Friday, September 28, 2018

Day-At-A-Glance

Time/Event/Location

FRIDAY, SEPTEMBER 28, 2018

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 Kim[1], Christianne Wrann[2], Roland Baron[3], Mary Bouxsein[4], Lynda Bonewald[5], Clifford Rosen[6]. [1]Dana Farber Cancer Center, United States, [2]mass general hospital, United States, [3]harvard dental school, United States, [4]beth israel deaconess hospital, United States, [5]indiana university, United States, [6]maine 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 Boukpessi[2], Daniel J Buss[3], Catherine Chaussain[2], Monzur Murshed[1], Marc D Mckee[1]. [1]Faculty of Dentistry, McGill University, Canada, [2]School of Dentistry University Paris Descartes Sorbonne Paris Cité, France, [3]Department 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. Yee[1], Claire Acevedo[2], Courtney M. Mazur[1], Tamara Alliston[1]. [1]University of California San Francisco, United States, [2]University 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. Li[1], Denison S. Ryan[1], Erik J. Geiger[2], Richard M. Dell[1], Dennis M. Black[2]. [1]Kaiser Permanente Southern California, United States, [2]University 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. Geiger[1], Bonnie H. Li[2], Denison S. Ryan[2], Richard M. Dell[2], Annette L. Adams[2]. [1]University of California, San Francisco, United States, [2]Kaiser 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 Yallowitz[1], Shawon Debnath[1], Jung-Min Kim[2], Kazuki Inoue[3], Baohong Zhao[3], Jae-Hyuck Shim[2], Laurie Glimcher[4], Matthew Greenblatt [1]. [1]Weill Cornell Medical College, United States, [2]University of Massachusetts Medical School, United States, [3]Hospital for Special Surgery, United States, [4]Dana-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 Roche[1], Tiphanie Picot[2], Zhiguo He[3], Carmen M Anaei[2], Mireille Thomas[1], Lydia Campos[2], Laurence Vico[1], Marie-Hélène Lafage-Proust[1]. [1]INSERM 1059, Université de Lyon, France, [2]University Hospital Hematology Lab, France, [3]BIIGC, 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 Rajapakse[1], Xi Jiang[1], Wei Tong[2], Nathaniel Dyment[1], Ling Qin[1]. [1]University of Pennsylvania, United States, [2]Xiehe 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 ResearchUniversity 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 Pohl[2], Alexandra Angermann[1], Anke Jeschke[1], Timur A Yorgan[1], Tim Rolvien[1], Michael Amling[1], Thomas Braulke[2], Thorsten Schinke[1]. [1]Department of Osteology and Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, [2]Department 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 Grynpas[2], Jane Mitchell[1]. [1]University of Toronto, Canada, [2]Lunenfeld-Tanenbaum Reearch 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 Ricarte[2], Joshua Johnson[1], Zhiming He[1], Johanna Warshaw[1], Henry Kronenberg[3], Lawrence Kirschner[4], Nicola Partridge[1]. [1]New York University, college of dentistry, United States, [2]Molecular Pharmacology Training Program, Sackler Institute of Graduate Biomedical Sciences, New York University School of Medicine, United States, [3]Endocrine Unit, Massachusetts General Hospital, Harvard Medical School, United States, [4]Department 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 Vollersen[1], Tim Rolvien[1], Felix Schmidt[1], Michael Amling[1], Thorsten Schinke[1], Timur Yorgan[1]. 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 Raganathan[2], Elizabeth Wang[1], Zachary Tata[1], Laura Mangiavini[1], Mohd Parvez Khan[1], Benjamin Levi[2], Ernestina Schipani[1]. [1]Department of Orthopedic Surgery, School of Medicine, University of Michigan, United States, [2]Division 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 Wang[1], Kevin Lei[1], Yannis Hara[1], Bredan Lee[1], David Scadden[2], Dongsu Park[1]. [1]Baylor College of Medicine, United States, [2]Harvard 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 TGFß 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 States

Maria 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'Donnell[2], Sonia Jean[3], Susan Jaglal[4], Kerry Siminoski[5], Alexandra Papaioannou[6], Jacques Brown[7], Lisa M Lix[8], William D Leslie[8]. [1]McGill University, Canada, [2]Public Health Agency of Canada, Canada, [3]Institut national de santé publique du Québec, Canada, [4]University of Toronto, Canada, [5]University of Alberta, Canada, [6]McMaster University, Canada, [7]Université Laval, Canada, [8]University 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 Skjødt[1], Peter Vesteragaard[3]. [1]Holbæk Hospital, Dept of Medicine, Denmark, [2]Univ of Southern Denmark, OPEN, Denmark, [3]Aalborg 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 Larson[2], Joann Manson[3], Jane Cauley[4], Kristine Ensrud[5], Andrea Lacroix[6], Jean Wactawski-Wende[7], Mrirul Datta[8], Maryam Sattari[9], John Schousboe[10], William Leslie[11]. [1]University of California, Los Angeles, United States, [2]Fred Hutchinson Cancer Research Center, United States, [3]Harvard Medical School, United States, [4]University of Pittsburgh, United States, [5]University of Minnesota, United States, [6]University of California, San Diego, United States, [7]the State University of New York, United States, [8]Purdue University, United States, [9]University of Florida, United States, [10]Park Nicollet Institute, United States, [11]University 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 Swart[1], Coen Netelenbos[2], Petra Elders[1]. [1]Department of General Practice and Elderly Care Medicine, VU University Medical Center, Netherlands, [2]Department 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 Lix[2], Suzanne Morin[3], Sheldon Derkatch[2], Mark Bryanton[2], Mashael Alhrbi[2], William Leslie[2]. [1]Park Nicollet Clinic & HealthPartners Institute, United States, [2]University of Manitoba, Canada, [3]McGill 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], Puviindran Nadesan[2], James White[3], Phillip White[3], Gurpreet Baht[4]. [1]Department of Orthopaedic Surgery, Duke Molecular Physiology Institute, Duke University, United States, [2]Department of Orthopaedic Surgery, Duke University, United States, [3]Department of Medicine, Duke Molecular Physiology Institute, Duke University, United States, [4]Department 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 Lorenz[1], Eric Hilker[1], Kristann Magee[1], Jesse D Procknow[1], Zhaohua Wang[1], Charles A Harris[2], Clarissa S Craft[1], Erica L Scheller[1]. [1]Department of Internal Medicine, Division of Bone and Mineral Diseases, Washington University, United States, [2]Department 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 Da[1], Priyanka Kushwaha[1], Zhu Li[1], Thomas Clemens[2], Ryan Riddle[2]. [1]Johns Hopkins University School of Medicine, United States, [2]Johns 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
1032
Cellular Senescence in Tendon Aging and Pathology
Anne Gingery*, Tamara Tchkonia, James C Kirkland, Peter C Amadio. Mayo Clinic, United States
Disclosures: Anne Gingery, None

2:30 pm
1033
ASBMR 2018 Annual Meeting Young Investigator Award
p18 is required and regulated by BMP4 in Muscle-Derived Stem Cell-mediated Osteogenesis and Bone Regeneration during aging
Haizi Cheng*[1,2], Xueqin Gao[1], Aiping Lu[1], Johnny Huard[1]. [1]The University of Texas Health Science Center at Houston, Houston, TX; Steadman Philippon Research Institute, Vail, CO, United States, [2]University of Pittsburgh, Pittsburgh, PA, United States
Disclosures: Haizi Cheng, None

2:45 pm
1034
Male-Female Spatio-Temporal Differences of Age-Related Bone Loss
Julio Carballido-Gamio*[1], Elisa A Marques[2], Sigurdur Sigurdsson[3], Kristín Siggeirsdottir[3], Alexandria Jensen[1,4], Gunnar Sigurdsson[3,5,6], Thor Aspelund[3,7], Gudny Eiriksdottir[3], Vilmundur Gudnason[3,5], Thomas F Lang[8], Tamara B Harris[2]. [1]Department of Radiology, School of Medicine, University of Colorado Denver, Denver, CO, United States, [2]National Institute on Aging, Intramural Research Program, Laboratory of Epidemiology and Population Sciences, Bethesda, MD, United States, [3]Icelandic Heart Association Research Institute, Kópavogur, Iceland, [4]Department of Biostatistics & Informatics, Colorado School of Public Health, Aurora, CO, United States, [5]University of Iceland, Reykjavik, Iceland, [6]Landspitalinn University Hospital, Reykjavik, Iceland, [7]Centre of Public Health Sciences, University of Iceland, Reykjavik, Iceland, [8]Department of Radiology and Biomedical Imaging, University of California, San Francisco, CA, United States
Disclosures: Julio Carballido-Gamio, None

3:00 pm
1035
RANKL produced by osteocytes is required for cortical, but not cancellous, bone loss with age
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
1036
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
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 Amerstand, 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 Univeristy, 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, Department 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

9:30 pm Concluding Remarks

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 KC[1], Murphy EJ[1], Kim S[1], Arasu A[3], Schafer AL[1,2], Shoback DM[1], [1]Division of Endocrinology and Metabolism, Department of Medicine, University of California, San Francisco, [2]Endocrine Research Unit, San Francisco Veterans Affairs Health Care System, University of California, San Francisco, CA. [3]Division 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 Cha[2], Byung-mun Kim[3], Dong-jun Kim[3], Mijin Yun[4], Jong-in Yook[5], Yumie Rhee[1], [1]Department of Internal Medicine, Severance Hospital, Endocrine Research Institute, Yonsei University College of Medicine, Seoul 120-752, Korea., [2]Department of Oral and Maxillofacial Surgery, Yonsei University College of Dentistry, 50-1 Yonsei-ro, Seodaemoon-gu, Seoul, 03722, Korea., [3]Department of Radiology, Yonsei University College of Medicine Severance Hospital, 250, [4]Department of Nuclear Medicine, Yonsei University College of Medicine, Seoul, Korea., [5]Department 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

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 Acheivement 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
1037
ASBMR 2018 Annual Meeting Most Outstanding Basic Abstract
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 Baird[2], Jenny Gregory[3], Richard Aspden[3], Jonathan Tobias[4], Lavinia Paternoster (Cox)[1,2]. [1]Population Health Sciences, Bristol Medical School, University of Bristol, United Kingdom, [2]MRC Integrative Epidemiology Unit at the University of Bristol, United Kingdom, [3]Institute of Medical Science, School of Medicine, Medical Sciences & Nutrition, Aberdeen, United Kingdom, [4]Musculoskeletal Research Unit, Bristol Medical School, University of Bristol, United Kingdom
Disclosures: Monika Frysz, None

10:00 am
1038
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
Suzanne N Morin*[1], Lin Yan[2], Lisa M Lix[2], William D Leslie[2]. [1]McGill University, Canada, [2]University of Manitoba, Canada
Disclosures: Suzanne N Morin, None

10:15 am
1039
Advanced glycation endproduct content is increased in cortical bone of the femoral neck in men with type 2 diabetes mellitus
Pablo Palomino*[1], Heather Hunt[1], Eric Marty[2], Rehan Saiyed[2], Matthew Cohn[2], Joseph Lane[2], Robert Ritchie[3], Bernd Gludovatz[4], Eve Donnelly[1]. [1]Cornell University, United States, [2]Hospital for Special Surgery, United States, [3]University of California, Berkeley, United States, [4]UNSW, Australia
Disclosures: Pablo Palomino, None

10:30 am
1040
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
Nicholas Harvey*[1], Anders Oden[2], Eric Orwoll[3], Timothy Kwok[4], Magnus Karlsson[5], Bjorn Rosengren[5], Eva Ribom[6], Peggy Cawthon[7], Kristine Ensrud[8], Cyrus Cooper[1], John Kanis[9], Claes Ohlsson[2], Dan Mellstrom[2], Helena Johansson[2], Eugene Mccloskey[9]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton SO16 6YD, United Kingdom, [2]Centre for Bone and Arthritis Research (CBAR), Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden, [3]Oregon Health & Science University, Portland, OR, United States, [4]Department of Medicine & Therapeutics and School of Public Health, The Chinese University of Hong Kong, HK, Hong Kong, [5]Clinical and Molecular Osteoporosis Research Unit, Department of Clinical Sciences Malmo, Lund University and Department of Orthopedics, Skane University Hospital, Malmo, Sweden, [6]Department of Surgical Sciences, University of Uppsala, Uppsala, Sweden, [7]Research Institute, California Pacific Medical Center, San Francisco, CA, United States, [8]Medicine and Epidemiology & Community Health, University of Minnesota, MN, United States, [9]Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, United Kingdom
Disclosures: Nicholas Harvey, None

10:45 am
1041
Muscle mass assessed by D3Cr dilution and incident fractures in older men
Peggy Cawthon*[1], Katherine Peters[1], Steven Cummings[1], Eric Orwoll[2], Andrew Hoffman[3], Kristine Ensrud[4], Jane Cauley[5], William Evans[6]. [1]California Pacific Medical Center, United States, [2]OHSU, United States, [3]Stanford, United States, [4]University of Minnesota, United States, [5]University of Pittsburgh, United States, [6]University 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-Skrtic[1], Petra Henning[1], Thomas Funck-Brentano[1], Maria Nethander[1], Fernando Rivadeneira[2], Antti Koskela[3], Juha Tuukkanen[3], Jan Tuckermann[4], Christine Perret[5], Ulf Lerner[1], Claes Ohlsson[1]. [1]Centre for Bone and Arthritis Research at the Sahlgrenska Academy, 41345 Gothenburg, Sweden, [2]Department of Internal Medicine, Erasmus University Rotterdam, Rotterdam, The Netherlands, Netherlands, [3]Institute of Cancer Research and Translational Medicine, Department of Anatomy and Cell Biology, Faculty of Medicine, University of Oulo, Finland, [4]Institute of General Zoology and Endocrinology, Universitu of Ulm, Germany, [5]Inserm, 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 Hojo[2], Tetsuya Enishi[1], Nicolas Govea[1], Henry M. Kronenberg[1], Marc N. Wein[1]. [1]Center for Skeletal Research, Endocrine Unit, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, 50 Blossom Street, Boston, Massachusetts 02114, United States, [2]Center 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
1047
ASBMR 2018 Annual Meeting Young Investigator Award
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. [1]University of Pennsylvania, United States, [2]National Central University, Taiwan
Disclosures: Hongbo Zhao, None

10:00 am
1048
Somatic Activating Mutations in MAP2K1 Cause Melorheostosis
Heeseog Kang*[1], Smita Jha[2], Zuoming Deng[3], Nadja Fratzl-Zelman[4], Wayne A. Cabral[5], Aleksandra Ivovic[6], Françoise Meylan[6], Eric P. Hanson[7], Eileen Lange[8], James Katz[9], Paul Roschger[4], Klaus Klaushofer[4], Edward W. Cowen[10], Richard M. Siegel[11], Timothy Bhattacharyya[12], Joan C. Marini[1]. [1]Section on Heritable Disorders of Bone and Extracellular Matrix, NICHD, NIH, United States, [2]Clinical and Investigative Orthopedics Surgery Unit, NIAMS, NIH, United States, [3]Biodata Mining and Discovery Section, Office of Science and Technology, NIAMS, NIH, United States, [4]Ludwig Boltzmann Institute of Osteology, Austria, [5]Molecular Genetics Section, NHGRI, NIH, United States, [6]Immunoregulation Section, NIAMS, NIH, United States, [7]Autoimmunity Branch, NIAMS, NIH, United States, [8]Clinical Research, NIAMS, NIH, United States, [9]Rheumatology Branch, NIAMS, NIH, United States, [10]Dermatology Branch, NIAMS, NIH, United States, [11]Office of Clinical Director, NIAMS, NIH, United States, [12]Clinical Trials & Outcomes Branch, NIAMS, NIH, United States
Disclosures: Heeseog Kang, None

10:15 am
1049
ASBMR 2018 Annual Meeting Most Outstanding Translational Abstract
Osteocalcin Function On Energy Metabolism Is Conserved In Humans: Results of a 5 Year Prospective Cohort of Diabetes Onset
Cyrille Confavreux*[1], Pawel Szulc[2], Matthieu Wargny[3], Marie Christine Carlier[2], Elisabeth Sornay-Rendu[2], Matthieu Pichelin[3], Bertrand Cariou[3]. [1]INSERM UMR1033 - University of Lyon - Department of Rheumatology, Hospices Civils de Lyon, France, [2]INSERM UMR1033 - University of Lyon, France, [3]INSERM UMR 1087/CNRS UMR 6291- Department of Endocrinology, University Hospital of Nantes, France
Disclosures: Cyrille Confavreux, None

10:30 am
1050
RANK Ligand inhibitors improve muscle function and glucose homeostasis
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
1051
Sympathetic Outflow Regulates Bone Metabolism in Humans: Evidence from Cellular, Epidemiological, and Direct Interventional Studies
Sundeep Khosla*[1], Matthew Drake[1], Tammie Volkman[1], Brianne Thicke[1], Sara Achenbach[1], Elizabeth Atkinson[1], Michael Joyner[1], Clifford Rosen[2], David Monroe[1], Joshua Farr[1]. [1]Mayo Clinic, United States, [2]Maine 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 Universita 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 Gerber[1], Samantha White[1], Xueyan Wang[1], Connor Francis[1], Lixin Qi[1], Ying Liu[2], Chaoyuan Li[2], Jian Q Feng[2], Myles Wolf[3], Valentin David[1], Aline Martin[1]. [1]Division of Nephrology and Hypertension, and Center for Translational Metabolism and Health, Northwestern University Feinberg School of Medicine, Chicago, IL, United States, [2]Department of Biomedical Sciences, Baylor College of Dentistry, Texas A&M University, Dallas, TX, United States, [3]Division 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 Takyar[1], Kellen Bean[2], Rachel Perry[1], Gerald Shulman[1], John Wysolmerski[1]. [1]Yale University, United States, [2]Yale 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 Deng[2], Yufan Chen[3], Gregory Vitone[2], Eugenia Giannopoulou[4], Ren Xu[5], Shiaoching Gong[6], David G. Kirsch[7], Matthew Greenblatt[5], Anil K. Sood[8], Liang Zhao[3], Baohong Zhao[1]. [1]Hospital for Special Surgery, Weill Cornell Medical College, United States, [2]Hospital for Special Surgery, United States, [3]Nanfang Hospital, Southern Medical University, China, [4]New York City College of Technology, City University of New York, United States, [5]Weill Cornell Medical College, United States, [6]Department of Molecular Biology, The Rockefeller University, United States, [7]Duke University Medical Center, United States, [8]The 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
1056
ASBMR 2018 Annual Meeting Young Investigator Award
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
1057
Teasing Apart Endocrine and Inflammatory Control of Cyp27b1 Expression Reveals Vital Relationships of Vitamin D3 Metabolites and Enzyme Levels to Skeletal Health
Mark Meyer*[1], Nancy Benkusky[1], Seong Min Lee[1], Melda Onal[1], Martin Kaufmann[2], Glenville Jones[2], J. Wesley Pike[1]. [1]University of Wisconsin - Madison, United States, [2]Queen'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
1058
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
Douglas Bauer*[1], Eric Vittinghoff[1], Dennis Black[1], Mary Bouxsein[2], Li-Yung Lui[3], Jane Cauley[4], Anne De Papp[5], Andreas Grauer[6], Sundeep Khosla[7], Bruce Mitlak[8], Charles Mcculloch[1], Richard Eastell[9]. [1]University of California, San Francisco, United States, [2]Harvard Medical School, United States, [3]California Pacific Medical Center, United States, [4]University of Pittsburgh, United States, [5]Merck & Co., Inc., United States, [6]Amgen Inc., United States, [7]Mayo Clinic College of Medicine, United States, [8]Radius Health, United States, [9]University of Sheffield, United Kingdom
Disclosures: Douglas Bauer, None

4:45 pm
1059
Effect of Denosumab and High-Dose Teriparatide on Peripheral Bone Mineral Density and Microarchitecture
Joy Tsai*[1], Amy Yuan[1], Natalie David[1], Hang Lee[1], Mary Bouxsein[2], Benjamin Leder[1]. [1]Massachusetts General Hospital, United States, [2]Beth Israel Deaconess Medical Center, United States
Disclosures: Joy Tsai, None

5:00 pm
1060
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
Robin Daly*[1], Rachel Duckham[1], Jamie Tait[1], Timo Rantalainen[2], Caryl Nowson[1], Dennis Taaffe[3], Keith Hill[4], Lucy Busija[5], Kerrie Sanders[6]. [1]Institute for Physical Activity and Nutrition, Deakin University, Australia, [2]Gerontology Research Centre, University of Jyväskylä, Australia, [3]School of Medical and Health Sciences, Edith Cowan University, Australia, [4]School of Physiotherapy and Exercise Science, Curtin University, Australia, [5]Mary MacKillop Institute for Health Research, Australian Catholic University, Australia, [6]Department 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 Lewiecki[2], Peter W Butler[3], David L Kendler[4], Nicola Napoli[5], Shuang Huang[3], D Barry Crittenden[3], Nicola Pannacciulli[3], Ethel Siris[6], Neil Binkley[7]. [1]Geneva University Hospital, Switzerland, [2]New Mexico Clinical Research & Osteoporosis Center, United States, [3]Amgen Inc., United States, [4]University of British Columbia, Canada, [5]Università Campus Bio-Medico di Roma, Italy, [6]Columbia University Medical Center, United States, [7]University 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 Rose[2], Emma O Billington[1], Duncan A Raymond[1], David A Hanley[1], Steven K Boyd[1]. [1]McCaig Institute for Bone and Joint Health, Cumming School of Medicine, University of Calgary, Canada, [2]Research 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 Newman[2], Nigel Stallard[3], Jose Leal[1], Catherine Minns Lowe[2], Muhammad Javaid[1], Angela Noufaily[3], Anish Adhikari [1], David Smith[1], Varsha Gandhi[1], Cyrus Cooper[1], Sarah Lamb[1]. [1]University of Oxford, United Kingdom, [2]Oxford University Hospitals Foundation Trust, United Kingdom, [3]University 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 Celis[2], Hussein Sultan [2], Christopher Cutler[1], Mahmoud Elashiry[1], Mohamed Meghil[1], Zoya Kurago[1], Mohamed Awad[1], Mohey Eldin El- Shikh[3], Mohammed Elsalanty[1], Riham El Sayed[3]. [1]Department of Oral Biology, Dental College of Georgia, Augusta University, United States, [2]Biochemistry and Molecular Biology, Georgia Cancer Center, Medical College of Georgia, Augusta University, United States, [3]Queen 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 Fong[2], Deyu Zhang[2], Frederick S Kaplan[2], Robert J Pignolo[3], Eileen M Shore[1]. [1]Departments of Orthopaedic Surgery and Genetics, Perelman School of Medicine, University of Pennsylvania, United States, [2]Department of Orthopaedic Surgery, Perelman School of Medicine, University of Pennsylvania, United States, [3]Division 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 Hokugo[2], Frank H. (Hal) Ebetino[1], Keivan Sadrerafi[1], Philip Cherian[1], Charles E. Mckenna[3], Ichiro Nishimura[2]. [1]Biovinc, United States, [2]UCLA School of Dentistry, United States, [3]Chemistry 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 Kim[1], Ferran Jardi[1], Frank Claessens[2], Dirk Vanderschueren[1], Brigitte Decallonne[1]. [1]KU Leuven, Department of Chronic Diseases, Metabolism & Ageing (CHROMETA), Clinical and Experimental Endocrinology, Leuven, Belgium, [2]KU Leuven, Department of Cellular and Molecular Medicine, Molecular Endocrinology, Leuven, Belgium

Disclosures: Rougin Khalil, None

5:30 pm
1068

PPARγ 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 Palmieri[1], Li Han[1], Xuchu Que[2], Sotirios Tsimikas[2], Joseph L Witztum[2], Stavros C Manolagas[3], Robert L Jilka[3]. [1]Center for Osteoporosis and Metabolic Bone Diseases, University of Arkansas for Medical Sciences and the Central Arkansas Veterans Healthcare System, United States, [2]Department of Medicine, University of California San Diego, United States, [3]Center 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

Time/Event/Location

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.

