® Food and Liquid Intake Monitor for mice and rats mounts to home cage and records the time, duration, amount of each meal automatically. BioDAQ NHP monitors food intake of socially housed NHPs.

Scanco Medical

Booth #: 609

Scanco Medical (www.scanco.ch) is a global provider of microCT, VivaCT and XtremeCT (HR-pQCT) systems as well as scan/analysis services. Sophisticated, yet easy to use, analysis and visualization software as well as automatic specimen changers (specimen systems only) are standard on all systems. Optional hardware and software include mechanical testing stage, GPU reconstruction and FE analysis.

Shire

Booth #: 201

Shire is the leading global biotechnology company focused on serving people with rare diseases and other highly specialized conditions. We strive to develop best-in-class products across our core therapeutic areas including Hematology, Immunology, Neuroscience, Ophthalmics, Gastrointestinal / Internal Medicine / Endocrine, Hereditary Angioedema, Lysosomal Storage Disorders, and Oncology.

Soft Bones, Inc., The U.S. Hypophosphatasia Foundation

Booth #: 710

Soft Bones Inc., The U.S. Hypophosphatasia Foundation provides information and a community to educate, empower and connect patients living with hypophosphatasia (HPP), their families and caregivers. The Foundation also promotes research of this rare bone disease through awareness and fundraising efforts.

Stratec Medizintechnik GmbH

Booth #: 800

Stratec Medizintechnik and Novotec Medical offer systems for musculoskeletal diagnosis and therapy. The XCT pQCT systems allow diagnosis of bone and muscle characteristics. Leonardo Mechanography is used to measure muscular function under physiological conditions. Galileo vibration devices improve neuromuscular function and mobility in patients with chronic diseases and sarcopenia.

Therachon

Booth #: 203

Therachon is developing treatments for rare conditions with unmet medical needs. We are committed to fostering a community rigorous about science and passionate about transforming patient lives. Our lead pipeline candidate, TA-46, is a novel protein therapy in development for achondroplasia, the most common form of disproportionate short stature.

UCONN Cryohistology Imaging Core

Booth #: 213

This core provides a high-throughput workflow for a multi-probe analysis of cells and matrix within mineralized tissues, all from a single slide. The approach is useful for an affordable and timely return of a comprehensive skeletal phenotyping of transgenic mouse lines and interpretation of murine models skeletal injury and repair.

Ultragenyx Pharmaceutical

Booth #: 809

Ultragenyx is a biopharmaceutical company committed to bringing to market novel products for the treatment of rare and ultra-rare diseases, with a focus on serious, debilitating genetic diseases. The Company has rapidly built and advanced a diverse portfolio of product candidates with the potential to address diseases for which the unmet medical need is high, the biology for treatment is clear, and for which there are no approved therapies.

Vitamin D Workshop

Booth #: 714

Vitamin D Workshops are annual international conferences on the biology of Vitamin D. Features of the VDW include promoted talks, junior scientist awards, plenary posters and networking opportunities. Since 1973 there have been 21 VDWs, with the 22nd scheduled for Spring 2019. See HYPERLINK "<http://www.vitamindworkshop.org>" www.vitamindworkshop.org for venue, abstract and registration details.

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