CME Outfitters, LLC, is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. 1.25 contact hours (0.125 CEUs) Universal Activity Number:
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 Osteoarthritisis**
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

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 - 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 Vittinghoff[1], Richard Eastell[2], Douglas Bauer[1], Li-Yung Lui[3], Lisa Palermo[1], Charles Mcculloch[1], Jane Cauley[4], Sundeep Khosla[5], Fernando Marin[6], Anne De Papp[7], Andreas Grauer[8], Mary Bouxsein[9]. [1]University of California, San Francisco, United States, [2]University of Sheffield, United Kingdom, [3]California Pacific Medical Center, United States, [4]University of Pittsburgh, United States, [5]Mayo Clinic, United States, [6]Eli Lilly and Company, Switzerland, [7]Merck & Co., Inc., United States, [8]Amgen, Inc., United States, [9]Harvard 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 Curiac[2], Klara Sjögren[1], Per-Anders Jansson[3]. [1]Centre for Bone and Arthritis Research, Institute of Medicine, the Sahlgrenska Academy at University of Gothenburg, Sweden, [2]CTC, Gothia Forum, Sahlgrenska University Hospital, Sweden, [3]Department 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 Harhaji[2], Paul Dan Sirbu[3], Moises Irizarry-Roman[4], Gabor Bucs[5], Istvan Sztanyi[5], Neil Binkley[6], Denise Orwig[7], Joel Neutel[8], Ken Homer[8], Marianne Mancini[9], Hiroko Masamune[9], Geoff Barker[9], Brian Lian[9]. [1]Clinical Center Kragujevac, Clinic for Orthopedics and Traumatology, Serbia, [2]Clinical Center of Vojvodina, Clinic for Orthopedic Surgery and Traumatology, Serbia, [3]County Hospital for Emergency Sfîntul Spiridon Iasi, Clinical Section of Orthopedics and Traumatology, Romania, [4]Infinite Clinical Research, United States, [5]PTE ÁK Traumatology and Clinical Surgery, Hungary, [6]University of Wisconsin School of Medicine and Public Health, United States, [7]Department of Epidemiology and Public Health, University of Maryland School of Medicine, United States, [8]Integrium Clinical Research, United States, [9]Viking 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 Lee[2], Natalie David[2], Richard Eastell[3], Tsai Joy[2]. [1]Harvard Medical School. Massachusetts General Hospital, United States, [2]Massachusetts General Hospital, United States, [3]Mellanby 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 Lewiecki[2], Peter R. Ebeling[3], Eric Hesse[4], Nicola Napoli[5], Daria B. Crittenden[6], Maria Rojeski[6], Wenjing Yang[6], Cesar Libanati[7], Serge Ferrari[8]. [1]Columbia University, United States, [2]New Mexico Clinical Research & Osteoporosis Center, United States, [3]Monash University, Australia, [4]University Medical Center Hamburg-Eppendorf, Germany, [5]Campus Bio-Medico University of Rome, Italy, [6]Amgen Inc., United States, [7]UCB Pharma, Belgium, [8]Geneva 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
1075 **ASBMR 2018 Annual Meeting Young Investigator Award**
Breast Cancer Bone Metastases are Attenuated in a Tgif1-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
1076 **TGF-beta inhibition restores the responsiveness to osteoanabolic PTH treatment in the Crtap-/- model of recessive Osteogenesis Imperfecta**
Ingo Grafe*, Jennifer Zieba, Elda Munivez, Yuqing Chen, Ming-Ming Jiang, Brian Dawson, Carrie Jiang, Alexis Castellon, Joseph Sliepka, Sandesh Nagamani, Brendan Lee. Department of Molecular and Human Genetics, Baylor College of Medicine, United States
Disclosures: Ingo Grafe, None

10:15 am
1077 **Osteocyte Senescence Underlies the Increase in RANKL in Aged Mice via a GATA4 Mediated Mechanism**
Ha-Neui Kim,*[1], Srividhya Iyer[2], Jianhui Chang[2], Li Han[1], Aaron Warren[1], Stavros Manolagas[1], Charles O'Brien[1], Daohong Zhou[2], Maria Almeida[1]. [1]University of Arkansas for Medical Sciences and Central Arkansas Veterans Healthcare System, United States, [2]University of Arkansas for Medical Sciences, United States
Disclosures: Ha-Neui Kim,, None

10:30 am
1078 **BLU-782; a highly selective ALK2 inhibitor, designed specifically to target the cause of fibrodysplasia ossificans progressiva**
Alison Davis*[1], Brian Hodous[2], Timothy Labranche[1], Michael Sheets[1], Natasja Brooijmans[1], Joseph Kim[1], Brett Williams[1], Sean Kim[1], Lan Xu[3], John Vassiliadis[1], Julia Zhu[1], Ruduan Wang[1], Rachel Stewart[4], Paul Fleming[5], Chris Graul[4], Elliot Greenblatt[4], Keith Bouchard[6], Vivek Kadambi[1], Timothy Guzi[1], Jeffrey Hunter[6], Christoph Lengauer[1], Marion Dorsch[1], Andrew Garner[1]. [1]Blueprint Medicines, United States, [2]Accent Therapeutics, United States, [3]Foghorn Therapeutics, United States, [4]Invicro, United States, [5]Akebia Therapeutics, United States, [6]Alexion Pharmaceuticals, United States
Disclosures: Alison Davis, Blueprint Medicines, Major Stock Shareholder

10:45 am
1079 **Estrogen Deficiency and Cellular Senescence Represent Independent Mechanisms in the Pathogenesis of Osteoporosis: Evidence from Studies in Mice and Humans**
Joshua Farr*, David Monroe, Daniel Fraser, Brittany Negley, Brianne Thicke, Jennifer Onken, Robert Pignolo, Tamar Tchkonia, 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]. [1]Department of Orthopaedics and Traumatology, SH Ho Scoliosis Research Laboratory, The Chinese University of Hong Kong, Hong Kong, [2]Joint 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 COLIA1 Sp1 Variant and Bone Accrual in Childhood
Diana Cousminer*[1], Shana Mccormack[1], Jonathan Mitchell[1], Alessandra Chesi[1], Joan Lappe[2], Heidi Kalkwarf[3], Sharon Oberfield[4], Vicente Gilsanz[5], John Shepherd[6], Andrea Kelly[1], Benjamin Voight[7], Babette Zemel[1], Struan Grant[1]. [1]Children's Hospital of Philadelphia, United States, [2]Creighton University, United States, [3]Cincinnati Children's Hospital, United States, [4]Columbia University, United States, [5]Children's Hospital of Los Angeles, United States, [6]University of Hawaii, United States, [7]University 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 Björkman[2], Chantal Kawalilak[1], Seyedmahdi Hosseinitabatabaei[3], Adrian Teare[1], James Johnston[1], Saija Kontulainen[2]. [1]Department of Mechanical Engineering, College of Engineering, University of Saskatchewan, Canada, [2]College of Kinesiology, University of Saskatchewan, Canada, [3]Division 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 Caksa[2], Amy Yuan[2], Mary Bouxsein[2], Madhusmita Misra[1]. [1]Pediatric Endocrine Unit, Massachusetts General Hospital, United States, [2]Endocrine 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 Casella[2], Caela Long[1], Zahra Tara[1], Meizan Lai[1], Hakon Hakonarson[1], Michael Levine[1]. [1]The Children's Hospital of Philadelphia, United States, [2]University 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 Chou[2], Dorothy Hu[1], Kenichi Nagano[1], Daniel Brooks[3], Mary Bouxsein[3], Francesca Gori[1], Roland Baron[1]. [1]Harvard School of Dental medicine, United States, [2]University of Technology Sydney, Austria, [3]Beth 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 Yamana[2], Hiroaki Saito[2], Virginia Parkman[2], Jun Guo[1], Henry Kronenberg[1], Francesca Gori[2], Roland Baron[2]. [1]Endocrtine Unit, Massachusetts General Hospital, United States, [2]Division 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 Puppali[2], Nikita Bajwa[2], Subburaman Mohan[1]. [1]VA Loma Linda Healthcare System, Loma Linda University, United States, [2]VA 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 Revu[2], Kai Liu[2], Yuqiao Zhou[2], Qi Han[1], Faisal Alshalawy[1], Yuji Mishina[3], Alejandro Almarza[2], Donna Stolz[2], Konstantinos Verdelis[2], Randal Kaufman[4]. [1]Texas A&M University, United States, [2]University of Pittsburgh, United States, [3]University of Michigan, United States, [4]Sanford-Burnham-Prebys Medical Discovery Institute, United States
Disclosures: Hongjiao Ouyang, None

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
1092
Osteocyte Notch3 is Responsible for the Osteopenia of Lateral Meningocele Syndrome (LMS)
Ernesto Canalis*, Jungeun Yu, Lauren Schilling, Stefano Zanotti. UConn Health, United States
Disclosures: Ernesto Canalis, None

2:45 pm
1093
Tgif1-mediated Repression of PAK3 Supports Osteocyte Spreading
Simona Bolamperti*[1], Hiroaki Saito[1], Antonio Virgilio Failla[2], Hanna Taipaleenmäki[1], Eric Hesse[1]. [1]Molecular Skeletal Biology Laboratory, Department of Trauma, Hand and Reconstructive Surgery, University Medical Center Hamburg-Eppendorf, Germany, [2]Microscopy Imaging Facility, University Medical Center Hamburg-Eppendorf, Germany
Disclosures: Simona Bolamperti, None

3:00 pm
1094
Osteocytic Kindlin-2 regulates bone mass accrual and maintenance and mediates skeletal response to mechanical loading and PTH anabolism
Huiling Cao*[1], Qinnan Yan[1], Dong Wang[2], Yumei Lai[2], Simin Lin[1], Yimin Lei[1], Liting Ma[1], Yuxi Guo[1], Yishu Wang[1], Yilin Wang[1], Huanqing Gao[1], Xiaochun Bai[3], Chuanju Liu[4], Jian Q. Feng[5], Chuanyue Wu[1], Di Chen[2], Guozhi Xiao[1]. [1]Department of Biology and Guangdong Provincial Key Laboratory of Cell Microenvironment and Disease Research, Southern University of Science and Technology, China, [2]Department of Orthopedic Surgery, Rush University Medical Center, United States, [3]Department of Cell Biology, School of Basic Medical Sciences, Southern Medical University, China, [4]Department of Orthopedic Surgery, New York University School of Medicine, United States, [5]Department of Biomedical Sciences, Texas A&M University College of Dentistry, United States
Disclosures: Huiling Cao, None

3:15 pm
1095
ASBMR 2018 Annual Meeting Young Investigator Award
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
1096
ASBMR 2018 Annual Meeting Young Investigator Award
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
1097
A Novel In Vitro Fluidic Approach to Measuring the Apoptotic Bystander Effect in Osteocyte Networks
Sean Mccutcheon*[1], Robert Majeska[2], David Spray[1], Maribel Vazquez[2], Mitchell Schaffler[2]. [1]Albert Einstein College of Medicine, United States, [2]The 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 Bouxsein PhD
Beth Israel Deaconess Medical Center, Harvard Medical School, United States

2:30 pm
1098
ASBMR 2018 Annual Meeting Young Investigator Award
Fracture targeted PTHR1 agonists for accelerated bone repair
Stewart Low*[1], Jeffery Nielsen[2], Philip Low[2]. [1]Purdue, United States, [2]Purdue University, United States
Disclosures: Stewart Low, None

2:45 pm
1099
Mechanical stimulation prevents the decline in anabolic response to prolonged 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
1100
ASBMR 2018 Annual Meeting Young Investigator Award
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
1101
Spinal loading regulates bone remodeling and angiogenesis in a mouse model of postmenopausal osteoporosis
Xinle Li*[1], Jie Li[1], Daquan Liu[1], Hiroki Yokota[2], Ping Zhang[1]. [1]Department of Anatomy and Histology, School of Basic Medical Sciences, Tianjin Medical University, Tianjin 300070, China, [2]Department of Biomedical Engineering, Indiana University-Purdue University Indianapolis, IN 46202, United States
Disclosures: Xinle Li, None

3:30 pm
1102
ASBMR 2018 Annual Meeting Young Investigator Award
Low Affinity Bisphosphonate Exerts a Strong Anabolic Effect on Trabecular Bone
Abigail Coffman*[1], Robert J. Majeska[1], Jelena Basta-Pljakic[1], Mark W. Lundy[2], Frank H. Ebetino[3], Mitchell B. Schaffler[1]. [1]City College of New York, United States, [2]Indiana University School of Medicine, United States, [3]University of Rochester, United States
Disclosures: Abigail Coffman, None

3:45 pm
1103
Siglec-15-Targeting Therapy Increases Bone Mass in Rats and Is a Potential Therapeutic Strategy for Juvenile Osteoporosis
Dai Sato*[1], Masahiko Takahata[1], Masahiro Ota[1], Chie Fukuda[2], Eisuke Tsuda[2], Tomohiro Shimizu[1], Hiroki Hamano[1], Sigeto Hiratsuka[1], Akiko Okada[2], Ryo Fujita[1], Norio Amizuka[3], Tomoka Hasegawa[3], Nrimasa Iwasaki[1]. [1]Department of Orthopaedic Surgery, Faculty of Medicine and Graduate School of Medicine, Hokkaido University, Japan, [2]Rare Disease Laboratories, Daiichi Sankyo Co., Ltd., Japan, [3]Hokkaido 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

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 Bakker[1], Wei-Ju Tseng[1], Hongbo Zhao[1], Ashutosh Parajuli[2], Liyun Wang[2], X. Sherry Liu[1]. [1]University of Pennsylvania, United States, [2]University 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 Martins[2], Marie Demay[2]. [1]Brigham and Women's Hospital, MGH, and Harvard Medical School, United States, [2]Massachusetts 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 Shen[5], Qisheng Tu[1]. [1]Tufts University School of Dental Medicine, United States, [2]Shanghai Jiaotong Univ., China, [3]Division of Oral Biology Tufts University School of Dental Medicine, United States, [4]Department of Developmental, Molecular and Chemical Biology Sackler School of Graduate Biomedical Sciences Tufts University School of Medicine, United States, [5]Shanghai 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 Demissie[2], Jonathan Adachi[3], Shreyasee Amin[4], Elizabeth Atkinson[4], Claudie Berger[5], Emmanuel Biver[6], Steven Boyd[7], Lauren Burt[7], Roland Chapurlat[8], Thierry Chevalley[6], Serge Ferrari[6], David Goltzman [9], David Hanley[7], Ching-Ti Liu[10], Marian Hannan[1], Sundeep Khosla [4], Mattias Lorentzon[11], Dan Mellstrom[12], Blandine Merle[13], Maria Nethander[14,15], Claes Ohlsson[15], René Rizzoli[6], Elisabeth Sornay- Rendu[13], Daniel Sundh[11], Pawel Szulc[16], Bert Van Rietbergen[17], Andy Wong[18], Hanfei Xu[2], Laiji Yang[19], Mary Bouxsein[20], Douglas Kiel[1]. [1]Institute for Aging Research, Hebrew SeniorLife, Harvard Medical School, United States, [2]Department of Biostatistics, Boston University School of Public Health, United States, [3]Department of Medicine, Michael G. DeGroote School of Medicine, St Joseph's Healthcare - McMaster University, Canada, [4]Mayo Clinic College of Medicine, United States, [5]Research Institute of the McGill University Health Centre, Canada, [6]Division of Bone Diseases, Geneva University Hospitals and Faculty of Medicine, Switzerland, [7]McCaig Institute for Bone and Joint Health, Canada, [8]INSERM UMR 1033, Université de Lyon, Hospices Civils de Lyon, Lyon, France, [9]Departments of Medicine, McGill University and McGill University Health Centre, Canada, [10]Boston University School of Public Health, United States, [11]Geriatric Medicine, Centre for Bone and Arthritis Research, Institute of Medicine, University of Gothenburg, Sweden, [12]Geriatric Medicine, Centre for Bone and Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [13]INSERM UMR 1033, Pavillon F, Hôpital E Herriot, France, [14]Bioinformatics Core Facility, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden, [15]Centre for Bone and Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden, [16]INSERM UMR1033, University of Lyon, Hôpital Edouard Herriot, France, [17]Department of Biomedical Engineering, Eindhoven University of Technology, Netherlands, [18]Toronto General Hospital, Canada, [19]Institute for Aging Research, Hebrew SeniorLife, United States, [20]Dept of Orthopedic Surgery, Harvard Medical School, Center for Advanced Orthopedic Studies, BIDMC, United States

Disclosures: Elizabeth Samelson, None

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 Sigurdsson[2], Kristín Siggeirsdottir[2], Alexandria Jensen[1,3], Gunnar Sigurdsson[2,4,5], Thor Aspelund[2,6], Gudny Eiriksdottir[2], Vilmundur Gudnason[2,4], Thomas F Lang[7], Tamara B Harris[8]. [1]Department of Radiology, School of Medicine, University of Colorado Denver, Denver, CO, United States, [2]Icelandic Heart Association Research Institute, Kópavogur, Iceland, [3]Department of Biostatistics & Informatics, Colorado School of Public Health, Aurora, CO, United States, [4]University of Iceland, Reykjavik, Iceland, [5]Landspitalinn University Hospital, Reykjavik, Iceland, [6]Centre of Public Health Sciences, University of Iceland, Reykjavik, Iceland, [7]Department of Radiology and Biomedical Imaging, University of California, San Francisco, CA, United States, [8]National 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-Rendu[1], Roger Zebaze[2], Minh Bui[2], Eric Lespessailles[3], Ego Seeman[2]. [1]INSERM UMR 1033, France, [2]University of Melbourne, Australia, [3]IPROS, 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 Lix[2], Suzanne Morin[3], Sheldon Derkatch[2], Mark Bryanton[2], Mashael Alhrbi[2], William Leslie[2]. [1]Park Nicollet Clinic and HealthPartners Institute, United States, [2]University of Manitoba, Canada, [3]McGill 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-Baruch[2], Marie Forest[1], Audrey Durand[3], Sahir Bhatnagar[4], John Kemp[5], John Morris[1], John Kanis[6,7], Douglas Kiel[8], Eugene Mccloskey[9], Helena Johannson[6,7], Nicholas Harvey[10], Dave Evans[5], Joelle Pineau[3], William Leslie[11], Celia M T Greenwood[2], J Brent Richards[2]. [1]Centre for Clinical Epidemiology, Lady Davis Institute, Jewish General Hospital, McGill University, Canada, [2]Department of Human Genetics, McGill University, Canada, [3]School of Computer Science, McGill University, Canada, [4]Centre for Clinical Epidemiology, Lady Davis Institute, Jewish General Hospital, Canada, [5]University of Queensland Diamantina Institute, Translational Research Institute, MRC Integrative Epidemiology Unit, University of Bristol, Australia, [6]Centre for Metabolic Bone Diseases, University of Sheffield, United Kingdom, [7]Australian Catholic University, United Kingdom, [8]Institute for Aging Research, Hebrew SeniorLife, Harvard Medical School, Broad Institute of MIT & Harvard, United States, [9]Mellanby Centre for Bone Research, Centre for Integrated Research in Musculoskeletal Ageing, University of Sheffield, United Kingdom, [10]Medical Research Council Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [11]Department 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 Chen[2], Ching-Ti Li[3], Douglas Kiel[4]. [1]Harvard Medical School and Broad Institute of MIT and Harvard, United States, [2]Analytic and Translational Genetics Unit, Massachusetts General Hospital, United States, [3]Dept. Biostatistics, School of Public Health, Boston Univ., United States, [4]Hebrew 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 Greendale[1], Jane Cauley[2], Carrie Karvonen-Guttierez[3], Carolyn Crandall[1], Arun Karlamangla[1]. [1]University of California, Los Angeles, United States, [2]University of Pittsburgh, United States, [3]University 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 Burghardt[2], John Schousboe[1], Peggy Cawthon[2], Jane Cauley[3], Nancy Lane[4], Kristine Ensrud[5], Eric Orwoll[6]. [1]University of Minnesota, United States, [2]University of California, San Francisco, United States, [3]University of Pittsburgh, United States, [4]University of California, Davis, United States, [5]University of Minnesota, Minneapolis VA Health Care System, United States, [6]Oregon 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 LRP5T253I 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 Jüppner[2], Guiomar Perez De Nanclares[3], Giovanna Mantovani[4], Alessia Usardi[5], Susanne Thiele[6], Agnès Linglart[7]. [1]INSERM U1169 and Paris Sud Paris-Saclay university, Bicêtre Paris Sud hospital, France, [2]Endocrine Unit and Pediatric Nephrology Unit, Massachusetts General Hospital and Harvard Medical School, United States, [3]Molecular (Epi)Genetics LaboratoryBioAraba National Health Institute, OSI Araba University Hospital, Spain, [4]Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico Endocrinology and Diabetology Unit, Department of Clinical Sciences and Community Health, University of Milan, Italy, [5]APHP, 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, [6]Division of Experimental Pediatric Endocrinology and Diabetes Department of Pediatrics, Center of brain, behavior and metabolism, University of Lübeck, Germany, [7]APHP, 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 Fontana[2], Rocky Strollo[1], Paolo Pozzilli[1], Nicola Napoli[1,2], Roberto Civitelli[2]. [1]Campus Bio-Medico University, Italy, [2]Washington 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 Tu[1], Wei Qiu[1], Junxiang Lian[1], Youcheng Yu[2], Jake Chen[1,3]. [1]Division of Oral Biology, Tufts University School of Dental Medicine, United States, [2]Department of dentistry, Zhongshan hospital, Fudan University, China, [3]Department 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 Nelson[1], Chad Faulkner-Filosa[1], Matthew Rodeheffer[1], Clifford Rosen[2], Dieter Lindskog[1], Mark Horowitz[1]. [1]Yale University School of Medicine, United States, [2]Maine 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

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 Tsukamto*[1], Mai Kuratani[1], Noriko Sekine[1], Misato Okubo[1], Yutaka Nakachi[1], Shinya Tanaka[2], Eijiro Jimi[3], Hiromi Oda[2], Takenobu Katagiri[1]. [1]Division of Pathophysiology, Research Center for Genomic Medicine, Saitama Medical University, Japan, [2]Department of Orthopedic Surgery, Saitama Medical University, Japan, [3]Faculty of Dental Science, Oral health・Brain health・Total health Research Center, Kyushu University, Japan

Disclosures: Sho Tsukamto, 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 Eom[1], Na-Kyung Kim[1], Joo-Cheol Park[2], Kyung-Mi Woo[1], Jeong-Hwa Baek[1], Hyun-Mo Ryoo[1], Se-Jin Lee[3], Yun-Sil Lee[1]. [1]Department of Molecular Genetics & Dental Pharmacology, School of Dentistry and Dental Research Institute, Seoul National University, Republic of Korea, [2]Department of Oral Histology-Developmental Biology, School of Dentistry and Dental Research Institute, Seoul National University, Republic of Korea, [3]Department 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 Godwin[2], Sheila Pourteymoor[2], Subburaman Mohan[1]. [1]VA Loma Linda Healthcare System, Loma Linda University, United States, [2]VA 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 Pattyn[2], Laura E. Wright[2], Sutha K. John[2], Sreemala Murthy[2], Trupti Trivedi[2], Yun She[2], Clinton T. Rubin[3], William R. Thompson[2], Khalid S. Mohammad[2], Theresa A. Guise[2]. [1]IUPUI, United States, [2]Indiana University, United States, [3]Stony 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 Flammier[1], Fanny Bouguillaut[1], François Duboeuf[1], Gabor Tigyi[2], Fabienne Coury[1], Irma Machuca-Gayet[1]. [1]INSERM U1033, France, [2]University 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 Jastrzebski[1], Hicham Drissi[2], Archana Sanjay[1], Sun-Kyeong Lee[1], Ernesto Canalis[1], Joseph Lorenzo[1]. [1]UConn Health, United States, [2]Emory 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 Kho[1], Brian Dawson[1], Monica Grover[2], Ming-Ming Jiang[1], Yuqing Chen[1], Brendan Lee[1]. [1]Baylor College of Medicine, United States, [2]Stanford 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 Hristova[2], Zoe Valbret[1], Kashmala Carys[1], Ronak Arjan[1], Antonio Maurizi[1], Francesco Masedu[1], Nadia Rucci[1], Anna Teti[1]. [1]University of L'Aquila, Italy, [2]University 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 Lee[1], Kyoung Jin Lee[2], Serk In Park[2], Young Joo Park[1], Seock-Ah Lim[1], Sun Wook Cho[1]. [1]Seoul National University Hospital, Republic of Korea, [2]Korea 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 Bunting[1], Carolina Zandueta[2], Susana Martinez-Canarias[2], Haritz Moreno[2], Beatriz Moreno[2], Fernando Lecanda[2], Agamemnon Grigoriadis[1]. [1]King's College London, United Kingdom, [2]CIMA 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 Cuzick[1], Glen Blake[2], Rajesh Patel[3], Robert Coleman[5], Richard Eastell[4]. [1]Centre for Cancer Prevention, Queen Mary University London, United Kingdom, [2]Division of Imaging Sciences, King's College London, United Kingdom, [3]Imperial College London, United Kingdom, [4]Academic Unit of Bone Metabolism, Metabolic Bone Centre, Northern General Hospital, United Kingdom, [5]Academic 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 Axelsson[2], Dan Lundh[3], Mattias Lorentzon[4]. [1]Department of Medicine Huddinge, Karolinska Institute, Sweden, [2]Department of Orthopaedic Surgery, Skaraborg Hospital, Sweden, [3]School of Health and Education, University of Skovde, Sweden, [4]Geriatric 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 Geng[2], Zhaobin Kuang[2], Peggy Peissig[3]. [1]University of Wisconsin School of Medicine & Public Health, United States, [2]University of Wisconsin, United States, [3]Marshfield 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 Lajlev[2], Torben Harsløf[2], Lars Rolighed[3], Tanja Sikjær[2], Lars Rejnmark[1,2]. [1]Department of Clinical Medicine, Aarhus University, Denmark, [2]Department of Endocrinology and Internal Medicine, Aarhus University Hospital, Denmark, [3]Department 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 Morin[2], Lisa Lix[1], Eugene Mccloskey[3], Helena Johansson[3], Nicholas Harvey[4], John Kanis[3]. [1]University of Manitoba, Canada, [2]McGill University, Canada, [3]Centre for Metabolic Bone Diseases, United Kingdom, [4]MRC 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
1148
ASBMR 2018 Annual Meeting Felix Bronner Award
Mettl3-mediated m6A regulates the fate of bone marrow mesenchymal stem cells and osteoporosis
Yunshu Wu*[1], Liang Xie[1], Mengyuan Wang[1], Yuchen Guo[1], Rui Sheng[1], Jing Li[1], Peng Deng[1], Rixin Zheng[1], Qiuchan Xiong[1], Yizhou Jiang[2], Ling Ye[1], Xuedong Zhou[1], Shuibin Lin[3], Quan Yuan[1]. [1]State Key Laboratory of Oral Diseases & National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, Sichuan University, China, [2]Institute for Advanced Study, Shenzhen University, China, [3]Center for Translational Medicine, The First Affiliated Hospital, Sun Yat-sen University, China
Disclosures: Yunshu Wu, None

10:00 am
1149
ASBMR 2018 Annual Meeting Young Investigator Award
Fat Regulates Inflammatory Arthritis
Yongjia Li*[1], Wei Zou[1], Jonathan Brestoff[1], Nidhi Rohatgi[1], Xiaobo Wu[2], John Atkinson[2], Charles Harris[3], Steven Teitelbaum[1,4]. [1]Department of Pathology and Immunology, Washington University School of Medicine, St. Louis, United States, [2]Division of Rheumatology, Department of Medicine, Washington University School of Medicine, St. Louis, United States, [3]Division of Endocrinology, Metabolism and Lipid Research, Department of Medicine, Washington University School of Medicine, St. Louis, United States, [4]Division of Bone and Mineral Diseases, Department of Medicine, Washington University School of Medicine, St. Louis, United States
Disclosures: Yongjia Li, None

10:15 am
1150
Deletion of Ror2 Promotes Bone Formation by Attenuating IL-6 Signaling
Hiroaki Saito*[1], Jonathan Gordon[2], Josech R. Boyd[2], Michiru Nishita[3], Yasuhiro Minami[3], Jane Lian[2], Gary Stein[2], Hanna Taipaleenmäki[1], Eric Hesse[1]. [1]Molecular Skeletal Biology Laboratory, Department of Trauma, Hand and Reconstructive Surgery, University Medical Center Hamburg-Eppendorf, Germany, [2]Department of Biochemistry, College of Medicine, University of Vermont, United States, [3]Department of Physiology and Cell Biology Kobe University Graduate School of Medicine, Japan
Disclosures: Hiroaki Saito, None

10:30 am
1151
ASBMR 2018 Annual Meeting Young Investigator Award
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

10:45 am
1152

Methylation Of 4-aminobutyrate Aminotransferase (Abat) by Dnmt3b Regulates Chondrocyte Metabolism and the Development of OA

Jie Shen*, Cuicui 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
1153

Burosumab Improved Serum Phosphorus, Osteomalacia, Mobility, and Fatigue in the 48-Week, Phase 2 Study in Adults with Tumor-induced Osteomalacia Syndrome

Suzanne Jan De Beur*[1], Paul D. Miller[2], Thomas J. Weber[3], Munro Peacock[4], Karl L. Insogna[5], Rajiv Kumar[6], Frank Rauch[7], Diana Luca[8], Christina Theodore-Oklota[8], Kathy Lampl[8], Javier San Martin[8], Thomas O. Carpenter[5]. [1]Johns Hopkins University School of Medicine, United States, [2]Colorado Center for Bone Research, United States, [3]Duke University, United States, [4]Indiana University School of Medicine, United States, [5]Yale University School of Medicine, United States, [6]Mayo Clinic College of Medicine, United States, [7]McGill University, Canada, [8]Ultragenyx 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
1154

Efficacy and Safety of Burosumab, a Fully Human Anti-FGF23 Monoclonal Antibody, for Children 1-4 Years Old with X-linked Hypophosphatemia (XLH)

Michael P. Whyte*[1], Erik Imel[2], Gary S. Gottesman[1], Meng Mao[3], Alison Skrinar[3], Javier San Martin[3], Thomas O. Carpenter[4]. [1]Shriners Hospitals for Children, United States, [2]Indiana University School of Medicine, United States, [3]Ultragenyx Pharmaceutical Inc., United States, [4]Yale University School of Medicine, United States

Disclosures: Michael P. Whyte, Ultragenyx Pharmaceutical Inc., Consultant, Ultragenyx Pharmaceutical Inc., Grant/Research Support

10:15 am
1155

Incidence of Malignancies in Fibrous Dysplasia: Data from a National Pathology 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
1156

ASBMR 2018 Annual Meeting Young Investigator Award
Abnormal Monocyte Responses in Fibrodysplasia Ossificans Progressiva

Emilie Barruet*[1], Blanca M Morales[1], Tania Moody[1], Corey J Cain[1], Kelly Wentworth[1], Tea V Chan[1], Amy Ton[1], Tom Hm Ottenhoff[2], Mariëlle C. Haks[2], Judith Hellman[1], Mary Nakamura[3], Edward C Hsiao[1]. [1]UCSF, United States, [2]Leiden University Medical Center, Netherlands, [3]UCSF/VAMC, United States

Disclosures: Emilie Barruet, None

10:45 am
1157 **Albright Hereditary Osteodystrophy (AHO): autosomal dominant shortening of metacarpals and -tarsals caused by a novel splice-site mutation in PTHLH**
Monica Reyes*[1], Bert Bravenboer[2], Harald Jüppner[1]. [1]Endocrine Unit, Massachusetts General Hospital, United States, [2]Department 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
LB-1158 **Bone marrow-derived CXCL12 is indispensable for the loss of cortical bone mass 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
LB-1159 **Marrow adiposity and vascular morphology are regulated by EBF1 in adult bone**
Seham Alruwaili*[1], Steven Tommasini[2], Ben-Hua Sun[2], Jackie Fretz[2]. [1]Quinnipiac University, United States, [2]Yale School of Medicine, United States
Disclosures: Seham Alruwaili, None

11:33 am
LB-1160 **Conditional ablation of Prx1 expressing cells impairs endochondral ossification in postnatal bone repair**
Lai Wang*[1], Alessandra Esposito[1], Joseph Temple[1], Tieshi Li[1], Jie Jiang[1], Xin Jin[1,2], Anna Spagnoli[1]. [1]Department of Pediatrics, Rush University Medical Center, Chicago, United States, [2]Department 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
LB-1162 **LRP5-deficiency in OsxCreERT2 mice recapitulates intervetebral disc degeneration from aging and mechanical compression**
Jiannong Dai*[1], Matthew Silva[2], Nilsson Holguin[1]. [1]IUPUI, United States, [2]Washington University in St. Louis, United States
Disclosures: Jiannong Dai, None

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
LB-1163

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

Daniel Prieto-Alhambra*[1], Katherine Butler[2], Jose Poveda[3,4], Daniel Martinez-Laguna[3,4], Carlen Reyes[3,4], Jennifer Lane[1], Jeroen De Bont[3,4], M Kassim Javaid[1], Cyrus Cooper[1,5], Jennifer Logue[6], Talita Duarte-Salles[3,4], Dominic Furniss[1]. [1]NDORMS, University of Oxford, United Kingdom, [2]Stoke Mandeville Hospital, United Kingdom, [3]Institut Universitari d'Investigació en Atenció Primària Jordi Gol (IDIAP Jordi Gol), Spain, [4]CIBERFes, Universitat Autònoma de Barcelona and Instituto de Salud Carlos III, Spain, [5]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [6]University 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
LB-1164

Does Cortical Porosity Predict Incident Fractures in Postmenopausal Women?

Camilla Andreasen*[1], Åshild Bjørnerem[2]. [1]Department of Clinical Medicine, UiT The Arctic University of Norway, Tromsø, Norway, Department of Orthopaedic Surgery, University Hospital of North Norway, Tromsø, Norway, [2]Department 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 Andreasen, None

11:33 am
LB-1165

Nursing Home Trends in Hip Fracture Rates Follow the Plateau Observed in U.S. Women

Sarah Berry*[1], Lori Daiello[2], Andrew Zullo[2], Kevin Mcconeghy[2], Tingting Zhang[2], Yoojin Lee[2], Jeffrey Curtis[3], Nicole Wright[3], Vincent Mor[2], Douglas Kiel[1]. [1]Hebrew SeniorLife, Institute for Aging Research, United States, [2]Brown University School of Public Health, United States, [3]University of Alabama at Birmingham, School of Public Health, United States

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

11:42 am
LB-1166

Fracture Prevention in Osteopenic Postmenopausal Women with Zoledronic Acid 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. Steger[2], Daniel Egle [3], Richard Greil [4], Florian Fitzal [5], Viktor Wette [6], Marija Balic [7], Ferdinand Haslbauer [8], Elisabeth Melbinger-Zeinitzer [9], Vesna Bjelic-Radisic [10], Jonas Bergh [11], Raimund Jakesz [5], Christian Marth [3], Paul Sevelda [12], Brigitte Mlineritsch [13], Ruth Exner [5], Christian Fesl [14], Sophie Frantal [14], Christian F Singer[1], Michael Gnant [5]. [1]Medical University of Vienna/ Department of Obstetrics and Gynecology and Comprehensive Cancer Center, Austria, [2]Medical University of Vienna/ Department of of Internal Medicine I/Oncology, Austria, [3]Medical University Innsbruck/ Department of Gynecology, Austria, [4]Paracelsus Medical Univerity Salzburg/ Department of Internal Medicine III and Salzburg Cancer Research Institute, Austria, [5]Medical University of Vienna/ Department of Surgery and Comprehensive Cancer Center, Austria, [6]Breast Center St. Veit/ Glan/ Doctor´s Office Wette, Austria, [7]Medical University Graz/ Department of Oncology, Austria, [8]Hospital Vöcklabruck/Department of Internal Medicine, Austria, [9]Hospital Wolfsberg/ Department of Surgery, Austria, [10]Medical University Graz/ Department of Gynecology, Austria, [11]Department of Oncology-Pathology, Karolinska Institutet and Cancer Theme, Karolinska University Hospital, 17176-Stockholm, Sweden, [12]Karl Landsteiner Institute for Gynecologic Oncology and Senology, Austria, [13]Paracelsus Medical Univerity Salzburg/ Department of Internal Medicine III, Austria, [14]Austrian 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. Whyte[2], Craig Munns[3], Anthony A. Portale[4], Leanne Ward[5], Ola Nilsson[6], Jill H. Simmons[7], Raja Padidela[8], Noriyuki Namba[9], Hae I. Cheong[10], Meng Mao[11], Chao-Yin Chen[11], Alison Skrinar[11], Javier San Martin[11], Francis Glorieux[12]. [1]Indiana University School of Medicine, United States, [2]Shriners Hospitals for Children, United States, [3]The Children's Hospital at Westmead, Australia, [4]University of California, San Francisco, United States, [5]University of Ottawa, Canada, [6]Karolinska Institutet, Sweden, [7]Vanderbilt University School of Medicine, United States, [8]Royal Manchester Children's Hospital, United Kingdom, [9]Osaka Hospital, Japan Community, Healthcare Organization; Osaka University Graduate School of Medicine, Japan, [10]Seoul National University Children's Hospital, Republic of Korea, [11]Ultragenyx Pharmaceutical Inc., United States, [12]Shriners 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. Insogna[2], Karine Briot[3], Erik Imel[4], Peter Kamenický[5], Thomas Weber[6], Pisit Pitukcheewanont[7], Hae I. Cheong[8], Suzanne Jan De Beur[9], Yasuo Imanishi[10], Nobuaki Ito[11], Robin Lachmann[12], Hiroyuki Tanaka[13], Farzana Perwad[14], Lin Zhang[15], Christina Theodore-Oklota[15], Matt Mealiffe[15], Javier San Martin[15], Thomas O. Carpenter[16]. [1]University of California, San Francisco, United States, [2]Yale School of Medicine, United States, [3]Centre d'Evaluation des Maladies Osseuses, Hôpital Cochin, France, [4]Indiana University School of Medicine, United States, [5]Université Paris-Sud, France, [6]Duke University Medical Center, United States, [7]Children's Hospital Los Angeles, University of Southern California Keck School of Medicine, United States, [8]Seoul National University Children's Hospital, Republic of Korea, [9]Johns Hopkins University, United States, [10]Osaka City University Graduate School of Medicine, Japan, [11]Tokyo University Hospital, Japan, [12]University College London Hospitals, United Kingdom, [13]Okayama Saiseikai General Hospital, Japan, [14]University of California, San Francisco, United States, [15]Ultragenyx Pharmaceutical Inc., United States, [16]Yale 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 Liu[2], Melissa Coffman[1], Dena Acton[1], Michael Econs[1]. [1]Indiana University School of Medicine, United States, [2]Indiana 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 Doyle[2], Joshua Zaritsky[2], Michael Levine [1]. [1]The Children's Hospital of Philadelphia, United States, [2]Alfred 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. Gottesman[1], Elizabeth L. Lin[1,2], William H. Mcalister[3], Angela Nenninger[1], Vinieth N. Bijanki[1], Margaret Huskey[2], Shenghui Duan[2], Steven Mumm[1,2]. [1]Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States, [2]Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine at Barnes-Jewish Hospital, United States, [3]Mallinckrodt 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, Depart of Molecular Phar, United States

11:15 am
LB-1173
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

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

11:33 am
LB-1175
Multi-omics approach reveals novel pathogenic indicators of DISH
Matthew Veras*[1], Neil Tenn[1], Miljan Kuljanin[2], Gilles Lajoie[2], James Hammond[3], S. Jeffrey Dixon[1], Cheryle Séguin[1]. [1]Bone & Joint Institute, The University of Western Ontario, Canada, [2]The University of Western Ontario, Canada, [3]University of Alberta, Canada
Disclosures: Matthew Veras, None

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

11:51 am
LB-1177
Activin A (ActA) Expression by Fibroadipoprogenitors (FAPs), But Not Myeloid 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 Pepe[1], Federica Biamonte[1], Valeria Fassino[1], Luciano Colangelo[1], Valentina Piazzolla[1], Carolina Clementelli[1], Luciano Nieddu[2], Salvatore Minisola[1]. [1]Sapienza University of Rome, Italy, [2]UNINT 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 Rubin[2], John Williams[2], Sanchita Agarwal[2], Gaia Tabacco[2], Yu-Kwang Donovan Tay[2], Rukshana Majeed[2], Beatriz Omeragic[2], John Bilezikian[2]. [1]Lenox Hill Hospital, United States, [2]Columbia 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. Vieira[1], Fabiana R. Hernandes[3], Andre L. Teixeira[1], Ivone B. Oliveira[1], Wagner V. Dominguez[1], Luciene M. Dos Reis[1], Fabio M. Montenegro[4], Rosa M. Moyses[1,5], Aluizio B. Carvalho[3], Vanda Jorgetti[1,2]. [1]Laboratório de Investigação Médica 16, Hospital das Clinicas da Faculdade de Medicina da Universidade de São Paulo, Brazil, [2]Hospital Samaritano Américas Serviços Médicos, Brazil, [3]Nephrology Division, Federal University of São Paulo, Brazil, [4]Disciplina de Cabeça e Pescoço, Hospital das Clinicas da Faculdade de Medicina da Universidade de São Paulo, Brazil, [5]Pos-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**

Ippei Kanazawa*, Masakazu Notsu, Ken-Ichiro Tanaka, Toshitsugu Sugimoto. Shimane University Faculty of Medicine, Japan

Disclosures: Ippei 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 Chu[1], Yi-Jun Lin[1], Lo-Wei Chen[2], Cheng-Yuan Hsiao[1], Wen-Chih Liu[4]. [1]Department of Biology and Anatomy, National Defense Medical Center, Taiwan, [2]Department of Biology and Anatomy, National Defense Medical Center, United Republic of Tanzania, [4]Graduate 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 Tabacco[2], Rukshana Majeed[1], Beatriz Omeragic[1], Maximo Gomez[1], Leonardo Bandeira[3], Mishaela Rubin[1]. [1]COLUMBIA UNIVERSITY, United States, [2]University Campus Bio-Medico, Italy, [3]Instituto 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. Lelliott[2], John G. Logan[3], David T. Lafont[2], Victoria D. Leitch[3], Natalie C. Butterfield[3], Hayley J. Protheroe[3], Peter I. Croucher[4], Paul A. Baldock[4], Alina Gaultier-Lintia[5], Gael Nicolas[6], Nina Bon[1], Sophie Sourice[1], Jérôme Guicheux[1], Laurent Beck[1], Graham R. Williams[3], J. H. Duncan Bassett[3]. [1]Inserm, UMR 1229, RMeS, Regenerative Medicine and Skeleton, Université de Nantes, UFR Odontologie, ONIRIS, Nantes, F-44042, France, [2]Mouse Pipelines, Wellcome Trust Sanger Institute, Hinxton, CB10 1SA, United Kingdom, [3]Molecular Endocrinology Laboratory, Department of Medicine, Imperial College London, London W12 0NN, United Kingdom, [4]The Garvan Institute of Medical Research, Sydney, NSW 2010, Australia, [5]CHU Nantes, Laennec Hospital, Nantes, F-44093, France, [6]Normandie 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 Dite[1], Yifang Hu[2], Huynh Nguyen[3], Mark R Forwood[3], Keith R Bambery[4], Mark J Tobin[4], Gordon K Smyth[2], T John Martin[1], Natalie A Sims[1]. [1]St. Vincent's Institute of Medical Research, Australia, [2]Walter and Eliza Hall Institute of Medical Research, Australia, [3]Griffith University, Australia, [4]Australian 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 Taylor[2], Eve Donnelly[2], Ani Ural[1]. [1]Villanova University, United States, [2]Cornell 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 Schurman[2], Claire Acevedo[3], Eric Schaible[4], Eric W Livingston[5], Moshe Levi[6], Ted Bateman[5], Tamara Alliston[2,7], Karen B King[8], Virginia L Ferguson[1]. [1]Department of Mechanical Engineering, University of Colorado at Boulder, United States, [2]Department of Orthopaedic Surgery, University of California San Francisco, United States, [3]Department of Mechanical Engineering, University of Utah, United States, [4]Lawrence Berkeley National Laboratory, United States, [5]Department of Biomedical Engineering, University of North Carolina, United States, [6]Department of Biochemistry and Molecular &Cellular Biology, Georgetown University, United States, [7]UC Berkeley/ UCSF Graduate Program in Bioengineering, United States, [8]Department 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 Jong[1], P.C. Willems[1], J.J. Arts[2], S.M.J. Van Kuijk[1], J.A.P. Bons[1], M. Poeze[1], P.P. Geusens[1], B. Van Rietbergen[3], J.P. Van Den Bergh[1]. [1]Maastricht University Medical Center, Netherlands, [2]Eindhoven University of Technology, Netherlands, [3]Technical 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 Griffin[2], George Divine[1], Mahalakshmi Honasoge[1], Arti Bhan[1], Shiri Levy[1], Elizabeth Warner[1], Sudhaker Rao[1]. [1]Henry Ford Hospial, United States, [2]California 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 Kondiboyina[1], Lauren Raine[1], Arthur Kramer[1], Naiman Khan[2], Charles Hillman[1]. [1]Northeastern University, United States, [2]University 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 Trani[1], Maysa S Campos[1], João Paulo B Ximemez[2], Raquel A Silva[3], José B Volpon[1]. [1]School of Medicine of Ribeirão Preto, Brazil, [2]School of Pharmaceutical Sciences of Ribeirão Preto, Brazil, [3]School of Dentistry of Ribeirão Preto, Brazil

Disclosures: Ariane Zamarioli, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS

FRI-0110 **Identification of a Non-Linear Maturational 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 Wang[2], Ji Wang[3], Zhendong Zhang[3], Fiona Wp Yu[1], Vivian Wy Hung[1], Wayne Yw Lee[1], Ali Ghasem-Zadeh[2], Roger Zebaze[2], Tracy Y Zhu[1], X Edward Guo[3], Jack Cy Cheng[1], Tsz Ping Lam[1], Ego Seeman[2]. [1]Department of Orthopaedics and Traumatology, The Chinese University of Hong Kong, Hong Kong, [2]Departments of Endocrinology and Medicine, Austin Health, University of Melbourne, Australia, [3]Bone 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 Chiba[2], Yusaku Isobe[2], Narihiro Okazaki[2], Naoko Murakami[1], Michio Kitajima[1], Kiyonori Miura[1], Makoto Osaki[2], Hideaki Masuzaki[1]. [1]Department of Obstetrics and Gynecology, Nagasaki University Graduate School of Biomedical Sciences, Japan, [2]Department 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 Dumuid[2], Susan Clifford[3], Grace Gell[3], Timothy Olds[2], Melissa Wake[3]. [1]Dept of Endocrinology, Royal Children's Hospital Mlebourne, Australia, [2]Alliance for Research in Exercise, Nutrition and Activity, University of South Australia, Australia, [3]Murdoch Children's Research Insitute, 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 Grahnemo*[1], Karin L. Gustafsson[1], Klara Sjögren[1], Petra Henning[1], Vikte Lionikaite[1], Antti Koskela[2], Juha Tuukkanen[2], Claes Ohlsson[1], Ingrid Wernstedt Asterholm[3], Marie K. Lagerquist[1]. [1]Centre for Bone and Arthritis Research, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, The Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Medical Research Center, University of Oulu, Finland, Sweden, [3]Unit of Metabolic Physiology, Department of Physiology, Institute of Neuroscience and Physiology, The Sahlgrenska Academy, University of Gothenburg, Sweden
Disclosures: Louise Grahnemo, None

FRI-0137 **An Osteocyte Protective Metabolite, β-aminoisobutyric Acid, BAIBA Mediates Survival Signals through MRGPRD/Ca2+/CaMKKβ/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 Xue[1], Loan Nguyen-Yamamoto[1], John A Morris[2], Ippei Kanazawa[3], Toshitsugu Sugimoto[3], Simon S Wing[4], J Brent Richards[2], David Goltzman[1]. [1]Calcium Research Laboratory, Metabolic Disorders and Complications Program, Research Institute of the McGill University Health Centre, Canada, [2]Departments of Medicine, Human Genetics, Epidemiology and Biostatistics, McGill University, Jewish General Hospital, Canada, [3]Internal Medicine 1, Shimane University Faculty of Medicine, Japan, [4]Division 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 Ma[1], Minghao Zheng[2], Xiaohua Liu[1], Jian Feng[1], Yan Jing[1]. [1]Texas A&M University College of Dentistry, United States, [2]The 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 Mosialou[1], Junfei Zhao[2], Akihide Yoshimi[3], Konstantinos Panitsas[4], Richard A. Friedman[5], Omar Abdel-Wahab[3,6], Raúl Rabadán[7], Stavroula Kousteni[1]. [1]Department of Physiology and Cellular Biophysics, College of Physicians and Surgeons, Columbia University Medical Center, United States, [2]Department of Systems Biology, Columbia University Medical Center, United States, [3]Human Oncology and Pathogenesis Program, Memorial Sloan Kettering Cancer Center, United States, [4]Department of Physiology and Cellular Biophysics, College of Physicians and Surgeons, Columbia University, United States, [5]Biomedical Informatics Shared Resource, Department of Biomedical Informatics, Herbert Irving Comprehensive Cancer Center, College of Physicians and Surgeons, Columbia University Medical Center, United States, [6]Weill Cornell Medical College and Leukemia Service, Dept. of Medicine, Memorial Sloan Kettering Cancer Center, United States, [7]Department 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 Karabacak[2], Karin Gustafsson[1], Ninib Baryawno[1], Gabriel Courties[1], Youmna Kfoury[1], Elizabeth Scadden[1], Matthias Nahrendorf[1], Mehmet Toner[2], David Scadden[1]. [1]Massachusetts General Hospital, United States, [2]Shriners 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 Bouchet[2], Casina Kan[3], Claire Benetollo[4], Martine Croset[1], Martine Mazel[5], Laure Cayrefourcq[5], Sophie Vacher[6], Francesco Pantano[7], Keltouma Driouch[6], Ivan Bieche[6], William Jacot[5], Jane Aubin[8], Catherine Alix-Panabieres[5], Philippe Clezardin[1], Edith Bonnelye[1]. [1]INSERM-U1033, France, [2]ENS-Lyon, France, [3]INSERM U1033, Australia, [4]INSERM U 1028-CNRS UMR 5292-UCBL Lyon 1, France, [5]Institut Universitaire de Recherche Clinique (IURC)- Montpellier, France, [6]Institut Curie, France, [7]University Campus Bio-Medico-Roma, Italy, [8]University 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 Kim[2], Hyung Joon Kim[3], Brian Y. Ryu[2], Junho Chung[2], Zang Hee Lee[2], Hong-Hee Kim[2]. [1]Hospital for Special Surgery, United States, [2]Seoul National University, Republic of Korea, [3]Pusan 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 Rauner[2], Andy Göbel[2], Oliver Hoffmann[3], Lorenz Hofbauer[2], Rainer Kimmig[3], Sabine Kasimir-Bauer[3], Ann-Kathrin Bittner[3]. [1]Universitätsklinik Dresden, Germany, [2]University Hospital Dresden, Germany, [3]University 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 Gu[1], Zhiqiang An[2], Jean Jiang[1]. [1]Department of Biochemistry and Structural Biology, University of Texas Health Science Center at San Antonio, United States, [2]Brown 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 Holtslander[1], Vera Mayhew[1], Samuel Dooyema[1], Rachelle W. Johnson[2]. [1]Vanderbilt University, United States, [2]Vanderbilt 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 **DDRGK1, an essential component of the ufmylation process, regulates osteochondroprogenitor 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 IGFβ Signaling Pathway**
Min Liu*[1], Mohammed Alharbi[2], Jormay Lim[1], Dana Graves[2], Shuying Yang[1]. [1]Dept. of Anatomy and Cell Biology, School of Dental Medicine, University of Pennsylvania, United States, [2]Dept. 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 Wein[1], Kei Sakamoto[2], Marc Foretz[3], Rebecca Berdeaux[4], Henry Kronenberg[1]. [1]Massachusetts General Hospital, United States, [2]Nestlé Institute of Health Sciences, Switzerland, [3]INSERM, France, [4]University 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 Ma[1], Hui Li[1], Zhanjun Li[2], Liangxue Lai[2], Yan Jing[1], Jian Q. Feng[1]. [1]Texas A&M College of Dentisty, United States, [2]Jilin 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 Kwon[1], Jeong-Hwa Baek[2], Kyunghwa Baek[1]. [1]Department of Pharmacology, College of Dentistry and Research Institute of Oral Science, Gangneung-Wonju National University, Republic of Korea, [2]Department of Molecular Genetics, School of Dentistry and Dental Research Institute, Seoul National University, Republic of Korea
Disclosures: Danbi Park, None

FRI-0256 **Pparγ 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 Desvergne[2], Nicolas Bonnet[1]. [1]Service of Bone Diseases, Faculty of Medicine (UNIGE), Switzerland, [2]Genopode 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 Guntur[1], Phuong Le[1], Victoria Demambro[1], Mark Horowitz[2], Clifford Rosen[1]. [1]Maine Medical Center Research Institute, United States, [2]Yale 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 Veksler[2], Jérôme Piquereau[2], Lydie Nadal-Desbarats[3], Philippe Pouletaut[1], Molly Nelson Holte[4], Malayannan Subramaniam[4], Sabine Bensamoun[1], John Hawse[4]. [1]Université de Technologie de Compiègne, France, [2]Univ. Paris-Sud, France, [3]Université de Tours, France, [4]Mayo Clinic, United States
Disclosures: Malek Kammoun, None

FRI-0260 **Fatty acid oxidation is essential for osteoclast development and skeletal homeostasis**
Priyanka Kushwaha*[1], Conor Beil[2], Michael J. Wolfgang[1], Ryan C. Riddle[1]. [1]Johns Hopkins University School of Medicine, United States, [2]Johns 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 Costa[1], Calvin Vary[1], Victoria Demambro[1], Marie Demay[2], Clifford Rosen[1], Michaela Reagan[1]. [1]Maine Medical Center Research Institute, United States, [2]Center 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 Sinder[1], Sanja Novak[1], Xi Wang[1], Brya G Matthews[2], Boris Zemelman[3], Ivo Kalajzic[1]. [1]Department of Reconstructive Sciences, University of Connecticut Health Center, United States, [2]Department of Molecular Medicine, University of Auckland, New Zealand, [3]Center 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 Entheseal Bone Formation in Antigen-Induced Arthritis**
Yukiko Maeda*, Catherine Manning, Ellen Gravallese. 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 Burrage[1], Mahim Jain[2], Ingo Grafe[1], Daryl A Scott[1], Jill A Rosenfeld [1], Jason D Heaney[1], Denise Lanza[1], Xiaohui Li[1], Kyu-Sang Joeng[1], Yi-Chien Lee[1], I-Wen Song[1], Joseph M Sliepka[1], Dominyka Batkovskyte[1], Zixue Jin [1], Brian C Dawson [1], Shan Chen[1], Yuqing Chen[1], Ming-Ming Jiang[1], Elda M Munivez [1], Vernon R Sutton [1], Cole Kuzawa[3], Rossella Venditti[4], Maryann Weis[5], Aurélie Clément[6], Brenna Tremp[6], Bernardo Blanco-Sánchez[6], Monte Westerfield [6], David Eyre[5], Catherine G Ambrose[3], Antonella De Matteis[4], Brendan Lee[1]. [1]Baylor College of Medicine, United States, [2]Kennedy Krieger Institute, United States, [3]University of Texas Health Science Center at Houston, United States, [4]TIGEM (Telethon Institute of Genetics and Medicine), Italy, [5]University of Washington, United States, [6]University of Oregon, United States
Disclosures: Ronit Marom, None

FRI-0299 **PIN1 is a new therapeutic target of craniosynostosis**
Hye-Rim Shin*[1], Han-Sol Bae[1], Bong-Su Kim[1], Heein Yoon[1], Young-Dan Cho[1], Woo-Jin Kim[1], Kang Young Choi [2], Yun-Sil Lee[1], Kyung-Mi Woo[1], Jeong-Hwa Baek[1], Hyun-Mo Ryoo[1]. [1]Seoul National University, Republic of Korea, [2]Kyungpook 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 Moody[1], Kim Taylor[1], Niambi Brewer[2], Fred Kaplan[2], Robert Pignolo[3], Eileen Shore[2], Edward Hsiao[1]. [1]UCSF, United States, [2]UPenn, United States, [3]Mayo 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 Wagley[2], Matthew E. Johnson[1], Sumei Lu[1], Michelle E. Leonard[1], Kenyaita M. Hodge[1], James A. Pippin[1], Elisabetta Manduchi[1], Andrew D. Wells[1], Struan F.A. Grant[1], Kurt D. Hankenson[2]. [1]The Children's Hospital of Philadelphia, United States, [2]University 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. Nguyen[2], Tuan V. Nguyen[1,2,3,4]. [1]Bone Biology Division, Garvan Institute of Medical Research, [2]School of Biomedical Engineering, University of Technology, Sydney, Australia, [3]St Vincent Clinical School, UNSW Australia, Australia, [4]School 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 Essalmani[1], John Creemers[2], Nabil G. Seidah[1], Mathieu Ferron[1]. [1]Institut de recherches cliniques de Montreal, Canada, [2]KU 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 Wu[2], Mathew E. Olson[1], Kevin Mcandrews[2], Jessica H. Nelson[1], Ashley L. Daniel[1], Noriyoshi Kurihara[1], Emily G. Atkinson[2], Venkat Srinivasan [3], Lifeng Xiao[3], Frank H. Ebetino[3], G. David Roodman[1], Robert K. Boeckman Jr[3], Teresita Bellido[2]. [1]Indiana University School of Medicine, Dept. of Medicine, Hematology/ Oncology, United States, [2]Indiana University School of Medicine, Dept. of Anatomy and Cell Biology, United States, [3]University 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'Bryan[2], Arun Tatiparthi[3], Erica Clinkenbeard[4], Pu Ni[4], Martin Cramer[2], Manoj Bhaskaran[2], Robert Johnson[2], Jonathan Wilson[2], Rosamund Smith[2], Kenneth White[4]. [1]Marian University, United States, [2]Eli Lilly and Company, United States, [3]Covance Inc, United States, [4]Indiana 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 Chen[1], Weiwei Sun[1], David Goltzman[2], Dengshun Miao[1]. [1]Nanjing Medical University, China, [2]McGill 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 Xi[1], Victoria Demambro[2], Clifford Rosen[2], David Clemmons[1]. [1]University of North Carolina at Chapel Hill, United States, [2]Maine 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 Li[1], Kevin Mcandrews[1], Alexander G Robling[2], Teresita Bellido[3]. [1]Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, [2]Department of Anatomy & Cell Biology, Indiana University School of Medicine, Roudebush Veterans Administration Medical Center, United States, [3]Department 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. Essex[1], Sinai Valdez[1], Alexandra Aguilar-Perez[1,2], Padmini Deosthale[1,2], Fletcher White[3,4,5], Jolene Windle[6], Matthew R. Allen[1,2,5], Lilian I. Plotkin [1,2,5]. [1]Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, [2]Indiana Center for Musculoskeletal Health, United States, [3]Department of Anesthesia, Indiana University School of Medicine, United States, [4]Stark Neuroscience Research Institute, Indiana University School of Medicine, United States, [5]Roudebush Veterans Administration Medical Center, United States, [6]Department 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 Parimi [2], Peggy Cawthon [2], Lisa Langsetmo [3], Kris Ensrud [3], Jane Cauley [4], Deborah Kado[5]. [1]University of California, San Diego, United States, [2]California Pacific Medical Center Research Institute, United States, [3]University of Minnesota, United States, [4]University of Pittsburgh Graduate School of Public Health, United States, [5]University 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 Mace[2], Perla Reyes-Fernandez[1], James Fleet[1]. [1]Department of Nutrition Science, Purdue University, United States, [2]Department of Biological Sciences, Purdue University, United States

Disclosures: Krittikan Chanpaisaeng, None

FRI-0439 **The large variant of the stimulatory G protein alpha-subunit XL*α*s 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 Ma[1], Wuxia Qiu[2], Lifang Hu[1], Airong Qian[1]. [1]Northwestern Polytechnical University, China, [2]Northwestern Polytechnical, China

Disclosures: Fan Zhao, None

FRI-0442 **Epigenetic regulator, Uhrf1, positively controls skeletal muscle differentiation**
Yuichiro Sawada*[1], Tadahiko Kikugawa[1], Iori Sakakibara[2], Yusuke Ono[3], Yuta Yanagihara[4], Noritaka Saeki[4], Hiroyuki Iio[1], Takashi Saika[1], Yuuki Imai[4]. [1]Department of Urology, Ehime University Graduate School of Medicine, Japan, [2]Research Center for Advanced Science and Technology, The University of Tokyo, Japan, [3]Musculoskeletal Molecular Biology Research Group, Nagasaki University Graduate School of Biomedical Sciences, Japan, [4]Division 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 Tye[1], Joseph Boyd[1], Andre Van Wijnen[2], Janet Stein[1], Gary Stein[1], Jane Lian[1]. [1]Department of Biochemistry, Larner College of Medicine, University of Vermont, United States, [2]Department 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 Liu[2], Tj Martin[3], Beate Lanske[4], Roland Baron[2], Clifford Rosen[1]. [1]Maine Medical Center Research Institute, United States, [2]Harvard School of Dental Medicine, United States, [3]St. Vincent's Institute Medical Research, Australia, [4]Radius Health, Inc, United States
Disclosures: Phuong Le, None

FRI-0467 **Effects of Notch1 signaling on bone fracture healing**
Sanja Novak*[1], Emilie Roeder[1], Brya G Matthews[1], Douglas J Adams[2], Ivo Kalajzic[1]. [1]Department of Reconstructive Sciences, University of Connecticut Health Center, United States, [2]Department 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 Tichy[2], Foteini Mourkioti[3], Eileen M. Shore[4]. [1]Perelman School of Medicine, University of Pennsylvania, Department of Orthopaedic Surgery, Cell and Developmental Biology Graduate Program, United States, [2]Perelman School of Medicine, University of Pennsylvania, Department of Orthopaedic Surgery, United States, [3]Perelman School of Medicine, University of Pennsylvania, Departments of Orthopaedic Surgery and Cell and Developmental Biology, United States, [4]Perelman 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 Huang[2], Chunlin Zuo[2], Douglas Moore[2], Matthew Warman[3], Michael Ehrlich[1], Wentian Yang[1]. [1]Department of Orthopaedics, Brown University Alpert Medical School and Rhode Island Hospital, United States, [2]Brown University Alpert Medical School and Rhode Island Hospital, United States, [3]Orthopaedic Research Laboratories and Howard Hughes Medical Institute, Boston Children's Hospital and Harvard Medical School, United States
Disclosures: Lijun Wang, None

FRI-0470 **PDGFRβ signaling regulates osteogenesis of αSMA labeled periosteal cells.**
Xi Wang*[1], Sanja Novak[1], Danka Grcevic[2], Brya G Matthews[1], Ivo Kalajzic[1]. [1]UConn Health, United States, [2]University of Zagreb, Croatia
Disclosures: Xi Wang, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS

FRI-0501 **Drug-induced modulation of gp130 signaling prevents articualr 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. Yu[1], Ariana Moini[1], Zexi Wang[1], Matthew Scott Heller[2], Akshay Lakra[2], Herbert John Cooper[2], Roshan Pradip Shah[2], Jeffrey Albert Geller[2], X. Lucas Lu[3], X. Edward Guo[1]. [1]Bone Bioengineering Laboratory, Columbia University, United States, [2]Department of Orthopaedic Surgery, Columbia University Medical Center, United States, [3]Department 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 Judge[2], Kirsten Leyland[2], Hazel Inskip[1], Cyrus Cooper[1]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [2]University 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 Burkov[1], Graham Treece[1], Andrew Gee[1], Thomas Turmezei[1], Fjola Johannesdottir[1], Sigurdur Sigurdsson[2], Tamara Harris[4], Helgi Jonsson[3], Vilmundur Gudnason[5]. [1]University of Cambridge, United Kingdom, [2]The Icelandic Heart Association, Iceland, [3]Public Health Sciences, University of Iceland, Iceland, [4]Laboratory of Epidemiology and Population Sciences, United States, [5]Faculty 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 Soen[2], Hisashi Yamanaka[3], Toshiyuki Yoneda[4], Sakae Tanaka[5], Takaya Nitta[6], Naoki Okubo[6], Harry Genant[7], Désirée Van Der Heijde[8], Tsutomu Takeuchi[9]. [1]University of Occupational and Environmental Health, Japan, [2]Kindai University Nara Hospital, Japan, [3]Institute of Rheumatology Tokyo Women's Medical University, Japan, [4]Osaka University Graduate School of Dentistry, Japan, [5]The University of Tokyo, Japan, [6]Daiichi Sankyo Co. Ltd, Japan, [7]University of California, United States, [8]Leiden University Medical Center, Netherlands, [9]Keio University School of Medicine, Japan
Disclosures: Yoshiya Tanaka, Mitsubishi Tanabe, Takeda, Bristol-Myers, Chugai, Astellas, Abbvie, MSD, Daiichi Sankyo, Pfizer, Kyowa Hakko 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 Brooks[2], Anne Harrington[3], Mary L Bouxsein[2], Lucy Liaw[3], Clifford J Rosen[3]. [1]Maine Medical Center Research Insitute, United States, [2]Beth Israel Deaconess Medical Center, Harvard Medical School, United States, [3]Maine 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 Wagley[2], Matthew E. Johnson[1], Sumei Lu[1], Michelle E. Leonard[1], Kenyaita M. Hodge[1], James A. Pippin[1], Elisabetta Manduchi[1], Andrew D. Wells[1], Kurt D. Hankenson[2], Struan F.A. Grant[1]. [1]The Children's Hospital of Philadelphia, United States, [2]University 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/Gαi-calcium oscillation-ERK signaling**
Ziqing Li*[1], Tongjun Liu[2], Alyssa Gilmore[2], Néstor Más Gómez[1], Claire H Mitchell[1,3], Yi-Ping Li[4], Merry J Oursler[5], Shuying Yang[1,2]. [1]Department of Anatomy and Cell Biology, University of Pennsylvania, School of Dental Medicine, United States, [2]Department of Oral Biology, School of Dental Medicine, University of Buffalo, State University of New York, United States, [3]Department of Physiology, University of Pennsylvania, School of Medicine, United States, [4]Department of Pathology, University of Alabama in Birmingham, United States, [5]Department 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, Quamarul 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 Riddle[1], Marie-Claude Faugere[2], Clifford Rosen[3], Charles Farber[4], Thomas Clemens[1]. [1]Department of Orthopaedic Surgery, Johns Hopkins University, United States, [2]Department of Medicine, University of Kentucky, United States, [3]Maine Medical Center, United States, [4]University 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 Conrad[2], Fan Yang[3], Joy Wu[1]. [1]Division of Endocrinology, Stanford University School of Medicine, United States, [2]Program of Stem Cell Biology and Regenerative Medicine, Stanford University, United States, [3]Department 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 Ng[1], Dorothy Hu[1], Roland Baron[1,2], Francesca Gori[1]. [1]Division of Bone and Mineral Research, Harvard Medical School and Harvard School of Dental Medicine, United States, [2]Endocrine 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 Valdez[1], Leland J. Gomez[1], Angela Bruzzaniti[1,2,3], Lilian I. Plotkin [1,2,4]. [1]Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, [2]Indiana Center for Musculoskeletal Health, United States, [3]Biomedical and Applied Sciences, Indiana University School of Dentistry, United States, [4]Roudebush 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. Carey[2], Devadoss J. Samuvel[1], Katie A. Thies[1], Jennifer A. Geisler[2], Thomas J. Rosol[3], Ramiro E. Toribio[3], Julia F. Charles[4], Michael C. Ostrowski[1], Sudarshana M. Sharma[1]. [1]Medical University of South Carolina Department of Biochemistry and Molecular Biology and Hollings Cancer Center, United States, [2]Ohio State University Department of Cancer Biology and Genetics and Comprehensive Cancer Center, United States, [3]Ohio State University College of Veterinary Medicine, United States, [4]Brigham 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 Park[2], Keunsoo Kang[4], Jiyoung Ahn[3], Ye-Ji Lee[3], Sehwan Mun[3], Seyeon Bae[3], Kaichi Kaneko[3], Kyung-Hyun Park-Min[2]. [1]University of Toronto Faculty of Medicine, Canada, [2]Arthritis and Tissue Degeneration Program, David Z. Rosensweig Genomics Research Center, Hospital for Special Surgery, United States, [3]Arthritis and Tissue Degeneration Program, Hospital for Special Surgery, United States, [4]Department 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 Qu[2], Xiaomin Chen[2], Wenhan Wang[2], John Hayball[3], Krasimir Vasilev[3], Yunpeng Zhao[1]. [1]Shandong University Qilu Hospital, China, [2]Shandong University, China, [3]University 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 Molstad[1], Dana Begun[1], Jennifer Westendorf[1], Merry Jo Oursler[1], Meghan Mcgee-Lawrence[2], Bradley Elizabeth[1]. [1]Mayo Clinic, United States, [2]Augusta University, United States

Disclosures: Anna Mattson, None

FRI-0603 **Collagen Type VI α2 Chain Deficiency Causes Trabecular Bone Loss by Promoting Osteoclast Differentiation through Enhanced TNFα Signaling**

Hai Pham*[1], Ainnie Dar[1], Vardit Kram[2], Li Li[1], Tina Kilts[1], Marian Young[1]. [1]Craniofacial and Skeletal Diseases Branch, National Institute of Dental and Craniofacial Research, National Institutes of Health, United States, [2]Collagen Type VI α2 Chain Deficiency Causes Trabecular Bone Loss by Promoting Osteoclast Differentiation through Enhanced TNFα 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 Aibibula[1], Jinying Piao[1], Shingo Sato[2], Hiroki Ochi[2], Kunikazu Tsuji[3], Atsushi Okawa[1], Yoshinori Asou[1]. [1]Department of Orthopedics Surgery, Tokyo Medical and Dental University, 1-5-45 Yushima Bunkyo-Ku Tokyo Japan, 113-8519, Japan, [2]Department of Physiology and Cell Biology, Tokyo Medical and Dental University, 1-5-45 Yushima Bunkyo-Ku Tokyo Japan, 113-8519, Japan, [3]Department 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. Mullen[2], Ashton M. Weins[2], Louis S. Stodieck[3], Virginia L. Ferguson[1]. [1]Department of Mechanical Engineering, University of Colorado, Boulder CO, United States, [2]Department of Applied Mathematics, University of Colorado, Boulder CO, United States, [3]BioServe 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. Essex[1], Emily G. Atkinson[1,2], Julian E. Dilley[1], Carmen Herrera[1], Padmini Deosthale[1,2], Mircea Ivan[3], Matthew R. Allen[1,2,4], Teresita M. Bellido[1,2,4], Lilian I. Plotkin [1,2,4]. [1]Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, [2]Indiana Center for Musculoskeletal Health, United States, [3]Department of Hematology/Oncology, Indiana University School of Medicine, United States, [4]Roudebush 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 Lundh[2], Mattias Lorentzon[1]. [1]Department of Geriatrics, Sahlgrenska Academy, Gothenburg University, Sweden, [2]School 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 Burt[2], Leigh Gabel[2], David Hanley[3], Steven Boyd[2]. [1]University of Calgary, Canada, [2]McCaig Institute for Bone and Joint Health, Department of Radiology, Cumming School of Medicine, University of Calgary, Calgary, Canada, [3]McCaig 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 Derkatch*[1], Christopher Kirby[2], Douglas Kimelman[2], Mohammad Jafari Jozani[1], J Michael Davidson[1], William Leslie[1]. [1]University of Manitoba, Canada, [2]St-Boniface Hospital Albrechtsen Research Centre, Canada

Disclosures: Sheldon Derkatch, 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 Shevroja[2], Lisa M. Lix[1], Didier Hans[2]. [1]Department of Medicine (W.D.L.), University of Manitoba, Canada, [2]Center 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 Eusébio[2], Ana Catarina Rodrigues[3], Joana Caetano-Lopes[4], Inês Lopes[5], Jorge M Mendes[6], Pedro Simões Coelho[6], João Eurico Fonseca[5], Jaime Cunha Branco[7], Helena Canhão[1]. [1]EpiDoc Unit – Unidade de Epidemiologia em Doenças Crónicas, CEDOC, Nova Medical School, Lisboa, Portugal, [2]Sociedade Portuguesa de Reumatologia, Lisboa, Portugal, [3]Faculdade de Medicina da Universidade de Lisboa, Lisboa, Portugal, [4]Department of Orthopaedic Research, Boston Children's Hospital, Boston, MA, USA; Department of Genetics, Harvard Medical School, Boston, MA, United States, [5]Unidade de Investigação em Reumatologia, Instituto de Medicina Molecular, Faculdade de Medicina, Universidade de Lisboa, Centro Académico de Medicina de Lisboa, Portugal, [6]NOVA IMS, Universidade Nova de Lisboa, Lisboa, Portugal, [7]Centro 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 Biver[2], Thierry Chevalley[2], Keita Ito[3], Roland Chapurlat[4], Serge Ferrari[2]. [1]Dept. Biomed. Eng. Eindhoven University of Technology / Dept. Orthopaedics Maastricht University Medical Centre, Netherlands, [2]Division of Bone Diseases, University Hospitals and Faculty of Medicine, Switzerland, [3]Orthopaedic Biomechanics, Dept. Biomed. Eng. / Dept. Orthopaedics, University Medical Center Utrecht, Netherlands, [4]5INSERM 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 Wang[2], Rodrigo J. Valderrábano[4], Yi-Wen Tsai[2], Jennifer S. Lee[1]. [1]Stanford University School of Medicine, United States, [2]National Yang-Ming Univeristy Institute of Health and Welfare Policy, Taiwan, [4]Univeristy 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 Leslie[2], Saeed Al-Azazi[2], Lin Yan[2], Lisa Lix[2], Piotr Czaykowski[3], Harminder Singh[3]. [1]Central Texas Veterans Healthcare System, United States, [2]University of Manitoba, Canada, [3]University 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. Black[1], Bonnie H. Li[2], Denison S. Ryan[2], Richard M. Dell[2], Annette L. Adams[2]. [1]University of California, San Francisco, United States, [2]Kaiser 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 Nilsson[1], Dan Mellstrom[1], Daniel Sundh[1], Mattias Lorentzon[2]. [1]Department of Geriatric Medicine, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Head 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 Chastek[2], Kevin Sundquist[2], Setareh A. Williams[3], Deane Leader, Jr.[3], Richard J. Weiss[3], Yamei Wang[3], Lorraine A. Fitzpatrick[3], Jeffrey R. Curtis[4]. [1]New Mexico Clinical Research & Osteoporosis Center, United States, [2]Optum, United States, [3]Radius Health, Inc., United States, [4]UAB 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 Kemp[2], Scott Youlten[3], John Logan[4], Ryan Chai[3], Nicholas Vulpescu[5], Vincenzo Forgetta[6], Aaron Kleinman[7], Sindhu Mohanty[3], Marcelo Sergio[3], Carolina Medina-Gomez[8], Katerina Trajanoska[8], Julian Quinn[3], Elena Ghirardello[4], Natalie Butterfield[4], Katharine Curry[4], Victoria Leitch[4], Penny Sparkes[4], Laetitia Laurent[6], Anne-Tounsia Adoum[4], Naila Mannan[4], Davide Komla-Ebri[4], Andrea Pollard[4], Hannah Dewhurst[4], Stephen Kaptoge[9], Paul Baldock[3], Cyrus Cooper[10], Jonathan Reeve[11], Evangelia Ntzani[12], Evangelos Evangelou[12], Claes Ohlsson[13], David Karasik[14], Fernando Rivadeneira[8], Cheryl Ackert-Bicknell[15], Douglas Kiel[14], Jonathan Tobias[16], Celia Gregson[16], Nicholas Harvey[10], David Adams[17], Christopher Lelliott[17], David Hinds[7], Yi-Hsiang Hsu[14], Matthew Maurano[5], Peter Croucher[3], Graham Williams[4], Duncan Bassett[4], David Evans[2], Brent Richards[1].
[1]Department of Human Genetics, McGill University, Canada, [2]University of Queensland Diamantina Institute, Translational Research Institute, Australia, [3]Garvan Institute of Medical Research, Australia, [4]Molecular Endocrinology Laboratory, Department of Medicine, Imperial College London, United Kingdom, [5]Institute for Systems Genetics, New York University Langone Medical Center, United States, [6]Centre for Clinical Epidemiology, Lady Davis Institute, Jewish General Hospital, Canada, [7]Department of Research, 23andMe, United States, [8]Department of Internal Medicine, Erasmus Medical Center, Netherlands, [9]Department of Public Health and Primary Care, University of Cambridge, United Kingdom, [10]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [11]NIHR Musculoskeletal Biomedical Research Unit, Botnar Research Centre, Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, United Kingdom, [12]Department of Hygiene and Epidemiology, University of Ioannina Medical School, Greece, [13]Department of Internal Medicine and Clinical Nutrition, University of Gothenburg, Sweden, [14]Institute for Aging Research, Hebrew SeniorLife, United States, [15]Center for Musculoskeletal Research, Department of Orthopaedics, University of Rochester, United States, [16]Musculoskeletal Research Unit, Department of Translational Health Sciences, University of Bristol, United Kingdom, [17]Wellcome 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 Martignène[1], Eric Lespessailles[2], Bernard Cortet[1], Grégoire Ficheur[1].
[1]Lille University Hospital, France, [2]Université 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 Ernst[2], Katrine Hass Rubin[2], Daniel Martinez-Laguna[3], M Kassim Javaid[1], Cyrus Cooper[4], Cesar Libanati[5], Emese Toth[5], Bo Abrahamsen[6]. [1]Nuffield Department of Orthopaedics, Rheumatology, and Musculoskeletal Sciences (NDORMS), Oxford NIHR Biomedical Research Centre, University of Oxford, United Kingdom, [2]OPEN, Institute of Clinical Research, University of Southern Denmark, Denmark, [3]GREMPAL Research Group (Idiap Jordi Gol Primary Care Research Institute) and CIBERFes, Universitat Autònoma de Barcelona and Instituto de Salud Carlos III, Spain, [4]Lifecourse Epidemiology Unit, Southampton University, United Kingdom, [5]UCB Biopharma Sprl, Belgium, [6]Holbæk 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 Parimi[1], Andrew Burghardt[1], Mary Bouxsein[2], Elsa Strotmeyer[3], Eric Vittinghoff[1], Eric Orwoll[4], Gina Woods[5], Dennis Black[1], Nancy Lane[6], Kristine Ensrud[7], Nicola Napoli[8]. [1]University of California, San Francisco, United States, [2]Harvard Medical School, United States, [3]University of Pittsburgh, United States, [4]Oregon Health and Science University, United States, [5]University of California, San Diego, United States, [6]University of California, Davis, United States, [7]University of Minnesota and Minneapolis VA Health System, United States, [8]Uniersita 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 Papaioannou[1], Olga Gajic-Veljanoski[2], Courtney Kennedy[1], George Ioannidis[1], Claudie Berger[3], Wilma Hopman[4], David Goltzman[5], Robert Josse[6], Christopher S Kovacs[7], David A Hanley[8], Jerilynn C Prior[9], Suzanne N Morin[5], Stephanie M Kaiser[10], Angela M Cheung[13], Lehana Thabane[12], Jonathan D Adachi[12], The Camos Research Group[3]. [1]McMaster University & GERAS Centre, Canada, [2]GERAS Centre, Canada, [3]Camos – McGill University, Canada, [4]Kingston General Hosptial, Canada, [5]McGill University, Canada, [6]St. Michael Hospital, Canada, [7]Memorial University of Newfoundland, Canada, [8]University of Calgary, Canada, [9]University of British Columbia, Canada, [10]Dalhousie University, Canada, [12]McMaster University & St. Joseph's Healthcare Hamilton, Canada, [13]University 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 Johansson[2], Nicholas Harvey[3], Juliet Compston[4], Cyrus Cooper[3], John Kanis[2]. [1]Mellanby Centre for Bone Research, University of Sheffield, United Kingdom, [2]Centre for Metabolic Bone Diseases, University of Sheffield, United Kingdom, [3]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [4]Department 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. Ortendahl[2], Jacqueline Vanderpuye-Orgle[3], Andreas Grauer[3], Amanda L. Harmon[2], Andrea J. Singer[4]. [1]New Mexico Clinical Research & Osteoporosis Center, United States, [2]Partnership for Health Analytic Research, LLC, United States, [3]Amgen Inc., United States, [4]Georgetown 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

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 Burt[1], Erin M Davison[1], Marianne S Rose[2], Sharon Gaudet[1], Michelle Kan[1], Steven K Boyd[1], David A Hanley[1]. [1]McCaig Institute for Bone and Joint Health, Cumming School of Medicine, University of Calgary, Canada, [2]Research 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 Parsons[1], Kate Maslin[1], Stefania D'Angelo[1], Rebecca Moon[1], Sarah Crozier[1], Fatma Gossiel[2], Nicholas Bishop[3], Stephen Kennedy[4], Aris Papageorghiou[4], Robert Fraser[5], Saurabh Gandhi[5], Ann Prentice[6], Hazel Inskip[1], Keith Godfrey[1], Inez Schoenmakers[6], M Kassim Javaid[7], Richard Eastell[2], Cyrus Cooper[1], Nicholas Harvey[1]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton, United Kingdom, [2]Academic Unit of Bone Metabolism, University of Sheffield, Sheffield, United Kingdom, [3]Academic Unit of Child Health, Sheffield Children's Hospital, University of Sheffield, Sheffield, United Kingdom, [4]Nuffield Department of Women's & Reproductive Health, John Radcliffe Hospital, University of Oxford, Oxford, United Kingdom, [5]Department of Obstetrics and Gynaecology, Sheffield Hospitals NHS Trust, University of Sheffield, Sheffield, United Kingdom, [6]MRC Human Nutrition Research, Elsie Widdowson Laboratory, Cambridge, United Kingdom, [7]National 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 Wu[1], Terry Dwyer[2], Tania Winzenberg[1], Graeme Jones[1]. [1]Menzies Institute for Medical Research, University of Tasmania, Australia, [2]The 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 Heilmeier[1], Robert Theiler[2], Andreas Egli[1], Heike A. Bischoff-Ferrari[2]. [1]Centre on Aging and Mobility, Department of Geriatrics and Aging Research, University Hospital Zurich and Zurich of University, Switzerland, [2]Department 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 Lewis[2], Marc Sim[2], Richard Prince[3]. [1]Department of Endocrinology and Diabetes, Sir Charles Gairdner Hospital, Australia, [2]School of Medical and Health Sciences, Edith Cowan University, Australia, [3]Medical 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 Scott[1], Belal Khan[2], Allison Hodge[3], Dallas English[2], Graham Giles[3], Bo Abrahamsen[4], Peter Ebeling[1]. [1]Monash University, Australia, [2]University of Melbourne, Australia, [3]Cancer Council Victoria, Australia, [4]University 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 Schneider[2], Karen Hansen[3], Yvette Schlussel[1], Sue Shapses[1]. [1]Rutgers University, United States, [2]Rutgers Robert Wood Johnson Medical School, United States, [3]University 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 Tu[1], Jake Chen[1,2]. [1]Division of Oral Biology Tufts University School of Dental Medicine, United States, [2]Department 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 Gamsjaeger[1], Stamatia Rokidi[1], Keith Condon[2], Klaus Klaushofer[1], David Burr[2]. [1]Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK and AUVA Trauma Centre Meidling, 1st Medical Department, Hanusch Hospital, Heinrich Collin Str. 30, A-1140, Austria, [2]Indiana 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 Kang[2], Martha Villavicencio[3], Jason Hodges[3], Wassim Chemaitilly[4], Sue Kaste[5], James Gurney[6], Babette Zemel[7], Jane Hankins[3]. [1]Division of Hematology, University of Washington School of Medicine, United States, [2]Department of Biostatistics, St. Jude Children's Research Hospital, United States, [3]Department of Hematology, St. Jude Children's Research Hospital, United States, [4]Department of Pediatric Medicine, Division of Endocrinology, St. Jude Children's Research Hospita, United States, [5]Department of Radiological Sciences, St. Jude Children's Research Hospital, United States, [6]School of Public Health, University of Memphis, United States, [7]Division of Gastroenterology, Hepatology and Nutrition, Children's Hospital of Philadelphia, United States
Disclosures: Oyebimpe Adesina, None

FRI-0878 **Hyponatremia Induced Osteoporosis**
Julianna Barsony*, 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 Martins[1], Rmr Pereira[1], Thomas Nickolas[2], Mt Yin[2], J Galvão[3], Margareth Eira[4], Lm Reis[1], Luzia Furukawa[1], Vanda Jorgetti[1], Rm Moyses[1,3]. [1]Universidade de São Paulo, Brazil, [2]Columbia University, United States, [3]UNINOVE, Brazil, [4]Instituto 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 Winzenrieth[1], Ludovic Humbert[1], Edward Leib[2]. [1]Galgo Medical SL, Spain, [2]Dept. 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 Marin[2], Piet Geusens[3], Cristiano Zerbini[4], Astrid Fahrleitner-Pammer[5], Ruediger Moericke[6], Enrique Casado[7], Jan Stepan[8], Salvatore Minisola[9], Eric Lespessailles[10], Pedro López-Romero[2], David Kendler[11]. [1]CHU Brugmann, ULB, Belgium, [2]Lilly Research Center Europe, Spain, [3]Maastricht University Medical Center, Netherlands, [4]Centro Paulista de Investigaçao Clínica, Brazil, [5]Division of Endocrinology, Medical University of Graz, Austria, [6]Institut Präventive Medizin & Klinische Forschung, Germany, [7]University Hospital Parc Taulí Sabadell (UAB), Spain, [8]Institute of Rheumatology and Faculty of Medicine 1, Charles University, Czech Republic, [9]Sapienza Rome University, Italy, [10]Regional Hospital, University of Orleans, France, [11]University 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 Sing[1], Angel Wong[1], Douglas Kiel[2], Elaine Cheung[3], Joanne Lam[4], Tommy Cheung[1], Esther Chan[1], Annie Kung[1], Ian Wong[5]. [1]The University of Hong Kong, Hong Kong, [2]Hebrew SeniorLife, Harvard Medical School, United States, [3]United Christian Hospital, Hong Kong, [4]Queen Mary Hospital, Hong Kong, [5]UCL 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 Dempster[2], Donald Mcmahon[2], Jeri Nieves[4]. [1]Columbia University, United States, [2]Helen Hayes Hospital, United States, [4]Columbia 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 Lui[1], Douglas C. Bauer[2], Dennis M. Black[2]. [1]San Francisco Coordinating Center, CPMC Research Institute, United States, [2]San 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 Goemaere[2], Nico Pannacciulli[3], Nancy Lane[4], Eric Lespessailles[5], Osvaldo D. Messina[6], Roland Chapurlat[7], Xiang Yin[3], Rachel B. Wagman[3], Joop Pw Van Den Bergh[1]. [1]Maastricht University Medical Center, Netherlands, [2]Ghent University Hospital, Belgium, [3]Amgen Inc., United States, [4]University of California, Davis, United States, [5]University Hospital Orleans, France, [6]Cosme Argerich Hospital, Argentina, [7]Hôpital 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 ACTIVExtend Phase 3 Trial**

Susan Greenspan*[1], Fitzpatrick Lorraine[2], Bruce Mitlak[2], Yamei Wang[2], Nicholas C. Harvey[3], Chad Deal[4], Felicia Cosman[5], Mike Mcclung[6]. [1]University of Pittsburgh, United States, [2]Radius Health, Inc., United States, [3]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [4]Cleveland Clinic Foundation, United States, [5]Columbia University College of Physicians and Surgeons, United States, [6]Oregon 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 Harvey[4], Anders Odén[2], Kerrie Sanders[4], Fredrik Borgström[5], Axel Svedbom[6], Eugene Mccloskey[2,7], John Kanis[2,3]. [1]Geriatric 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, [2]Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, UK, Sweden, [3]Institute for Health and Aging, Catholic University of Australia, Melbourne, Australia, United Kingdom, [4]MRC 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, [5]LIME/MMC, Karolinska Institutet, Stockholm, Sweden, [6]Mapi, Stockholm, Sweden, [7]Mellanby 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 Eastell[1], Michael Mcclung[2], Nico Pannacciulli[3], Christine Wang[3], Susan Yue[3], Steven R. Cummings[4]. [1]The University of Sheffield, United Kingdom, [2]Oregon Osteoporosis Center, United States, [3]Amgen Inc., United States, [4]San 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 Haschka[1], Georg Langs[2], Markus Holzer[2], Andreas Baierl[3], Christoph Pümpel[1], Zora Messner[1], Roland Kocijan[1], Xaver Feichtinger[4], Rainer Mittermayr[4], Jakob E. Schanda[4], Thomas Hausner[5], Robert Wakolbinger[1], Jochen Schmidsfeld[6], Christian Fialka[4], Wolfgang Schima[7], Heinrich Resch[1]. [1]St. Vincent Hospital – Medical Department II – VINFORCE; Academic Teaching Hospital of the Medical University of Vienna, Stumpergasse 13, 1060 Vienna, Austria, [2]Medical University of Vienna, Department of Biomedical Imaging and Image-guided Therapy, Computational Imaging Research Lab, Währinger Gürtel 18-20, 1090 Vienna, Austria, [3]University of Vienna, Department of Statistics and Operations Research, Oskar-Morgenstern-Platz 1, 1090 Vienna, Austria, [4]AUVA Trauma Center Meidling, Kundratstrasse 37, 1120 Vienna, Austria, [5]AUVA Trauma Center Lorenz Böhler, Donaueschingenstraße 13, 1200 Vienna, Austria, [6]Social Medicine Center East, Department of Traumatology, Langobardenstrasse 122, 1220 Vienna, Austria, [7]St. 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 Yang[2]. [1]International St. Mary's Hospital, Catholic Kwandong University College of Medicine, Republic of Korea, [2]Yonsei 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 He[2], Duan Hao[2], Richard Mitteer[3], Yanqing Gong[2], Ling Qin[1]. [1]Department of Orthopaedic Surgery, Perelman School of Medicine, University of Pennsylvania, United States, [2]Division of Translational Medicine and Human Genetics, Perelman School of Medicine, University of Pennsylvania, United States, [3]Radiation 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 Hart[2], Renata Rydzik[1], Dana Godfrey[2], Michael Zuscik[2], Cheryl Ackert-Bicknell[2]. [1]University of Connecticut, United States, [2]University 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 Milano[1], Victoria Demambro[2], David R Clemmons[3], Clifford J Rosen[2], Thierry Abribat[1]. [1]Alize pharma 3, France, [2]Maine Medical Center, United States, [3]NPT 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 Milano[1], David R Clemmons[2], Clifford J Rosen[3], Thierry Abribat[1]. [1]Alizé Pharma 3, France, [2]NPT Inc, United States, [3]Maine 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 Grynpas*[2], Zeeshan Sheikh[1], Robert Young[3]. [1]University of Toronto, Canada, [2]Sinai Health System, Canada, [3]Simon Fraser University, Canada
Disclosures: Marc Grynpas, 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 Ricarte[2], Zhiming He[1], Joshua Johnson[1], Johanna Warshaw[1], Nicola Partridge[1]. [1]New York University, college of dentistry, United States, [2]Molecular 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 Lin[1], Maximilian Muñoz[1], Kevin Mesina[1], Atharva Dhole[1], Savannah Roy[1], Daniel Coban[1], Suleiman Sudah[2], Joseph Benevenia[1], Jessica Cottrell[3], David Paglia[1], Sheldon Lin[1]. [1]Rutgers New Jersey Medical School, United States, [2]Robert Wood Johnson Medical School, United States, [3]Seton 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-Takagaki[1], Satoko Wada-Takahashi[1], Makiko Saita[2], Ryota Kawamata[4], Takenori Sato[1], Akira Kawata[1], Chihiro Miyamoto[1], Yojiro Maehata[1], Hirotaka Watabe[2], Nobuyuki Tani-Ishii[2], Nobushiro Hamada[1], Shun-Suke Takahashi[1], Shinji Deguchi[4], Ryohei Takeuchi[5]. [1]Kanagawa Dental University, Graduate School of Dentistry, Department of Oral Science, Japan, [2]Kanagawa Dental University, Graduate School of Dentistry, Department of Oral Interdsciplinary Medicine, Japan, [4]Kanagawa Dental University, Graduate School of Dentistry, Department of Dentomaxillofacial Diagnosis and Treatment, Japan, [5]Yokosuka 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 Raijmakers[2], Maqsood Yaqub[2], Bernd Teunissen[2], Coen Netelenbos[1], Lothar Schwarte[3], Wouter Lubbers[3], Adriaan Lammertsma[2], Marelise Eekhoff[1]. [1]Department of Internal Medicine, section Endocrinology, Netherlands, [2]Department of Nuclear Medicine and Radiology, Netherlands, [3]Department 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 Högler[2], Erik Imel[3], Anthony A. Portale[4], Annemieke Boot[5], Agnès Linglart[6], Raja Padidela[7], William Van'T Hoff[8], Gary S. Gottesman[9], Meng Mao[10], Alison Skrinar[10], Javier San Martin[10], Michael P. Whyte[9]. [1]Yale University School of Medicine, United States, [2]Birmingham Children's Hospital, United Kingdom, [3]Indiana University School of Medicine, United States, [4]University of California, San Francisco, United States, [5]University of Groningen, Netherlands, [6]APHP Hôpital Bicêtre Paris Sud, France, [7]Royal Manchester Children's Hospital, United Kingdom, [8]Great Ormond Street Hospital, United Kingdom, [9]Shriners Hospitals for Children, United States, [10]Ultragenyx 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 Shiau[2], Nandini Nair[1], John Williams[1], Robert Recker[3], Joan Lappe[4], David Dempster[1], Hua Zhou[5], Mafo Kamanda-Kosseh[1], Mariana Bucovsky[1], Julie Stubby[3], Elizabeth Shane[1]. [1]Columbia University Medical Center, United States, [2]Mailman School of Public Health, United States, [3]Creighton University Medical Center, United States, [4]Creighton University, United States, [5]Helen 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 Brown[1], Lori C Guthrie[1], Luis Fernandez De Castro[1], Michael T Collins [1], Alison M Boyce[1]. [1]Skeletal Diseases and Mineral Homeostasis Section, National Institute of Dental and Craniofacial Research, National Institutes of Health., United States, [2]Department of Endocrinology, School of Medicine. Pontificia Universidad Catolica de Chile., United States, [3]NIH 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 Muxi [2], Eva Gonzalez [3], Ana Monegal [1], Núria Guañabens [1], Pilar Peris [1]. [1]Metabolic Bone Diseases Unit, Department of Rheumatology. Hospital Clinic. University of Barcelona, Spain, [2]Department of Nuclear Medicine. Hospital Clinic, University of Barcelona, Spain, [3]Department 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 Bober[2], Syed Hashmi[3], Jacqueline Hecht[3], Janet Legare[4], Mary Ellen Little[2], John Mcgready[1], Peggy Modaff[4], Richard Pauli[4], David Rodriguez-Buritica[3], Kerry Schulze[1], Elena Serna[3], Cory Smid[4], Adekemi Alade[1]. [1]Johns Hopkins University, United States, [2]AI duPont Hospital for Children, United States, [3]University of Texas, United States, [4]University 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 Rauch[2], Peter Kamenický[3], Nobuaki Ito[4], Takuo Kubota[5], Akie Nakamura[6], Lin Zhang[7], Matt Mealiffe[7], Javier San Martin[7], Anthony A. Portale[8]. [1]Yale School of Medicine, United States, [2]McGill University, Canada, [3]Université Paris-Sud, France, [4]University of Tokyo Hospital, Japan, [5]Osaka University Hospital, Japan, [6]Hokkaido University Hospital, Japan, [7]Ultragenyx Pharmaceutical Inc., United States, [8]University 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 Hakami[1], Manoela Braga[1], Adam Millar[2], Zubin Punthakee[1], Farhan Tariq[1], J.E.M. Young[1], Aliya Khan[1]. [1]McMaster University, Canada, [2]University 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-Zarrabeitia[2], Maite Garcia-Unzueta[1], Carmen Valero[1,3], Jair Tenorio[4], Marta Garcia-Hoyos[1], Pablo Lapunzina[4], Jose A. Riancho[1,3]. [1]Hospital UM Valdecilla, Spain, [2]Hospital Sierrallana, Spain, [3]Univ Cantabria, IDIVAL, Spain, [4]Institute 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 Niemi[2], Frank Rauch[1], Mary Nakamura[2], Svetlana Komarova[1]. [1]Shriners Hospital-Canada/ McGill University, Canada, [2]University 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 Tsuji[2], Sho Tsukamoto[1], Mai Kuratani[1], Satoshi Ohte[1], Kiyosumi Takaishi[2,3], Yoshihiro Kawaguchi[4], Jun Hasegawa[4]. [1]Division of Pathophysiology, Research Center for Genomic Medicine, Saitama Medical University, Japan, [2]Rare Disease & LCM Laboratories, R&D Division, Daiichi-Sankyo Co., Ltd., Japan, [3]Kensuke Nakamura, Modality Research Laboratories, Biologics Division, Daiichi-Sankyo Co., Ltd., Japan, [4]Modality 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*, 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*, 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 Brtl/+ mouse model of osteogenesis imperfecta**
Hsiao Hsin Sung*[1,2], Rachel Surowiec[3], Rebecca Falzon[2], Lauren Battle[2], Chris Stephan[2], Michelle S. Caird[2], Kenneth M. Kozloff[3]. [1]RIMLS, Department of Rheumatology, Radboudumc, The Netherlands; Department of Oral and Maxillofacial Surgery, University of Michigan, [2]Department of Orthopaedic Surgery, University of Michigan, United States, [3]Biomedical 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 Rødbro[1], Lars Rolighed[2], Tanja Sikjaer[1], Lars Rejnmark[1]. [1]Department of Endocrinology and Internal Medicine, Denmark, [2]Department 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 Moon[2], Michael Whitaker[1], Thurmon Lockhart[2]. [1]Mayo Clinic, AZ, United States, [2]Arizona State University, United States
Disclosures: Krupa Doshi, None

FRI-1120 **Genetic Basis of Falling Risk Susceptibility**
Katerina Trajanoska*[1], Felix Day[2], Carolina Medina-Gomez [1], Andre G. Uitterlinden[1], John Perry[2], Fernando Rivadeneira[1]. [1]Department of Internal Medicine, Erasmus Medical Center, Rotterdam, The Netherlands, Netherlands, [2]MRC 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 Fernandez[2], François Herrmann[3], René Rizzoli[1], Gabriel Gold[3], Patrik Vuilleumier[2], Andrea Trombetti[1]. [1]Division of Bone Diseases, Department of Internal Medicine Specialties, Geneva University Hospitals and Faculty of Medicine, Switzerland, [2]Laboratory for Behavioural Neurology and Imaging of Cognition, Campus Biotech, University of Geneva, Switzerland, [3]Division 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 Bucovsky[1], John Williams[1], Danielle Brunjes[1], Arindam Roychoudhury [3], Ivelisse Colon[1], David Ferris[2], Susan Olender[1], P.Christian Schulz[3], Anjali Sharma[4], Cosmina Zeana[2], Barry Zingman[4], Elizabeth Shane[1]. [1]Columbia University Medical Center, United States, [2]BronxCare Health System, United States, [3]Weill Cornell Medical College, United States, [4]Albert Einstein College of Medicine and Montefiore Medical Center, United States

Disclosures: Michael Yin, None

ADULT METABOLIC BONE DISORDERS

SAT-0001 **Acute Kidney Injury in Primary Hyperparathyroidism**
Cristiana Cipriani*[1], Jessica Pepe[1], Federica Biamonte[1], Valeria Fassino[1], Luciano Colangelo[1], Valentina Piazzolla[1], Carolina Clementelli[1], Luciano Nieddu[2], Salvatore Minisola[1]. [1]Sapienza University of Rome, Italy, [2]UNINT University, Italy
Disclosures: Cristiana Cipriani, None

SAT-0002 **Changes in Skeletal Microstructure Through Four Years of rhPTH(1-84) Therapy in Hypoparathyroidism**
Natalie Cusano*[1], Mishaela Rubin[2], John Williams[2], Sanchita Agarwal[2], Gaia Tabacco[2], Yu-Kwang Donovan Tay[2], Rukshana Majeed[2], Beatriz Omeragic[2], John Bilezikian[2]. [1]Lenox Hill Hospital, United States, [2]Columbia 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. Vieira[1], Fabiana R. Hernandes[3], Andre L. Teixeira[1], Ivone B. Oliveira[1], Wagner V. Dominguez[1], Luciene M. Dos Reis[1], Fabio M. Montenegro[4], Rosa M. Moyses[1,5], Aluizio B. Carvalho[3], Vanda Jorgetti[1,2]. [1]Laboratório de Investigação Médica 16, Hospital das Clinicas da Faculdade de Medicina da Universidade de São Paulo, Brazil, [2]Hospital Samaritano Américas Serviços Médicos, Brazil, [3]Nephrology Division, Federal University of São Paulo, Brazil, [4]Disciplina de Cabeça e Pescoço, Hospital das Clinicas da Faculdade de Medicina da Universidade de São Paulo, Brazil, [5]Pos-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 Chu[1], Yi-Jun Lin[1], Lo-Wei Chen[2], Cheng-Yuan Hsiao[1], Wen-Chih Liu[3]. [1]Department of Biology and Anatomy, National Defense Medical Center, Taiwan, [2]Department of Biology and Anatomy, National Defense Medical Center, United Republic of Tanzania, [3]Graduate 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 Tabacco[2], Rukshana Majeed[1], Beatriz Omeragic[1], Maximo Gomez[1], Leonardo Bandeira[3], Mishaela Rubin[1]. [1]Columbia University, United States, [2]University Campus Bio-Medico, Italy, [3]Instituto 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 Derzko[2]. [1]University of Toronto, Canada, [2]University 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 Sfeir, 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 Hong[1], Sujin Lee[1], Jong Ju Jeong[2], Byung Moon Kim[3], Dong Joon Kim[3], Yumie Rhee[1]. [1]Department of Internal Medicine, Severance Hospital, Endocrine Research Institute, Yonsei University College of Medicine, Seoul 120-752, Korea, Republic of Korea, [2]Thyroid Cancer Clinic, Yonsei University College of Medicine, Severance Hospital, Seoul, Korea, Republic of Korea, [3]Department 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. Bilezikian[2], Henry Bone[3], Bart L. Clarke[4], Douglas Denham[5], Michael A. Levine[6], Munro Peacock[7], Jeffrey Rothman[8], Dolores M. Shoback[9], Tamara J. Vokes [10], Mark L. Warren[11], Nelson B. Watts[12], Hak-Myung Lee[13], Nicole Sherry[13]. [1]Massachusetts General Hospital and Harvard Medical School, United States, [2]Columbia University, United States, [3]Michigan Bone & Mineral Clinic, PC, United States, [4]Mayo Clinic Division of Endocrinology, Diabetes, Metabolism, and Nutrition, United States, [5]Clinical Trials of Texas, Inc., United States, [6]Division of Endocrinology and Diabetes and Center for Bone Health, Children's Hospital of Philadelphia, United States, [7]Department of Medicine, Division of Endocrinology, Indiana University School of Medicine, United States, [8]University Physicians Group – Research Division, United States, [9]Endocrine Research Unit, SF Department of Veterans Affairs Medical Center, University of California, United States, [10]Section of Endocrinology, University of Chicago Medicine, United States, [11]Endocrinology and Metabolism, Physicians East, PA, United States, [12]Osteoporosis and Bone Health Services, Mercy Health, United States, [13]Shire 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 Jacques[1], Nicola Peel[2], Jennifer Walsh[1], Richard Eastell[1]. [1]University of Sheffield, United Kingdom, [2]Sheffield 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 Dash[1], Andre Samuel[1], Eric Marty[1], Harold Moore[2], Brandon Carlson[1], John Carrino[1], Donald Mcmahon[3], Alexander Hughes[1], Han Jo Kim[1], Matthew Cunningham[1], Frank Schwab[1], Richard Bockman[1], Emily Stein[1]. [1]Hospital for Special Surgery, United States, [2]Weill Cornell Medical College, United States, [3]Columbia 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-Kwang[1], Mishaela Rubin[1], John Williams[1], Beatriz Omeragic[1], Rukshana Majeed[1], Maximo Gomez Almonte[1], Natalie Cusano[2], John Bilezikian[1]. [1]Department of Medicine, Division of Endocrinology, College of Physicians & Surgeons, Columbia University, United States, [2]Department 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 Tabacco[1], Natalie Cusano[2], John Williams[1], Beatriz Omeragic[1], Rukshana Majeed[1], Maximo Gomez Almonte[1], John Bilezikian[1], Mishaela Rubin[1]. [1]Columbia University Medical Center, United States, [2]Lenox 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 Hauet[2], Pascal Roblot[3], Francoise Debiais[1]. [1]Rheumatology department CHU, France, [2]Biochemistry department CHU, France, [3]Internal 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 Bierhals[2]. [1]Division 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, [2]Mallinckrodt 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 Hu[1], Lori C. Guthrie[1], Beth A. Brillante[1], Michaele Smith[2], Robert James[3], Michael T. Collins[1]. [1]National Institute of Dental and Craniofacial Research, National Institutes of Health, United States, [2]Rehabilitation Medicine Department, Clinical Center, National Institutes of Health, United States, [3]Rho, 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. Lelliott[2], John G. Logan[3], David T. Lafont[2], Victoria D. Leitch[3], Natalie C. Butterfield[3], Hayley J. Protheroe[3], Peter I. Croucher[4], Paul A. Baldock[4], Alina Gaultier-Lintia[5], Gael Nicolas[6], Nina Bon[1], Sophie Sourice[1], Jérôme Guicheux[1], Laurent Beck[1], Graham R. Williams[3], J. H. Duncan Bassett[3]. [1]Inserm, UMR 1229, RMeS, Regenerative Medicine and Skeleton, Université de Nantes, UFR Odontologie, ONIRIS, Nantes, F-44042, France, [2]Mouse Pipelines, Wellcome Trust Sanger Institute, Hinxton, CB10 1SA, United Kingdom, [3]Molecular Endocrinology Laboratory, Department of Medicine, Imperial College London, London W12 0NN, United Kingdom, [4]The Garvan Institute of Medical Research, Sydney, NSW 2010, Australia, [5]CHU Nantes, Laennec Hospital, Nantes, F-44093, France, [6]Normandie 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 Dite[1], Yifang Hu[2], Huynh Nguyen[3], Mark R Forwood[3], Keith R Bambery[4], Mark J Tobin[4], Gordon K Smyth[2], T John Martin[1], Natalie A Sims[1]. [1]St. Vincent's Institute of Medical Research, Australia, [2]Walter and Eliza Hall Institute of Medical Research, Australia, [3]Griffith University, Australia, [4]Australian 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 Taylor[2], Eve Donnelly[2], Ani Ural[1]. [1]Villanova University, United States, [2]Cornell 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 Schurman[2], Claire Acevedo[3], Eric Schaible[4], Eric W Livingston[5], Moshe Levi[6], Ted Bateman[5], Tamara Alliston[2,7], Karen B King[8], Virginia L Ferguson[1]. [1]Department of Mechanical Engineering, University of Colorado at Boulder, United States, [2]Department of Orthopaedic Surgery, University of California San Francisco, United States, [3]Department of Mechanical Engineering, University of Utah, United States, [4]Lawrence Berkeley National Laboratory, United States, [5]Department of Biomedical Engineering, University of North Carolina, United States, [6]Department of Biochemistry and Molecular &Cellular Biology, Georgetown University, United States, [7]UC Berkeley/ UCSF Graduate Program in Bioengineering, United States, [8]Department 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 Jong[1], P.C. Willems[1], J.J. Arts[2], S.M.J. Van Kuijk[1], J.A.P. Bons[1], M. Poeze[1], P.P. Geusens[1], B. Van Rietbergen[2], J.P. Van Den Bergh[1]. [1]Maastricht University Medical Center, Netherlands, [2]Eindhoven 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 Griffin[2], George Divine[1], Mahalakshmi Honasoge[1], Arti Bhan[1], Shiri Levy[1], Elizabeth Warner[1], Sudhaker Rao[1]. [1]Henry Ford Hospial, United States, [2]California 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 Kondiboyina[1], Lauren Raine[1], Arthur Kramer[1], Naiman Khan[2], Charles Hillman[1]. [1]Northeastern University, United States, [2]University 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 Trani[1], Maysa S Campos[1], João Paulo B Ximemez[2], Raquel A Silva[3], José B Volpon[1]. [1]School of Medicine of Ribeirão Preto, Brazil, [2]School of Pharmaceutical Sciences of Ribeirão Preto, Brazil, [3]School 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 Zhou[2], Y Eric Yu[2], Kyle K Nishiyama[1], Fernando R Rosete[1], Mariana Bucovsky[1], Elizabeth Shane[1], X Edward Guo[2]. [1]Division of Endocrinology, Department of Medicine, Columbia University, United States, [2]Bone 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 Dong[3], Yukiyo Ohnishi[1], Yukari Ooguro[1], Kiyoe Kurahashi[1], Masahiro Hiasa[4], Jumpei Teramachi[5], Hirofumi Tenshin[4], Seiji Fukumoto[6], Masahiro Abe[1], Toshio Matsumoto[6]. [1]Department of Hematology, Endocrinology and Metabolism, Tokushima University Graduate School of Medical Sciences, Japan, [2]Department of Chronomedicine, Tokushima University Graduate School of Medical Sciences, Japan, [3]Department of Endocrinology and Metabolism, the Affiliated Hospital of Qingdao University, China, [4]Department of Orthodontics and Dentofacial Orthopedic, Tokushima University, Japan, [5]Department of Tissue Regulation, Tokushima University, Japan, [6]Fujii 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 Farlay[2], Helene Follet[2], Georges Boivin[2]. [1]LIPHY CNRS Université Grenoble Alpes, France, [2]INSERM 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 Bai[2], Xiaodu Wang[2], Jean X. Jiang[1]. [1]Department of Biochemistry, UT Health San Antonio, United States, [2]Department 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 Briley[2], James Ellis[2], Amanda Agnew[1]. [1]Skeletal Biology Research Laboratory, United States, [2]Wright 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 Mcdonald[1], Saija Kontulainen[2]. [1]Department of Mechanical Engineering, University of Saskatchewan, Canada, [2]College 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 Ito[1], Masahiko Takahata[2], Tomohiro Shimizu[2], Fumiya Nakamura[1], Masahiro Ota[2]. [1]Chitose Institute of Science and Technology, Japan, [2]Hokkaido University, Japan
Disclosures: Hiromi Kimura-Suda, None

SAT-0069 **Osseointegrated implants for lower limb amputees: evaluation of bone mineral density**
Seamus Thomson*[1], William Lu[1], Munjed Al Muderis[2]. [1]The University of Sydney, Australia, [2]The 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 Pan[1], Laura Laslett[1], Kathryn Squibb[1], Roger Zebaze[2], Tania Winzenberg[1], Graeme Jones[1]. [1]Menzies Institute for Medical Research, University of Tasmania, Australia, [2]Austin 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 Cresswell[2], Sean Mcdonough[1], Scott Palmer[1], Christopher Hernandez[1], Caroline Wollman[1], Bridgette Peal[3]. [1]Cornell University, United States, [2]LifeNet Health, United States, [3]North 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*, 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 Wang[2], Ji Wang[3], Zhendong Zhang[3], Fiona Wp Yu[1], Vivian Wy Hung[1], Wayne Yw Lee[1], Ali Ghasem-Zadeh[2], Roger Zebaze[2], Tracy Y Zhu[1], X Edward Guo[3], Jack Cy Cheng[1], Tsz Ping Lam[1], Ego Seeman[2]. [1]Department of Orthopaedics and Traumatology, The Chinese University of Hong Kong, Hong Kong, [2]Departments of Endocrinology and Medicine, Austin Health, University of Melbourne, Australia, [3]Bone 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*, 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 Chiba[2], Yusaku Isobe[2], Narihiro Okazaki[2], Naoko Murakami[1], Michio Kitajima[1], Kiyonori Miura[1], Makoto Osaki[2], Hideaki Masuzaki[1]. [1]Department of Obstetrics and Gynecology, Nagasaki University Graduate School of Biomedical Sciences, Japan, [2]Department 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 Dumuid[2], Susan Clifford[3], Grace Gell[3], Timothy Olds[2], Melissa Wake[3]. [1]Dept of Endocrinology, Royal Children's Hospital Mlebourne, Australia, [2]Alliance for Research in Exercise, Nutrition and Activity, University of South Australia, Australia, [3]Murdoch Children's Research Insitute, Australia
Disclosures: Peter Simm, None

SAT-0115 **Elevated RANKL Levels in Pediatric Patients with Metabolic Bone and Neuromuscular Disorders**
Sara Akhtar Ali*, 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 Kliethermes[2], Tamara A Scerpella[2]. [1]SUNY Upstate Medical University; Binghamton University, United States, [2]University 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-Shkolnik[2], Dana David[1], Iris Vered[2], Daniel Stein[3], Dalit Modan-Moses[1]. [1]Pediatric Endcrinology Unit, The Edmond and Lily Safra Children's Hospital, Chaim Sheba Medical Center, Tel-Hashomer, Israel, [2]Institute of Endocrinology, Chaim Sheba Medical Center, Tel-Hashomer., Israel, [3]Pediatric 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 Khrimian, 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 Grahnemo*[1], Karin L. Gustafsson[1], Klara Sjögren[1], Petra Henning[1], Vikte Lionikaite[1], Antti Koskela[2], Juha Tuukkanen[2], Claes Ohlsson[1], Ingrid Wernstedt Asterholm[3], Marie K. Lagerquist[1]. [1]Centre for Bone and Arthritis Research, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, The Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Medical Research Center, University of Oulu, Finland, Sweden, [3]Unit of Metabolic Physiology, Department of Physiology, Institute of Neuroscience and Physiology, The Sahlgrenska Academy, University of Gothenburg, Sweden
Disclosures: Louise Grahnemo, None

SAT-0137 **An Osteocyte Protective Metabolite, β-aminoisobutyric Acid, BAIBA Mediates Survival Signals through MRGPRD/Ca2+/CaMKKβ/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 Xue[1], Loan Nguyen-Yamamoto[1], John A Morris[2], Ippei Kanazawa[3], Toshitsugu Sugimoto[3], Simon S Wing[4], J Brent Richards[2], David Goltzman[1]. [1]Calcium Research Laboratory, Metabolic Disorders and Complications Program, Research Institute of the McGill University Health Centre, Canada, [2]Departments of Medicine, Human Genetics, Epidemiology and Biostatistics, McGill University, Jewish General Hospital, Canada, [3]Internal Medicine 1, Shimane University Faculty of Medicine, Japan, [4]Division 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 Ma[1], Minghao Zheng[2], Xiaohua Liu[1], Jian Feng[1], Yan Jing[1]. [1]Texas A&M University College of Dentistry, United States, [2]The 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 Sun[1], Sarah Amra[1], Yan Cui[1], Zhenhan Deng[1], Haizi Cheng[1], Charles Huard[1], Bing Wang[2], Walter Lowe[1], Johnny Huard [1]. [1]University of Texas Health Science Center at Houston, United States, [2]University 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 Arai[2], Koichiro Komatsu[1], Kazuhisa Nakashima[1], Satoshi Wada [3], Teruhito Yamashita[4], Ernst Pöschl [5], Bent Brachvogel[6], Yoichi Ezura[7], Akira Nifuji [1]. [1]Department of Pharmacology, Tsurumi University School of Dental Medicine, Yokohama, Japan, [2]Nihon University, School of Dentistry, Japan, [3]Department of Orthodontics, Tsurumi University School of Dental Medicine, Yokohama, Japan, [4]Division of Hard Tissue Research, Institute for Oral Science, Matsumoto Dental University, Japan, [5]School of Biological Sciences, University of East Anglia, Norwich Research Park, Norwich, United Kingdom, [6]Experimental Neonatology, Department of Pediatrics and Adolescent Medicine, Center for Biochemistry, Medical Faculty, University of Cologne, Germany, [7]Department of Molecular Pharmacology, Medical Research Institute, Tokyo Medical and Dental University, Japan
Disclosures: Hisashi Ideno, None

SAT-0144 **Dysregulation of NF-kB 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 Pilot[3], Leonardo Pissani[3], Gustavo Roberto Cointry[1], Maria Rosa Ulla[4], Joern Rittweger[5], Alex Ireland[6], Jose Luis Ferretti[1], Ricardo Francisco Capozza[1]. [1]Center for P-Ca Metabolism Studies (CEMFoC), Natl Univ of Rosario, Argentina, [2]Musculoskeletal Biomechanical Studies Unit (UDEBOM), University Institute Gran Rosario (IUGR), Argentina, [3]Musculoskeletal Biomechanical Studies Unit (UDEBOM), University Institute Gran Rosario (IUGR), Argentina, [4]CEOM- Centro de endocrinología Osteología y Metabolismo de Córdoba, Argentina, [5]Institute of Aerospace Medicine, German Aerospace Center (DLR); Department of Pediatrics and Adolescent Medicine, University of Cologne, Germany, [6]School 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 Mosialou[1], Junfei Zhao[2], Akihide Yoshimi[3], Konstantinos Panitsas[4], Richard A. Friedman[5], Omar Abdel-Wahab[3,6], Raúl Rabadán[7], Stavroula Kousteni[1]. [1]Department of Physiology and Cellular Biophysics, College of Physicians and Surgeons, Columbia University Medical Center, United States, [2]Department of Systems Biology, Columbia University Medical Center, United States, [3]Human Oncology and Pathogenesis Program, Memorial Sloan Kettering Cancer Center, United States, [4]Department of Physiology and Cellular Biophysics, College of Physicians and Surgeons, Columbia University, United States, [5]Biomedical Informatics Shared Resource, Department of Biomedical Informatics, Herbert Irving Comprehensive Cancer Center, College of Physicians and Surgeons, Columbia University Medical Center, United States, [6]Weill Cornell Medical College and Leukemia Service, Dept. of Medicine, Memorial Sloan Kettering Cancer Center, United States, [7]Department 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 Karabacak[2], Karin Gustafsson[1], Ninib Baryawno[1], Gabriel Courties[1], Youmna Kfoury[1], Elizabeth Scadden[1], Matthias Nahrendorf[1], Mehmet Toner[2], David Scadden[1]. [1]Massachusetts General Hospital, United States, [2]Shriners 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 Cabral[2], Cláudia Lobato Da Silva[2], Deepak Vashishth[1]. [1]Center for Biotechnology and Interdisciplinary Studies, Department of Biomedical Engineering, Rensselaer Polytechnic Institute, United States, [2]Department 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-Albert[2], Inaam Nakchbandi[1]. [1]Max-Planck Institute for Medical Research, Germany, [2]University 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 Bouchet[2], Casina Kan[3], Claire Benetollo[4], Martine Croset[1], Martine Mazel[5], Laure Cayrefourcq[5], Sophie Vacher[6], Francesco Pantano[7], Keltouma Driouch[6], Ivan Bieche[6], William Jacot[5], Jane Aubin[8], Catherine Alix-Panabieres[5], Philippe Clezardin[1], Edith Bonnelye[1]. [1]INSERM-U1033, France, [2]ENS-Lyon, France, [3]INSERM U1033, Australia, [4]INSERM U 1028-CNRS UMR 5292-UCBL Lyon 1, France, [5]Institut Universitaire de Recherche Clinique (IURC)- Montpellier, France, [6]Institut Curie, France, [7]University Campus Bio-Medico-Roma, Italy, [8]University 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 Kim[2], Hyung Joon Kim[3], Brian Y. Ryu[2], Junho Chung[2], Zang Hee Lee[2], Hong-Hee Kim[2]. [1]Hospital for Special Surgery, United States, [2]Seoul National University, Republic of Korea, [3]Pusan 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 Rauner[2], Andy Göbel[2], Oliver Hoffmann[3], Lorenz Hofbauer[2], Rainer Kimmig[3], Sabine Kasimir-Bauer[3], Ann-Kathrin Bittner[3]. [1]Universitätsklinik Dresden, Germany, [2]University Hospital Dresden, Germany, [3]University 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 Gu[1], Zhiqiang An[2], Jean Jiang[1]. [1]Department of Biochemistry and Structural Biology, University of Texas Health Science Center at San Antonio, United States, [2]Brown 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 Holtslander[1], Vera Mayhew[1], Samuel Dooyema[1], Rachelle W. Johnson[2]. [1]Vanderbilt University, United States, [2]Vanderbilt 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 Saigopalakrishna [2], Sree H Pulugulla[3], Quanhong Sun[1], Philip E Auron[3], Phil G Campbell[4], Deborah L Galson[5]. [1]Department of Medicine, Hematology/Oncology, UPMC Hillman Cancer Center, University of PIttsburgh, United States, [2]Department of Biomedical Engineering, Carnegie Mellon University, United States, [3]Department of Biological Sciences, Duquesne University, United States, [4]Department of Biomedical Engineering, Engineering Research Accelerator, Carnegie Mellon University, United States, [5]Department 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 Hackney[2], Marc Stadelmann[3], Philippe Zysset[3], Ron Alkalay[2], Deepak Vashishth[1]. [1]Rensselaer Polytechnic Institute, United States, [2]Beth Israel Deaconess Medical Center, United States, [3]University 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 **DDRGK1, an essential component of the ufmylation process, regulates osteochondroprogenitor 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 IGFβ Signaling Pathway**
Min Liu*[1], Mohammed Alharbi[2], Jormay Lim[1], Dana Graves[2], Shuying Yang[1]. [1]Dept. of Anatomy and Cell Biology, School of Dental Medicine, University of Pennsylvania, United States, [2]Dept. 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 Wein[1], Kei Sakamoto[2], Marc Foretz[3], Rebecca Berdeaux[4], Henry Kronenberg[1]. [1]Massachusetts General Hospital, United States, [2]Nestlé Institute of Health Sciences, Switzerland, [3]INSERM, France, [4]University 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 Ma[1], Hui Li[1], Zhanjun Li[2], Liangxue Lai[2], Yan Jing[1], Jian Q. Feng[1]. [1]Texas A&M College of Dentisty, United States, [2]Jilin 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 **IL36α 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 Kwon[1], Jeong-Hwa Baek[2], Kyunghwa Baek[1]. [1]Department of Pharmacology, College of Dentistry and Research Institute of Oral Science, Gangneung-Wonju National University, Republic of Korea, [2]Department of Molecular Genetics, School of Dentistry and Dental Research Institute, Seoul National University, Republic of Korea
Disclosures: Danbi Park, None

SAT-0256 **Pparγ 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 Desvergne[2], Nicolas Bonnet[1]. [1]Service of Bone Diseases, Faculty of Medicine (UNIGE), Switzerland, [2]Genopode 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 Guntur[1], Phuong Le[1], Victoria Demambro[1], Mark Horowitz[2], Clifford Rosen[1]. [1]Maine Medical Center Research Institute, United States, [2]Yale 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 Veksler[2], Jérôme Piquereau[2], Lydie Nadal-Desbarats[3], Philippe Pouletaut[1], Molly Nelson Holte[4], Malayannan Subramaniam[4], Sabine Bensamoun[1], John Hawse[4]. [1]Université de Technologie de Compiègne, France, [2]Univ. Paris-Sud, France, [3]Université de Tours, France, [4]Mayo Clinic, United States
Disclosures: Malek Kammoun, None

SAT-0260 **Fatty acid oxidation is essential for osteoclast development and skeletal homeostasis**
Priyanka Kushwaha*[1], Conor Beil[2], Michael J. Wolfgang[1], Ryan C. Riddle[1]. [1]Johns Hopkins University School of Medicine, United States, [2]Johns 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 Costa[1], Calvin Vary[1], Victoria Demambro[1], Marie Demay[2], Clifford Rosen[1], Michaela Reagan[1]. [1]Maine Medical Center Research Institute, United States, [2]Center 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 Sinder[1], Sanja Novak[1], Xi Wang[1], Brya G Matthews[2], Boris Zemelman[3], Ivo Kalajzic[1]. [1]Department of Reconstructive Sciences, University of Connecticut Health Center, United States, [2]Department of Molecular Medicine, University of Auckland, New Zealand, [3]Center 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 Han[1], Meihua Huang[1], Barbara Sternfeld[2], Kristine Ruppert[3], Carrie Karvonen-Gutierrez[4], Arun Karlamangla[1]. [1]Division of Geriatrics, David Geffen School of Medicine at UCLA, United States, [2]Division of Geriatrics, Emeritus, United States, [3]Epidemiology Data Center, University of Pittsburgh, United States, [4]School 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 **Thermoneutral housing exacerbates bone loss from atypical antipsychotic drugs**
Roni Kunst*[1], Megan Rue[2], Katherine Motyl[2]. [1]MMCRI, Netherlands, [2]MMCRI, 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 Wang[1], Ling Kong[1], Le Huang[1], Li Tian[1], Qian-Qian Pang[1], Xin-Luan Wang[2], Ling Qin[1]. [1]Musculoskeletal Research Laboratory, Department of Orthopaedics & Traumatology, The Chinese University of Hong Kong, Hong Kong SAR, PR China, Hong Kong, [2]Translational 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 Entheseal Bone Formation in Antigen-Induced Arthritis**
Yukiko Maeda*, Catherine Manning, Ellen Gravallese. 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 Burrage[1], Mahim Jain[2], Ingo Grafe[1], Daryl A Scott[1], Jill A Rosenfeld [1], Jason D Heaney[1], Denise Lanza[1], Xiaohui Li[1], Kyu-Sang Joeng[1], Yi-Chien Lee[1], I-Wen Song[1], Joseph M Sliepka[1], Dominyka Batkovskyte[1], Zixue Jin [1], Brian C Dawson [1], Shan Chen[1], Yuqing Chen[1], Ming-Ming Jiang[1], Elda M Munivez [1], Vernon R Sutton [1], Cole Kuzawa[3], Rossella Venditti[4], Maryann Weis[5], Aurélie Clément[6], Brenna Tremp[6], Bernardo Blanco-Sánchez[6], Monte Westerfield [6], David Eyre[5], Catherine G Ambrose[3], Antonella De Matteis[4], Brendan Lee[1]. [1]Baylor College of Medicine, United States, [2]Kennedy Krieger Institute, United States, [3]University of Texas Health Science Center at Houston, United States, [4]TIGEM (Telethon Institute of Genetics and Medicine), Italy, [5]University of Washington, United States, [6]University of Oregon, United States
Disclosures: Ronit Marom, None

SAT-0299 **PIN1 is a new therapeutic target of craniosynostosis**
Hye-Rim Shin*[1], Han-Sol Bae[1], Bong-Su Kim[1], Heein Yoon[1], Young-Dan Cho[1], Woo-Jin Kim[1], Kang Young Choi [2], Yun-Sil Lee[1], Kyung-Mi Woo[1], Jeong-Hwa Baek[1], Hyun-Mo Ryoo[1]. [1]Seoul National University, Republic of Korea, [2]Kyungpook 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 Moody[1], Kim Taylor[1], Niambi Brewer[2], Fred Kaplan[2], Robert Pignolo[3], Eileen Shore[2], Edward Hsiao[1]. [1]UCSF, United States, [2]UPenn, United States, [3]Mayo 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 Yorgan[2], Gretl Hendrickx[2], Ellen Steenackers[1], Michaela Kneissel[3], Ina Kramer[4], Geert Mortier[1], Thorsten Schinke[2], Wim Van Hul[1]. [1]Centre of Medical Genetics, University and University Hospital of Antwerp, Belgium, [2]Department of Osteology and Biomechanics, University Medical Center Hamburg, Germany, [3]Musculoskeletal Disease Area, Novartis Institutes for BioMedical Research, Basel, Switzerland., Switzerland, [4]Musculoskeletal 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-Ayats[1], Anna Monistrol-Mula[1], Natàlia García-Giralt[2], Adolfo Díez-Pérez[2], Xavier Nogués[2], Leonardo Mellibovsky[2], Daniel Grinberg[1], Susana Balcells[1]. [1]Department of Genetics, Microbiology and Statistics, Faculty of Biology, University of Barcelona, IBUB, IRSJD, CIBERER, Spain, [2]Musculoskeletal 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. Lupiáñez[2], Núria Martínez-Gil[1], Marina Gerousi[3], Mónica Cozar[1], Natàlia Garcia-Giralt[4], Xavier Nogués[4], Leonardo Mellibovsky[4], Adolfo Díez-Pérez[4], Susanna Balcells[1], Daniel Grinberg[1]. [1]Department 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, [2]Epigenetics and Sex Development Group, Berlin Institute for Medical Systems Biology, Max-Delbrück Center for Molecular Medicine, Germany, [3]Department of Genetics, Microbiology and Statistics, Facultat de Biologia, Universitat de Barcelona, IBUB, Spain, [4]Musculoskeletal 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 Wagley[1], Matthew E. Johnson[2], Sumei Lu[2], Michelle E. Leonard[2], Kenyaita M. Hodge[2], James A. Pippin[2], Elisabetta Manduchi[2], Andrew D. Wells[2], Struan F.A. Grant[2], Kurt D. Hankenson[1]. [1]University of Michigan, United States, [2]The 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. Nguyen[2], Tuan V. Nguyen[1,2,3,4]. [1]Bone Biology Division, Garvan Institute of Medical Research, Australia, [2]School of Biomedical Engineering, University of Technology, Sydney, Australia, [3]St Vincent Clinical School, UNSW Australia, Australia, [4]School 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 Davison[2], Gordon Ross[3], Anna Milan[2], Andrew Hughes[2], Norman Roberts[2], Lakshminarayan Ranganath[2], James Gallagher[1]. [1]Institute of Ageing & Chronic Disease, University of Liverpool, United Kingdom, [2]Liverpool Clinical Laboratories, Royal Liverpool University Hospitals Trust, United Kingdom, [3]Agilent 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 Park[2], Jung Hee Kim[3], Hyung Jin Choi[4], Eu Jeong Ku[5], A Ram Hong[6], Ji-Yeob Choi[2], Nam H. Cho[7], Chan Soo Shin[3]. [1]Department of Internal Medicine, Seoul National University College of Medicine, Department of Internal Medicine, VHS Medical Center, Republic of Korea, [2]Department of Biomedical Sciences, Seoul National University College of Medicine, Republic of Korea, [3]Department of Internal Medicine, Seoul National University College of Medicine, Republic of Korea, [4]Department of Anatomy, Seoul National University College of Medicine, Seoul, Republic of Korea, [5]Department of Internal Medicine, Chungbuk National University College of Medicine, Cheongju Si, Republic of Korea, [6]Department of Internal Medicine, Seoul National University College of Medicine, Boramae Medical Center, Republic of Korea, [7]Department 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 Essalmani[1], John Creemers[2], Nabil G. Seidah[1], Mathieu Ferron[1]. [1]Institut de recherches cliniques de Montreal, Canada, [2]KU 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 Wu[2], Mathew E. Olson[1], Kevin Mcandrews[2], Jessica H. Nelson[1], Ashley L. Daniel[1], Noriyoshi Kurihara[1], Emily G. Atkinson[2], Venkat Srinivasan [3], Lifeng Xiao[3], Frank H. Ebetino[3], G. David Roodman[1], Robert K. Boeckman Jr[3], Teresita Bellido[2]. [1]Indiana University School of Medicine, Dept. of Medicine, Hematology/ Oncology, United States, [2]Indiana University School of Medicine, Dept. of Anatomy and Cell Biology, United States, [3]University 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*, 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'Bryan[2], Arun Tatiparthi[3], Erica Clinkenbeard[4], Pu Ni[4], Martin Cramer[2], Manoj Bhaskaran[2], Robert Johnson[2], Jonathan Wilson[2], Rosamund Smith[2], Kenneth White[4]. [1]Marian University, United States, [2]Eli Lilly and Company, United States, [3]Covance Inc, United States, [4]Indiana 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 Chen[1], Weiwei Sun[1], David Goltzman[2], Dengshun Miao[1]. [1]Nanjing Medical University, China, [2]McGill 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 Xi[1], Victoria Demambro[2], Clifford Rosen[2], David Clemmons[1]. [1]University of North Carolina at Chapel Hill, United States, [2]Maine 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 periestropause**
Fernanda Fernandes*, Camila Tami Stringhetta Garcia, Melise Jacon Peres Ueno, Angela Cristina Nicola, Fabiana Fernandes, Mário Jefferson Quirino Louzada, Antônio Hernandes 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 Nookaew[1], Nukhet Aykin-Burns[1], Kim Krager[1], Li Han[1,2], Robert Jilka[1,2], Stavros Manolagas[1,2], Maria Almeida[1,2]. [1]University of Arkansas for Medical Sciences, United States, [2]Central 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. Turner[2], Laura Couture[3], Jenny Munroe[4], Rachel M. Holden[5]. [1]Queen's University School of Medicine, Canada, [2]Queen's University Department of Biomedical and Molecular Sciences, Canada, [3]McGill University Faculty of Health Sciences, Canada, [4]Kingston General Hospital, Canada, [5]Queen'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 Pepe[1], Cristiana Cipriani[1], Vittoria Danese[1], Veronica Cecchetti[1], Valeria Fassino[1], Federica Biamonte[1], Luciano Colangelo[1], Frank Blocki[2], Salvatore Minisola[3]. [1]Department of Internal Medicine and Medical Disciplines, "Sapienza" University of Rome, Italy, [2]diasorin inc, United States, [3]Department 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 Jiang[1], Zech Xu[1], Jian Shen[1], Stefan Janssen[1], Gail Ackermann[1], John Adams[2], Steven Pauwels[3], Dirk Venderschueren[3], Rob Knight[1], Eric Orwoll[4], Deborah Kado[1]. [1]University of California San Diego, United States, [2]University of California Los Angeles, United States, [3]UZ Leuven, Belgium, [4]Oregon 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 Yalla[1], Gabriella Bobba[2], Ge Guo[3], Ann Stankiewicz[3]. [1]Washington University, St. Louis, MO, United States, [2]Roche Diagnostics International Ltd, Rotkreuz, Switzerland, [3]Roche 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 Li[1], Kevin Mcandrews[1], Alexander G Robling[1,2], Teresita Bellido[2,3]. [1]Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, [2]Roudebush Veterans Administration Medical Center, United States, [3]Department 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 Watt[1], Subburaman Mohan[1,2]. [1]Musculoskeletal Disease Center, VA Loma Linda Healthcare System, United States, [2]Department 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 Ishihara[2], Ziyi Wang[1], Naoya Odagaki[1], Hiroshi Kamioka[1]. [1]Department of Orthodontics, Okayama University Graduate School of Medicine, Dentistry, and Pharmaceutical Sciences, Japan, [2]Department of Orthodontics, Okayama University Hospital, Japan

Disclosures: Ei Ei Hsu Hlaing, None

SAT-0399 **Role of Parathyroid Hormone Receptor Type I and Pimary 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 Liu[1], Whitney Bullock[2], Russell Main[2]. [1]Beijing University of Technology, China, [2]Purdue 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. Essex[1], Sinai Valdez[1], Alexandra Aguilar-Perez[1,2], Padmini Deosthale[1,2], Fletcher White[3,4,5], Jolene Windle[6], Matthew R. Allen[1,2,5], Lilian I. Plotkin [1,2,5]. [1]Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, [2]Indiana Center for Musculoskeletal Health, United States, [3]Department of Anesthesia, Indiana University School of Medicine, United States, [4]Stark Neuroscience Research Institute, United States, [5]Roudebush Veterans Administration Medical Center, United States, [6]Department 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 Parimi [2], Peggy Cawthon [2], Lisa Langsetmo [3], Kris Ensrud [3], Jane Cauley [4], Deborah Kado[5]. [1]University of California, San Diego, United States, [2]California Pacific Medical Center Research Institute, United States, [3]University of Minnesota, United States, [4]University of Pittsburgh Graduate School of Public Health, United States, [5]University 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 Gong[2]. [1]Department of Orthopaedic Surgery, Hallym University College of Medicine, Republic of Korea, [2]Department 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 (PKIγ)**

Bryan S. Hausman*[1], Xin Chen[2], Hyonmin Choe[3], Ozan Akkus[1], Edward M. Greenfield[1]. [1]Case Western Reserve University, United States, [2]University of North Carolina at Chapel Hill, United States, [3]Department 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 Pinelli[1], Chitra Dahia[2]. [1]Hospital for Special Surgery, United States, [2]Weill 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 Mace[2], Perla Reyes-Fernandez[1], James Fleet[1]. [1]Department of Nutrition Science, Purdue University, United States, [2]Department of Biological Sciences, Purdue University, United States

Disclosures: Krittikan Chanpaisaeng, None

SAT-0439 **The large variant of the stimulatory G protein alpha-subunit XL*α*s 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 Ma[1], Wuxia Qiu[2], Lifang Hu[1], Airong Qian[1]. [1]Northwestern Polytechnical University, China, [2]Northwestern Polytechnical, China

Disclosures: Fan Zhao, None

SAT-0442 **Epigenetic regulator, Uhrf1, positively controls skeletal muscle differentiation**

Yuichiro Sawada*[1], Tadahiko Kikugawa[1], Iori Sakakibara[2], Yusuke Ono[3], Yuta Yanagihara[4], Noritaka Saeki[4], Hiroyuki Iio[1], Takashi Saika[1], Yuuki Imai[4]. [1]Department of Urology, Ehime University Graduate School of Medicine, Japan, [2]Research Center for Advanced Science and Technology, The University of Tokyo, Japan, [3]Musculoskeletal Molecular Biology Research Group, Nagasaki University Graduate School of Biomedical Sciences, Japan, [4]Division 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 Bemben[2], Michael Bemben[2]. [1]California State University, San Bernardino, United States, [2]University 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**

Hyunggwi Song*, Mariana Kersh. Department of Mechanical Science and Engineering, UIUC, United States

Disclosures: Hyunggwi 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 Brett[2], Sherry Agellon[1], Catherine Vanstone[1], Hope Weiler[1]. [1]School of Human Nutrition, McGill University, Canada, [2]School 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 Tye[1], Joseph Boyd[1], Andre Van Wijnen[2], Janet Stein[1], Gary Stein[1], Jane Lian[1]. [1]Department of Biochemistry, Larner College of Medicine, University of Vermont, United States, [2]Department 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 Liu[2], Tj Martin[3], Beate Lanske[4], Roland Baron[2], Clifford Rosen[1]. [1]Maine Medical Center Research Institute, United States, [2]Harvard School of Dental Medicine, United States, [3]St. Vincent's Institute Medical Research, Australia, [4]Radius Health, Inc, United States
Disclosures: Phuong Le, None

SAT-0467 **Effects of Notch1 signaling on bone fracture healing**
Sanja Novak*[1], Emilie Roeder[1], Brya G Matthews[1], Douglas J Adams[2], Ivo Kalajzic[1]. [1]Department of Reconstructive Sciences, University of Connecticut Health Center, United States, [2]Department 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 Tichy[2], Foteini Mourkioti[3], Eileen M. Shore[4]. [1]Perelman School of Medicine, University of Pennsylvania, Department of Orthopaedic Surgery, Cell and Developmental Biology Graduate Program, United States, [2]Perelman School of Medicine, University of Pennsylvania, Department of Orthopaedic Surgery, United States, [3]Perelman School of Medicine, University of Pennsylvania, Departments of Orthopaedic Surgery and Cell and Developmental Biology, United States, [4]Perelman 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 Huang[2], Chunlin Zuo[2], Douglas Moore[2], Matthew Warman[3], Michael Ehrlich[1], Wentian Yang[1]. [1]Department of Orthopaedics, Brown University Alpert Medical School and Rhode Island Hospital, United States, [2]Brown University Alpert Medical School and Rhode Island Hospital, United States, [3]Orthopaedic Research Laboratories and Howard Hughes Medical Institute, Boston Children's Hospital and Harvard Medical School, United States
Disclosures: Lijun Wang, None

SAT-0470 **PDGFRβ signaling regulates osteogenesis of αSMA labeled periosteal cells.**
Xi Wang*[1], Sanja Novak[1], Danka Grcevic[2], Brya G Matthews[1], Ivo Kalajzic[1]. [1]UConn Health, United States, [2]University 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 Fuhler[2], Jeroen Van De Peppel[1], Willian Zambuzzi[3], Johannes Van Leeuwen[1], Maikel Peppelenbosch[2], Bram Van Der Eerden[1]. [1]Internal Medicine, Erasmus MC, Netherlands, [2]Gastroenterology, Erasmus MC, Netherlands, [3]Chemistry 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-1β Diminishes Migration and Osteogenic Differentiation Capacities of Bone Marrow Mesenchymal Stem Cells**
Ahmed Elmansi*[1], Khaled Hussein[1], Brian Volkman[2], Galina Kondrikova[1], Wendy Bollag[3], Sadanand Fulzele[4], Xingming Shi[5], Meghan Mcgee-Lawrence[1], Mark Hamrick[1], Carlos Isales[5], William Hill[1], Sudharsan Periyasamy-Thandavan[6]. [1]Department of Cellular Biology and Anatomy, Augusta University, United States, [2]Department of Biochemistry, Medical College of Wisconsin, United States, [3]Department of Physiology, Augusta University, United States, [4]Department of Orthopedic Surgery, Medical College of Georgia, United States, [5]DEPARTMENT OF NEUROSCIENCE AND REGENERATIVE MEDICINE, Augusta University, United States, [6]Cancer 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 Paradise[1], Amel Dudakovic[1], Buer Sen[2], Asha Nair[1], Allan Dietz[1], David Deyle[1], Simon Cool[3], Janet Rubin[2], Andre Van Wijnen[1]. [1]Mayo Clinic, United States, [2]University of North Carolina, United States, [3]Institute 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 articualr 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. Yu[1], Ariana Moini[1], Zexi Wang[1], Matthew Scott Heller[2], Akshay Lakra[2], Herbert John Cooper[2], Roshan Pradip Shah[2], Jeffrey Albert Geller[2], X. Lucas Lu[3], X. Edward Guo[1]. [1]Bone Bioengineering Laboratory, Columbia University, United States, [2]Department of Orthopaedic Surgery, Columbia University Medical Center, United States, [3]Department 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 Judge[2], Kirsten Leyland[2], Hazel Inskip[1], Cyrus Cooper[1]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [2]University 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 Burkov[1], Graham Treece[1], Andrew Gee[1], Thomas Turmezei[2], Fjola Johannesdottir[1], Sigurdur Sigurdsson[3], Tamara Harris[5], Helgi Jonsson[4], Vilmundur Gudnason[6]. [1]University of Cambridge, United Kingdom, [2]University of East Anglia, United Kingdom, [3]The Icelandic Heart Association, Iceland, [4]Public Health Sciences, University of Iceland, Iceland, [5]Laboratory of Epidemiology and Population Sciences, United States, [6]Faculty 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 Soen[2], Hisashi Yamanaka[3], Toshiyuki Yoneda[4], Sakae Tanaka[5], Takaya Nitta[6], Naoki Okubo[6], Harry Genant[7], Désirée Van Der Heijde[8], Tsutomu Takeuchi[9]. [1]University of Occupational and Environmental Health, Japan, [2]Kindai University Nara Hospital, Japan, [3]Institute of Rheumatology Tokyo Women's Medical University, Japan, [4]Osaka University Graduate School of Dentistry, Japan, [5]The University of Tokyo, Japan, [6]Daiichi Sankyo Co. Ltd, Japan, [7]University of California, United States, [8]Leiden University Medical Center, Netherlands, [9]Keio University School of Medicine, Japan
Disclosures: Yoshiya Tanaka, Mitsubishi Tanabe, Takeda, Bristol-Myers, Chugai, Astellas, Abbvie, MSD, Daiichi Sankyo, Pfizer, Kyowa Hakko 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 Kontulainen[1], Christine Mclennan[2], Diane Hazel[2], Carl Talmo[2], David Wilson[3], David Hunter[4], James Johnston[1]. [1]University of Saskatchewan, Canada, [2]New England Baptist Hospital, United States, [3]University of British Columbia, Canada, [4]Kolling 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 Matyas[2], Jeffrey F Dunn[1], Sarah L Manske[1]. [1]McCaig Institute for Bone and Joint Health, Department of Radiology, Cumming School of Medicine, University of Calgary, Canada, [2]McCaig 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 Huesa[2], Lynette Dunning[1], Rob Van 'T Hof[3], John Lockhart[1], Carl Goodyear[4]. [1]University of the West of Scotland, United Kingdom, [2]University of Edinburgh, United Kingdom, [3]University of Liverpool, United Kingdom, [4]University 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 Murugesh[2], Allison Hsia[3], Blaine Christiansen[3], Gabriela Loots[3]. [1]University of California-Merced, Lawrence Livermore National Laboratory, United States, [2]Lawrence Livermore National Laboratory, United States, [3]University 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 Reitsma[2], Hana Gillick[2], Abinaa Chandrakumar[3], Eva Szabo[3], Justin Chee[3], Angela M Cheung[3], Jonathan D Adachi[2]. [1]Joint Department of Medical Imaging, University Health Network, Canada, [2]Department of Medicine, McMaster University, Canada, [3]CESHA, 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 Chen[2], Mara H O'Brien[2], Eliane Dutra[2]. [1]Associate Professor, United States, [2]University 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 Brooks[2], Anne Harrington[3], Mary L Bouxsein[2], Lucy Liaw[3], Clifford J Rosen[3]. [1]Maine Medical Center Research Insitute, United States, [2]Beth Israel Deaconess Medical Center, Harvard Medical School, United States, [3]Maine 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 Wagley[2], Matthew E. Johnson[1], Sumei Lu[1], Michelle E. Leonard[1], Kenyaita M. Hodge[1], James A. Pippin[1], Elisabetta Manduchi[1], Andrew D. Wells[1], Kurt D. Hankenson[2], Struan F.A. Grant[1]. [1]The Children's Hospital of Philadelphia, United States, [2]University 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/Gαi-calcium oscillation-ERK signaling**
Ziqing Li*[1], Tongjun Liu[2], Alyssa Gilmore[2], Néstor Más Gómez[1], Claire H Mitchell[1,3], Yi-Ping Li[4], Merry J Oursler[5], Shuying Yang[1,2]. [1]Department of Anatomy and Cell Biology, University of Pennsylvania, School of Dental Medicine, United States, [2]Department of Oral Biology, School of Dental Medicine, University of Buffalo, State University of New York, United States, [3]Department of Physiology, University of Pennsylvania, School of Medicine, United States, [4]Department of Pathology, University of Alabama in Birmingham, United States, [5]Department 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 Riddle[1], Marie-Claude Faugere[2], Clifford Rosen[3], Charles Farber[4], Thomas Clemens[1]. [1]Department of Orthopaedic Surgery, Johns Hopkins University, United States, [2]Department of Medicine, University of Kentucky, United States, [3]Maine Medical Center, United States, [4]University 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 Conrad[2], Fan Yang[3], Joy Wu[1]. [1]Division of Endocrinology, Stanford University School of Medicine, United States, [2]Program of Stem Cell Biology and Regenerative Medicine, Stanford University, United States, [3]Department 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 Kim[2]. [1]Department of Oral and Maxillofacial Surgery, School of Dentistry, Seoul National University, Republic of Korea, [2]Dental 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 Sumita[2], Masashi Hara[1], Shun Narahara[1], Izumi Asahina[1]. [1]Department of Regenerative Oral Surgery, Unit of Translational Medicine, Graduate School of Biomedical Science, Nagasaki University, Japan, [2]Basic 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 Tu[2], Jinkun Chen [2,4]. [1]2nd Dental Center, Peking University School and Hospital of Stomatology, Beijing, China. Central Laboratory, Peking University School and Hospital of Stomatology, Beijing, China., China, [2]Division of Oral Biology, Tufts University School of Dental Medicine, Boston, Massachusetts, United States, [3]Jiangsu Key Laboratory of Oral Disease, Nanjing Medical University.Nanjing. China, [4]Department 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 Ng[1], Dorothy Hu[1], Roland Baron[1,2], Francesca Gori[1]. [1]Division of Bone and Mineral Research, Harvard Medical School and Harvard School of Dental Medicine, United States, [2]Endocrine 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 Valdez[1], Leland J. Gomez[1], Angela Bruzzaniti[1,2,3], Lilian I. Plotkin [1,2,4]. [1]Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, [2]Indiana Center for Musculoskeletal Health, United States, [3]Biomedical and Applied Sciences, Indiana University School of Dentistry, United States, [4]Roudebush 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. Carey[2], Devadoss J. Samuvel[1], Katie A. Thies[1], Jennifer A. Geisler[2], Thomas J. Rosol[3], Ramiro E. Toribio[3], Julia F. Charles[4], Michael C. Ostrowski[1], Sudarshana M. Sharma[1]. [1]Medical University of South Carolina Department of Biochemistry and Molecular Biology and Hollings Cancer Center, United States, [2]Ohio State University Department of Cancer Biology and Genetics and Comprehensive Cancer Center, United States, [3]Ohio State University College of Veterinary Medicine, United States, [4]Brigham 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 Park[2], Keunsoo Kang[3], Jiyoung Ahn[4], Ye-Ji Lee[4], Sehwan Mun[4], Seyeon Bae[4], Kaichi Kaneko[4], Kyung-Hyun Park-Min[2]. [1]University of Toronto Faculty of Medicine, Canada, [2]Arthritis and Tissue Degeneration Program, David Z. Rosensweig Genomics Research Center, Hospital for Special Surgery, United States, [3]Department of Microbiology, Dankook University, Republic of Korea, [4]Arthritis 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 Qu[2], Xiaomin Chen[2], Wenhan Wang[2], John Hayball[3], Krasimir Vasilev[3], Yunpeng Zhao[1]. [1]Shandong University Qilu Hospital, China, [2]Shandong University, China, [3]University 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 Molstad[1], Dana Begun[1], Jennifer Westendorf[1], Merry Jo Oursler[1], Meghan Mcgee-Lawrence[2], Bradley Elizabeth[1]. [1]Mayo Clinic, United States, [2]Augusta University, United States

Disclosures: Anna Mattson, None

SAT-0603 **Collagen Type VI α2 Chain Deficiency Causes Trabecular Bone Loss by Promoting Osteoclast Differentiation through Enhanced TNFα Signaling**

Hai Pham*[1], Ainnie Dar[1], Vardit Kram[2], Li Li[1], Tina Kilts[1], Marian Young[1]. [1]Craniofacial and Skeletal Diseases Branch, National Institute of Dental and Craniofacial Research, National Institutes of Health, United States, [2]Collagen Type VI α2 Chain Deficiency Causes Trabecular Bone Loss by Promoting Osteoclast Differentiation through Enhanced TNFα 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 Wang[1], Biancamaria Ricci[2], Jianqiu Xiao[1], Dustin Kress[1], Guillermo Blanco[3], Yousef Abu-Amer[2], Roberto Civitelli[1], Gabriel Mbalaviele[1]. [1]Division of Bone and Mineral Diseases, Washington University School of Medicine, United States, [2]Department of Orthopaedic Surgery, Washington University School of Medicine, United States, [3]IDEHU, 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 Lim[2], Hong-In Shin[2], Eui Kyun Park[2]. [1]Institute for Hard Tissue and Biotooth Regeneration, Kyungpook National University, Republic of Korea, [2]Department 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 Murata[2], Ryuma Haraguchi[2], Sohei Kitazawa[2]. [1]Division of Diagnostic Pathology, Ehime University Hospital, Japan, [2]Department 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 Iimura. 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 Scholl 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 Aibibula[1], Jinying Piao[1], Shingo Sato[2], Hiroki Ochi[2], Kunikazu Tsuji[3], Atsushi Okawa[1], Yoshinori Asou[1]. [1]Department of Orthopedics Surgery, Tokyo Medical and Dental University, 1-5-45 Yushima Bunkyo-Ku Tokyo Japan, 113-8519, Japan, [2]Department of Physiology and Cell Biology, Tokyo Medical and Dental University, 1-5-45 Yushima Bunkyo-Ku Tokyo Japan, 113-8519, Japan, [3]Department 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 **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

SAT-0657 **Microgravity exposure in growing mice is detrimental to osteocyte lacunar volume and shape**
Jennifer C. Coulombe*[1], Zachary K. Mullen[2], Ashton M. Weins[2], Louis S. Stodieck[3], Virginia L. Ferguson[1]. [1]Department of Mechanical Engineering, University of Colorado, Boulder CO, United States, [2]Department of Applied Mathematics, University of Colorado, Boulder CO, United States, [3]BioServe 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. Essex[1], Emily G. Atkinson[1,2], Julian E. Dilley[1], Carmen Herrera[1], Padmini Deosthale[1,2], Mircea Ivan[3], Matthew R. Allen[1,2,4], Teresita M. Bellido[1,2,4], Lilian I. Plotkin [1,2,4]. [1]Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, [2]Indiana Center for Musculoskeletal Health, United States, [3]Department of Hematology/Oncology, Indiana University School of Medicine, United States, [4]Roudebush 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 Azab[1], Yuhei Uda[1], Chao Shi[2], Paola Divieti Pajevic[1]. [1]Boston University Henry M. Goldman School of Dental Medicine, United States, [2]The 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 Lundh[2], Mattias Lorentzon[1]. [1]Department of Geriatrics, Sahlgrenska Academy, Gothenburg University, Sweden, [2]School 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 Burt[2], Leigh Gabel[2], David Hanley[3], Steven Boyd[2]. [1]University of Calgary, Canada, [2]McCaig Institute for Bone and Joint Health, Department of Radiology, Cumming School of Medicine, University of Calgary, Calgary, Canada, [3]McCaig 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 Kirby[2], Douglas Kimelman[2], Mohammad Jafari Jozani[1], J Michael Davidson[1], William Leslie[1]. [1]University of Manitoba, Canada, [2]St-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 Shevroja[2], Lisa M. Lix[1], Didier Hans[2]. [1]Department of Medicine (W.D.L.), University of Manitoba, Canada, [2]Center 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 Eusébio[2], Ana Catarina Rodrigues[3], Joana Caetano-Lopes[4], Inês Lopes[5], Jorge M Mendes[6], Pedro Simões Coelho[6], João Eurico Fonseca[5], Jaime Cunha Branco[7], Helena Canhão[1]. [1]EpiDoc Unit – Unidade de Epidemiologia em Doenças Crónicas, CEDOC, Nova Medical School, Lisboa, Portugal, [2]Sociedade Portuguesa de Reumatologia, Lisboa, Portugal, [3]Faculdade de Medicina da Universidade de Lisboa, Lisboa, Portugal, [4]Department of Orthopaedic Research, Boston Children's Hospital, Boston, MA, USA; Department of Genetics, Harvard Medical School, Boston, MA, United States, [5]Unidade de Investigação em Reumatologia, Instituto de Medicina Molecular, Faculdade de Medicina, Universidade de Lisboa, Centro Académico de Medicina de Lisboa, Portugal, [6]NOVA IMS, Universidade Nova de Lisboa, Lisboa, Portugal, [7]Centro 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 Biver[2], Thierry Chevalley[2], Keita Ito[3], Roland Chapurlat[4], Serge Ferrari[2]. [1]Dept. Biomed. Eng. Eindhoven University of Technology / Dept. Orthopaedics Maastricht University Medical Centre, Netherlands, [2]Division of Bone Diseases, University Hospitals and Faculty of Medicine, Switzerland, [3]Orthopaedic Biomechanics, Dept. Biomed. Eng. / Dept. Orthopaedics, University Medical Center Utrecht, Netherlands, [4]INSERM 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 Diniz[2], Milena Leite[3], Caroline Silva[4], Jessica Eleuterio[2], Maria Marta Soares[5], Bruno Muzzi[6], Barbara Silva[7]. [1]Alberto Cavalcanti Hospital, Brazil, [2]Santa Casa de Belo Horizonte, Brazil, [3]Mario Pena Hospital, Brazil, [4]CEMA, Brazil, [5]Felicio Rocho Hospital, Brazil, [6]Mater Dei Hospital, Densimater, Brazil, [7]Felicio 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 Davenport[2], John W Hinchey[2], Jan M Bruder[1,2]. [1]UTHSCSA, United States, [2]ALMVAH, 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 Shevroja[2], Franck Michelet[1], Doris Tran[1], Christophe Lelong[1], Didier Hans[2]. [1]Medimaps, France, [2]Center 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 Yu[1], Sharon Chou[1,2], Meryl Leboff[1,2]. [1]Division of Endocrinology, Diabetes and Hypertension, Brigham and Women's Hospital, United States, [2]Harvard 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 Humbert[1], Silvana Di Gregorio[3], Miguel Angel Gonzalez Ballester[2], Luis Del Rio[3]. [1]Galgo Medical, Spain, [2]BCN MedTech, Universitat Pompeu Fabra, Spain, [3]CETIR 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 Ioannidis[1], Micaela Jantzi[2], Jonathan Adachi[3], Lora Giangregorio[2], John Hirdes[2], Alexandra Papaioannou[1]. [1]McMaster University, GERAS Centre for Aging Research, Canada, [2]University of Waterloo, Canada, [3]McMaster 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-Neto[2], Amanda Raquel Costa Cruz[2], Francisco De Assis Pereira[1], Fábio De Souza Santos[1], Lúcio Moraes Lanzieri-Filho[1], Patricia Monique Vila Nova Pereira[1]. [1]Universidade Federal de Sergipe, Brazil, [2]Universidade Tiradentes, Brazil

Disclosures: Radamés Leal Freitas, None

SAT-0697 **QCT of the femur: Comparison between QCTPro and MIAF Femur**

Ling Wang*[1], Oleg Museyko[2], Klaus Engelke[2], Keenan Brown[3], Xiaoguang Cheng[1]. [1]Department of Radiology, Beijing Jishuitan Hospital, China, [2]Institute of Medical Physics, University of Erlangen, Germany, [3]Mindways Software Inc., United States

Disclosures: Ling Wang, None

SAT-0698 **Comparison between laser scanning confocal microscopy and traditional light miocroscopy in forensic histo-osteology**

Lelia Watamaniuk*[1], Ashley Smith[2], Natalie Dion[3], Louis Georges Ste Marie[3]. [1]Department of Anthropology, McMaster University, Canada, [2]Department of Anthropology, University of Toronto, Canada, [3]CHUM- Centre Hospitalier de l'Universite 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 Forkert[2], Lauren A Burt[3], Steven K Boyd[3]. [1]Biomedical Engineering Graduate Program, Canada, [2]Hotchkiss Brain Institute, Canada, [3]McCaig 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 Wang[2], Rodrigo J. Valderrábano[3], Yi-Wen Tsai[2], Jennifer S. Lee[1]. [1]Stanford University School of Medicine, United States, [2]National Yang-Ming Univeristy Institute of Health and Welfare Policy, Taiwan, [3]Univeristy 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 Leslie[2], Saeed Al-Azazi[2], Lin Yan[2], Lisa Lix[2], Piotr Czaykowski[3], Harminder Singh[3]. [1]Central Texas Veterans Healthcare System, United States, [2]University of Manitoba, Canada, [3]University 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. Black[1], Bonnie H. Li[2], Denison S. Ryan[2], Richard M. Dell[2], Annette L. Adams[2]. [1]University of California, San Francisco, United States, [2]Kaiser 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 Nilsson[1], Dan Mellstrom[1], Daniel Sundh[1], Mattias Lorentzon[2]. [1]Department of Geriatric Medicine, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Head 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 Chastek[2], Kevin Sundquist[2], Setareh A. Williams[3], Deane Leader, Jr.[3], Richard J. Weiss[3], Yamei Wang[3], Lorraine A. Fitzpatrick[3], Jeffrey R. Curtis[4]. [1]New Mexico Clinical Research & Osteoporosis Center, United States, [2]Optum, United States, [3]Radius Health, Inc., United States, [4]UAB 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 Kemp[2], Scott Youlten[3], John Logan[4], Ryan Chai[3], Nicholas Vulpescu[5], Vincenzo Forgetta[6], Aaron Kleinman[7], Sindhu Mohanty[3], Marcelo Sergio[3], Carolina Medina-Gomez[8], Katerina Trajanoska[8], Julian Quinn[3], Elena Ghirardello[4], Natalie Butterfield[4], Katharine Curry[4], Victoria Leitch[4], Penny Sparkes[4], Laetitia Laurent[6], Anne-Tounsia Adoum[4], Naila Mannan[4], Davide Komla-Ebri[4], Andrea Pollard[4], Hannah Dewhurst[4], Stephen Kaptoge[9], Paul Baldock[3], Cyrus Cooper[10], Jonathan Reeve[11], Evangelia Ntzani[12], Evangelos Evangelou[12], Claes Ohlsson[13], David Karasik[14], Fernando Rivadeneira[8], Cheryl Ackert-Bicknell[15], Douglas Kiel[14], Jonathan Tobias[15], Celia Gregson[15], Nicholas Harvey[10], David Adams[16], Christopher Lelliott[16], David Hinds[7], Yi-Hsiang Hsu[14], Matthew Maurano[5], Peter Croucher[3], Graham Williams[4], Duncan Bassett[4], David Evans[2], Brent Richards[1]. [1]Department of Human Genetics, McGill University, Canada, [2]University of Queensland Diamantina Institute, Translational Research Institute, Australia, [3]Garvan Institute of Medical Research, Australia, [4]Molecular Endocrinology Laboratory, Department of Medicine, Imperial College London, United Kingdom, [5]Institute for Systems Genetics, New York University Langone Medical Center, United States, [6]Centre for Clinical Epidemiology, Lady Davis Institute, Jewish General Hospital, Canada, [7]Department of Research, 23andMe, United States, [8]Department of Internal Medicine, Erasmus Medical Center, Netherlands, [9]Department of Public Health and Primary Care, University of Cambridge, United Kingdom, [10]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [11]NIHR Musculoskeletal Biomedical Research Unit, Botnar Research Centre, Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, United Kingdom, [12]Department of Hygiene and Epidemiology, University of Ioannina Medical School, Greece, [13]Department of Internal Medicine and Clinical Nutrition, University of Gothenburg, Sweden, [14]Institute for Aging Research, Hebrew SeniorLife, United States, [15]Center for Musculoskeletal Research, Department of Orthopaedics, University of Rochester, United States, [16]Wellcome 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 Martignène[1], Eric Lespessailles[2], Bernard Cortet[1], Grégoire Ficheur[1]. [1]Lille University Hospital, France, [2]Université 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 Ernst[2], Katrine Hass Rubin[2], Daniel Martinez-Laguna[3], M Kassim Javaid[1], Cyrus Cooper[4], Cesar Libanati[5], Emese Toth[5], Bo Abrahamsen[6]. [1]Nuffield Department of Orthopaedics, Rheumatology, and Musculoskeletal Sciences (NDORMS), Oxford NIHR Biomedical Research Centre, University of Oxford, United Kingdom, [2]OPEN, Institute of Clinical Research, University of Southern Denmark, Denmark, [3]GREMPAL Research Group (Idiap Jordi Gol Primary Care Research Institute) and CIBERFes, Universitat Autònoma de Barcelona and Instituto de Salud Carlos III, Spain, [4]Lifecourse Epidemiology Unit, Southampton University, United Kingdom, [5]UCB Biopharma Sprl, Belgium, [6]Holbæk 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, 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

SAT-0747 **Type 2 Diabetes and HR-pQCT Parameters in Older Men**
Ann Schwartz*[1], Neeta Parimi[1], Andrew Burghardt[1], Mary Bouxsein[2], Elsa Strotmeyer[3], Eric Vittinghoff[1], Eric Orwoll[4], Gina Woods[5], Dennis Black[1], Nancy Lane[6], Kristine Ensrud[8], Nicola Napoli[7]. [1]University of California, San Francisco, United States, [2]Harvard Medical School, United States, [3]University of Pittsburgh, United States, [4]Oregon Health and Science University, United States, [5]University of California, San Diego, United States, [6]University of California, Davis, United States, [7]Uniersita Campus Bio-Medico di Roma, Italy, [8]University 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 and the Risk of Fracture across the Menopausal Transition: Study of Women's Health Across the Nation (SWAN)**
Kristine Ruppert*[1], Jane Cauley[1], Yinjuan Lian[1], Joel Finkelstein[2], Carrie Karvonen-Gutierrez[3], Sioban Harlow[3], Joan Lo[4], Sherri Burnett-Bowie[2], Arun Karlamangla[5], Gail Greendale[5]. [1]University of Pittsburgh, United States, [2]Massachusetts General Hospital, United States, [3]University of Michigan, United States, [4]Kaiser Permanente Northern California Division of Research, United States, [5]University of California, United States
Disclosures: Kristine Ruppert, None

SAT-0750 **Vertebral fractures cascade: potential etiologies and risk factors**

Helene Che*[1], Veronique Breuil[2], Bernard Cortet[3], Julien Paccou[3], Thierry Thomas[4], Laure Chapuis[5], Francoise Debiais[6], Nadia Mehsen Cetre[7], Rose Marie Javier[8], Sylvie Loiseau Peres[9], Christian Roux[10], Karine Briot[10]. [1]CHU Lapeyronie Montpellier, Rheumatology department, France, [2]CHU L'Archet Nice, Rheumatology department, France, [3]CHU Roger Salengro Lille, Rheumatology department, France, [4]CHU Nord Saint Etienne, Rheumatology department, France, [5]CH Simone Veil du Vitre, Rheumatology department, France, [6]CHU La Miletrie Poitiers, Rheumatology department, France, [7]CHU Pellegrin Bordeaux, Rheumatology department, France, [8]CHU Hautepierre Strasbourg, Rheumatology department, France, [9]CHR Orléans, Rheumatology department, France, [10]CHU 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 Dhaliwal[2], Anshita Aggarwal[1], Rimesh Pal[1], Priyanka Singh[1], Niranjan Khandelwal[3], Naresh Sachdeva[1], Anil Bhansali[1], Sanjay Kumar Bhadada[1]. [1]Department of Endocrinology, Post Graduate Institute of Medical Education and Research, India, [2]Endocrinology, Diabetes and Metabolism, Department of Medicine, State University of New York Upstate Medical University, United States, [3]Department 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 Carolyna 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 Go[2], Dae Ryong Kang[3], Sang Baek Koh[4]. [1]Department of Internal Medicine, Yonsei University Wonju College of Medicine, Republic of Korea, [2]Center of Biomedical Data Science, Yonsei University Wonju College of Medicine, Republic of Korea, [3]Institute of Genomic Cohort, Yonsei University Wonju College of Medicine, Republic of Korea, [4]Department 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 Tian[1], Dawn Aitken[1], Flavia Cicuttini[2], Graeme Jones[1]. [1]Menzies Institute for Medical Research, University of Tasmania, Australia, [2]Department 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 Jackson[2], Rachel Izard[3], Samuel Oliver[4], Isabelle Piec[1], Christopher Washbourne[1], Neil Walsh[5], Julie Greeves[2], William Fraser[1]. [1]University of East Anglia, United Kingdom, [2]Army Personnel and Research Capability, United Kingdom, [3]Army Recruiting and Training Division, United Kingdom, [4]University of Bangor, United Kingdom, [5]Bangor 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 Ewing[2], Deborah Kado[1], Trisha Hue[3], Sigurdur Sigurdsson[4], Gudny Eiriksdottir[4], Vilmundur Gudnason[4], Eric Vittinghoff[2], Thomas Lang[2], Tamara Harris[5], Clifford Rosen[6], Kaipin Xu[7], Xiaojuan Li[7], Ann Schwartz[2]. [1]Department of Medicine, UCSD, United States, [2]Department of Epidemiology, UCSF, United States, [3]Department of Epidemiology and Biostatistics, UCSF, United States, [4]Icelandic Heart Association, Iceland, [5]National Institute on Aging, United States, [6]Maine Medical Center Research Institute, United States, [7]Program 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 Liu[1], Shu Zhang[1]. [1]University 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 Papaioannou[1], Olga Gajic-Veljanoski[2], Courtney Kennedy[1], George Ioannidis[1], Claudie Berger[3], Wilma Hopman[4], David Goltzman[5], Robert Josse[6], Christopher S Kovacs[7], David A Hanley[8], Jerilynn C Prior[9], Suzanne N Morin[5], Stephanie M Kaiser[10], Angela M Cheung[11], Lehana Thabane[12], Jonathan D Adachi[12], The Camos Research Group[3]. [1]McMaster University & GERAS Centre, Canada, [2]GERAS Centre, Canada, [3]Camos – McGill University, Canada, [4]Kingston General Hosptial, Canada, [5]McGill University, Canada, [6]St. Michael Hospital, Canada, [7]Memorial University of Newfoundland, Canada, [8]University of Calgary, Canada, [9]University of British Columbia, Canada, [10]Dalhousie University, Canada, [11]University of Toronto & University Health Network, Canada, [12]McMaster 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 Johansson[2], Nicholas Harvey[3], Juliet Compston[4], Cyrus Cooper[3], John Kanis[2]. [1]Mellanby Centre for Bone Research, University of Sheffield, United Kingdom, [2]Centre for Metabolic Bone Diseases, University of Sheffield, United Kingdom, [3]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [4]Department 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. Ortendahl[2], Jacqueline Vanderpuye-Orgle[3], Andreas Grauer[3], Amanda L. Harmon[2], Andrea J. Singer[4]. [1]New Mexico Clinical Research & Osteoporosis Center, United States, [2]Partnership for Health Analytic Research, LLC, United States, [3]Amgen Inc., United States, [4]Georgetown 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. Mayo[1], Michelle Wall[1], Anthony Albers[2], Stephane Bergeron[3], Sonia Jean[4], Pierre Berube[5], Edward J. Harvey[1], Suzanne N. Morin[1]. [1]Research Institute of McGill University Health Center, Canada, [2]St-Mary's Hospital, Canada, [3]Jewish General hospital, Canada, [4]Institut national de sante publique du Quebec, Canada, [5]Greybox 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 Ban[1], Grace Athanasiadis[1], Andrea Burden[2], Suzanne Cadarette[1]. [1]University of Toronto, Canada, [2]ETH 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 Schweitzer[1], Paul Van Haard[1], Joop Van Den Bergh[2], Piet Geusens[3]. [1]Reinier de Graaf Gasthuis, Netherlands, [2]Maastricht University Medical Center, VieCuri Medical Centre Noord-Limburg, Netherlands, [3]Maastricht 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*, 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 Burt[1], Erin M Davison[1], Marianne S Rose[2], Sharon Gaudet[1], Michelle Kan[1], Steven K Boyd[1], David A Hanley[1]. [1]McCaig Institute for Bone and Joint Health, Cumming School of Medicine, University of Calgary, Canada, [2]Research 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 Parsons[1], Kate Maslin[1], Stefania D'Angelo[1], Rebecca Moon[1], Sarah Crozier[1], Fatma Gossiel[2], Nicholas Bishop[3], Stephen Kennedy[4], Aris Papageorghiou[4], Robert Fraser[5], Saurabh Gandhi[5], Ann Prentice[6], Hazel Inskip[1], Keith Godfrey[1], Inez Schoenmakers[6], M Kassim Javaid[7], Richard Eastell[2], Cyrus Cooper[1], Nicholas Harvey[1]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton, United Kingdom, [2]Academic Unit of Bone Metabolism, University of Sheffield, Sheffield, United Kingdom, [3]Academic Unit of Child Health, Sheffield Children's Hospital, University of Sheffield, Sheffield, United Kingdom, [4]Nuffield Department of Women's & Reproductive Health, John Radcliffe Hospital, University of Oxford, Oxford, United Kingdom, [5]Department of Obstetrics and Gynaecology, Sheffield Hospitals NHS Trust, University of Sheffield, Sheffield, United Kingdom, [6]MRC Human Nutrition Research, Elsie Widdowson Laboratory, Cambridge, United Kingdom, [7]National 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 Wu[1], Terry Dwyer[2], Tania Winzenberg[1], Graeme Jones[1]. [1]Menzies Institute for Medical Research, University of Tasmania, Australia, [2]The 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 Heilmeier[1], Robert Theiler[2], Andreas Egli[1], Heike A. Bischoff-Ferrari[2]. [1]Centre on Aging and Mobility, Department of Geriatrics and Aging Research, University Hospital Zurich and Zurich of University, Switzerland, [2]Department 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 Lewis[2], Marc Sim[2], Richard Prince[3]. [1]Department of Endocrinology and Diabetes, Sir Charles Gairdner Hospital, Australia, [2]School of Medical and Health Sciences, Edith Cowan University, Australia, [3]Medical 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 Scott[1], Belal Khan[2], Allison Hodge[3], Dallas English[2], Graham Giles[3], Bo Abrahamsen[4], Peter Ebeling[1]. [1]Monash University, Australia, [2]University of Melbourne, Australia, [3]Cancer Council Victoria, Australia, [4]University 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 Hughes[1], Erin Gaffney-Stomberg[1], Kathryn Taylor[1], Kristin Popp[2], Chun Xu[3], Ginu Unninkrishnan[3], Mary Bouxsein[2], Jaques Reifman[3]. [1]USARIEM, United States, [2]MGH, United States, [3]BHSAI, 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 Kerslake[2], Jonathan Folland[1], Katherine Brooke-Wavell[1]. [1]NCSEM, School of Sports and Exercise Science, Loughborough University, United Kingdom, [2]Nottingham 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 Zeytinoglu[2], Tamara Vokes[2]. [1]Lewis Katz School of Medicine at Temple University, United States, [2]University 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 Donlon[1], Nancy Cook[2,3,4], Sharon Chou[1,2], Julie Buring[2,3,4], Joann Manson[2,3,4]. [1]Division of Endocrinology, Diabetes and Hypertension, Brigham and Women's Hospital, United States, [2]Harvard Medical School, United States, [3]Department of Epidemiology, Harvard T.H. Chan School of Public Health, United States, [4]Division 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. Deparement 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 Schneider[2], Karen Hansen[3], Yvette Schlussel[1], Sue Shapses[1]. [1]Rutgers University, United States, [2]Rutgers Robert Wood Johnson Medical School, United States, [3]University 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 Tu[1], Jake Chen[1,2]. [1]Division of Oral Biology Tufts University School of Dental Medicine, United States, [2]Department 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 Gamsjaeger[1], Stamatia Rokidi[1], Keith Condon[2], Klaus Klaushofer[1], David Burr[2]. [1]Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK and AUVA Trauma Centre Meidling, 1st Medical Department, Hanusch Hospital, Heinrich Collin Str. 30, A-1140, Austria, [2]Indiana 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 Kang[2], Martha Villavicencio[3], Jason Hodges[3], Wassim Chemaitilly[4], Sue Kaste[5], James Gurney[6], Babette Zemel[7], Jane Hankins[3]. [1]Division of Hematology, University of Washington School of Medicine, United States, [2]Department of Biostatistics, St. Jude Children's Research Hospital, United States, [3]Department of Hematology, St. Jude Children's Research Hospital, United States, [4]Department of Pediatric Medicine, Division of Endocrinology, St. Jude Children's Research Hospita, United States, [5]Department of Radiological Sciences, St. Jude Children's Research Hospital, United States, [6]School of Public Health, University of Memphis, United States, [7]Division 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 Martins[1], Rmr Pereira[1], Thomas Nickolas[2], Mt Yin[2], J Galvão[3], Margareth Eira[4], Lm Reis[1], Luzia Furukawa[1], Vanda Jorgetti[1], Rm Moyses[1,3]. [1]Universidade de São Paulo, Brazil, [2]Columbia University, United States, [3]UNINOVE, Brazil, [4]Instituto 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 Winzenrieth[1], Ludovic Humbert[1], Edward Leib[2]. [1]Galgo Medical SL, Spain, [2]Dept. 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 Rosen[1], Charles Farber[2], Gina Calabrese[2], Victoria Demambro[1]. [1]Maine Medical Center Research Institute, United States, [2]University 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 Lane[1], Raymond Pastore[2], Dorothy Fink[1]. [1]Hospital for Special Surgery, United States, [2]New 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 Vidmar [2], Andrej Janez[1], Soncka Jazbinsek[3], Katarina Remec[3], Mojca Jensterle Sever[1]. [1]University Medical Centre Ljubljana, Slovenia, [2]University Rehabilitation Institute Republic of Slovenia, Slovenia, [3]Medical 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 Miyagi[1], Sho Inoue[1], Shuichiro Tajima[1], Kosuke Murata[1], Ayumu Kawakubo[1], Yui Uekusa[1], Yuji Yokozeki[1], Hisako Fujimaki[1], Daisuke Ishi[1], Koji Ishikawa[2], Seiji Ohtori[3], Kazuhide Inage[3], Kentaro Uchida[1], Gen Inoue[1], Masashi Takaso[1]. [1]Department of Orthopedic Surgery, Kitasato University, School of Medicine, Japan, [2]Department of Orthopedic Surgery, Showa University, School of Medicine, Japan, [3]Department 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 Jannot[1], Myriam Normand[1], Pawel Szulc[2], Elisabeth Sornay-Rendu[2], Thierry Thomas[1], Christophe Mariat[3], Roland Chapurlat[2], Marie-Hélène Lafage-Proust[1]. [1]INSERM 1059, Université de Lyon, France, [2]INSERM 1033, Université de Lyon, France, [3]NEPHROLOGY DPT, CHU ST-ETIENNE, France

Disclosures: Vanessa Lapierre, None

SAT-0896 **Skeletal Consequences of Nephropathic Cystinosis**

Pablo Florenzano*[1,2], Carlos Ferreira[3], Galina Nesterova[3], Mary Scott Roberts[4], Sri Harsha Tella[4], Luis Fernandez De Castro[4], Sydney M. Brown[4], Adom Whitaker[4], Renata C. Pereira[5], Dorothy Bulas[6], Rachel I. Gafni[4], Isidro B. Salusky[5], William A. Gahl[3], Michael T. Collins[4]. [1]Skeletal Diseases and Mineral Homeostasis Section, National Institute of Dental and Craniofacial Research, NIH, United States, [2]Department of Endocrinology, School of Medicine. Pontificia Universidad Catolica de Chile., United States, [3]Medical Genetics Branch, National Human Genome Research Institute. NIH, United States, [4]Skeletal Disorders and Mineral Homeostasis Section, National Institutes of Dental and Craniofacial Research, NIH, United States, [5]Division of Nephrology, Department of Pediatrics, David Geffen School of Medicine at University of California, Los Angeles, United States, [6]Division 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 Marin[2], Piet Geusens[3], Cristiano Zerbini[4], Astrid Fahrleitner-Pammer[5], Ruediger Moericke[6], Enrique Casado[7], Jan Stepan[8], Salvatore Minisola[9], Eric Lespessailles[10], Pedro López-Romero[2], David Kendler[11]. [1]CHU Brugmann, ULB, Belgium, [2]Lilly Research Center Europe, Spain, [3]Maastricht University Medical Center, Netherlands, [4]Centro Paulista de Investigaçao Clínica, Brazil, [5]Division of Endocrinology, Medical University of Graz, Austria, [6]Institut Präventive Medizin & Klinische Forschung, Germany, [7]University Hospital Parc Taulí Sabadell (UAB), Spain, [8]Institute of Rheumatology and Faculty of Medicine 1, Charles University, Czech Republic, [9]Sapienza Rome University, Italy, [10]Regional Hospital, University of Orleans, France, [11]University 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 Sing[1], Angel Wong[1], Douglas Kiel[2], Elaine Cheung[3], Joanne Lam[4], Tommy Cheung[1], Esther Chan[1], Annie Kung[1], Ian Wong[5]. [1]The University of Hong Kong, Hong Kong, [2]Hebrew SeniorLife, Harvard Medical School, United States, [3]United Christian Hospital, Hong Kong, [4]Queen Mary Hospital, Hong Kong, [5]UCL 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 Dempster[2], Donald Mcmahon[2], Jeri Nieves[1,2]. [1]Columbia University, United States, [2]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

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

Steven R. Cummings*[1], Li-Yung Lui[1], Douglas C. Bauer[2], Dennis M. Black[2]. [1]San Francisco Coordinating Center, CPMC Research Institute, United States, [2]San 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 Goemaere[2], Nico Pannacciulli[3], Nancy Lane[4], Eric Lespessailles[5], Osvaldo D. Messina[6], Roland Chapurlat[7], Xiang Yin[3], Rachel B. Wagman[3], Joop Pw Van Den Bergh[1]. [1]Maastricht University Medical Center, Netherlands, [2]Ghent University Hospital, Belgium, [3]Amgen Inc., United States, [4]University of California, Davis, United States, [5]University Hospital Orleans, France, [6]Cosme Argerich Hospital, Argentina, [7]Hôpital 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 ACTIVExtend Phase 3 Trial**

Susan Greenspan*[1], Fitzpatrick Lorraine[2], Bruce Mitlak[2], Yamei Wang[2], Nicholas C. Harvey[3], Chad Deal[4], Felicia Cosman[5], Mike Mcclung[6]. [1]University of Pittsburgh, United States, [2]Radius Health, Inc., United States, [3]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [4]Cleveland Clinic Foundation, United States, [5]Columbia University College of Physicians and Surgeons, United States, [6]Oregon 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 Harvey[4], Anders Odén[2], Kerrie Sanders[5], Fredrik Borgström[6], Axel Svedbom[7], Eugene Mccloskey[2,8], John Kanis[2,3]. [1]Geriatric 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, [2]Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, UK, Sweden, [3]Institute for Health and Aging, Catholic University of Australia, Melbourne, Australia, [4]MRC 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, [5]Department of Medicine, The University of Melbourne and Western Health, Sunshine Hospital, Melbourne, Australia, [6]LIME/MMC, Karolinska Institutet, Stockholm, Sweden, [7]Mapi, Stockholm, Sweden, [8]Mellanby 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 Eastell[1], Michael Mcclung[2], Nico Pannacciulli[3], Christine Wang[3], Susan Yue[3], Steven R. Cummings[4]. [1]The University of Sheffield, United Kingdom, [2]Oregon Osteoporosis Center, United States, [3]Amgen Inc., United States, [4]San 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 Haschka[1], Georg Langs[2], Markus Holzer[2], Andreas Baierl[3], Christoph Pümpel[1], Zora Messner[1], Roland Kocijan[1], Xaver Feichtinger[4], Rainer Mittermayr[4], Jakob E. Schanda[4], Thomas Hausner[5], Robert Wakolbinger[1], Jochen Schmidsfeld[6], Christian Fialka[4], Wolfgang Schima[7], Heinrich Resch[1]. [1]St. Vincent Hospital – Medical Department II – VINFORCE; Academic Teaching Hospital of the Medical University of Vienna, Stumpergasse 13, 1060 Vienna, Austria, [2]Medical University of Vienna, Department of Biomedical Imaging and Image-guided Therapy, Computational Imaging Research Lab, Währinger Gürtel 18-20, 1090 Vienna, Austria, [3]University of Vienna, Department of Statistics and Operations Research, Oskar-Morgenstern-Platz 1, 1090 Vienna, Austria, [4]AUVA Trauma Center Meidling, Kundratstrasse 37, 1120 Vienna, Austria, [5]AUVA Trauma Center Lorenz Böhler, Donaueschingenstraße 13, 1200 Vienna, Austria, [6]Social Medicine Center East, Department of Traumatology, Langobardenstrasse 122, 1220 Vienna, Austria, [7]St. 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 Yang[2]. [1]International St. Mary's Hospital, Catholic Kwandong University College of Medicine, Republic of Korea, [2]Yonsei 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 Black[2], Antonella Barone[3], Josef Hruska[4], Gerolamo Bianchi[1]. [1]La Colletta Hospital, Italy, [2]University of California San Francisco, United States, [3]Galliera Hospital, Italy, [4]EffRx Pharmaceuticals, Switzerland

Disclosures: Andrea Giusti, Labatec, Speakers' Bureau, Merck & Co, Consultant, EffRx Pharmacauticals, 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 Miyakoshi [1], Toshihito Ebina[2], Michio Hongo[1], Koji Nozaka[1], Yoshinori Ishikawa[1], Hiroyuki Tsuchie[1], Daisuke Kudo[1], Yoichi Shimada[1]. [1]Department of Orthopedic Surgery, Akita University Graduate School of Medicine, Japan, [2]Department 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 Kasukawa[1], Michio Hongo[1], Akira Horikawa[2], Yoichi Shimada[1]. [1]Department of Orthopedic Surgery, Akita University Graduate School of Medicine, Japan, [2]Igarashi 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 Okawa[1], Shuhei Ueno[2], Eri Narita[2], Tatsuya Koike[2]. [1]Okawa Orthopaedic Surgery Hospital, Japan, [2]Search 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 Kim[1], Jin-Sung Park[2], Woong Hwan Choi[3]. [1]Hanyang University Guri Hospital, Republic of Korea, [2]Korea University Ansan Hospital, Republic of Korea, [3]Hanyang 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, Hartrmut 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 Hashimoto[2], Hiroyuki Kakihaya[2], Yosuke Nishida[2], Michiko Kumagai[2], Chiemi Yamagiwa[2]. [1]Endocrine Center, Toranomon Hospital, Japan, [2]Chugai 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 He[2], Duan Hao[2], Richard Mitteer[3], Yanqing Gong[4], Ling Qin[1]. [1]Department of Orthopaedic Surgery, Perelman School of Medicine, University of Pennsylvania, United States, [2]Division of Translational Medicine and Human Genetics, Perelman School of Medicine, University of Pennsylvania, United States, [3]Radiation Oncology and Neurosurgery, Perelman School of Medicine, University of Pennsylvania, United States, [4]Division 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 Gottlieb[1], Kathryn Zavala[1], Albert Shieh[1], Andrea Salinas[1], Vahe Yacoubian[1], Samya Konda[1], Jefferey Wang[1], Martin Hewison[2], Philip Liu[1], John Adams[3]. [1]Department of Orthopaedic Surgery, UCLA, United States, [2]Institute of Metabolism and Systems Research, University of Birmingham, United Kingdom, [3]Departments 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 Hart[2], Renata Rydzik[1], Dana Godfrey[2], Michael Zuscik[2], Cheryl Ackert-Bicknell[2]. [1]University of Connecticut, United States, [2]University 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 Milano[1], Victoria Demambro[2], David R Clemmons[3], Clifford J Rosen[2], Thierry Abribat[1]. [1]Alize pharma 3, France, [2]Maine Medical Center, United States, [3]NPT 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 Milano[1], David R Clemmons[2], Clifford J Rosen[3], Thierry Abribat[1]. [1]Alizé Pharma 3, France, [2]NPT Inc, United States, [3]Maine 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 Grynpas*[1], Zeeshan Sheikh[2], Robert Young[3]. [1]Sinai Health System, Canada, [2]University of Toronto, Canada, [3]Simon Fraser University, Canada

Disclosures: Marc Grynpas, None

SAT-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 Ricarte[2], Zhiming He[1], Joshua Johnson[1], Johanna Warshaw[1], Nicola Partridge[1]. [1]New York University, college of dentistry, United States, [2]Molecular 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 Lin[1], Maximilian Muñoz[1], Kevin Mesina[1], Atharva Dhole[1], Savannah Roy[1], Daniel Coban[1], Suleiman Sudah[2], Joseph Benevenia[1], Jessica Cottrell[3], David Paglia[1], Sheldon Lin[1]. [1]Rutgers New Jersey Medical School, United States, [2]Robert Wood Johnson Medical School, United States, [3]Seton 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-Takagaki[1], Satoko Wada-Takahashi[1], Makiko Saita[2], Ryota Kawamata[3], Takenori Sato[1], Akira Kawata[1], Chihiro Miyamoto[1], Yojiro Maehata[1], Hirotaka Watabe[2], Nobuyuki Tani-Ishii[2], Nobushiro Hamada[1], Shun-Suke Takahashi[1], Shinji Deguchi[4], Ryohei Takeuchi[5]. [1]Kanagawa Dental University, Graduate School of Dentistry, Department of Oral Science, Japan, [2]Kanagawa Dental University, Graduate School of Dentistry, Department of Oral Interdsciplinary Medicine, Japan, [3]Kanagawa Dental University, Graduate School of Dentistry, Department of Dentomaxillofacial Diagnosis and Treatment, Japan, [4]Professor Emeritus, Kanagawa Dental University, Japan, [5]Yokosuka 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. Ebetino[2], Lianping Xing[3], Robert Boeckman[3], Shuting Sun[2], Parish Sedghizadeh[4], Michael T Yin[1], Suzanne Lentzsch[1], Graham Russell[5], Serge Cremers[1]. [1]Columbia University Medical Center, United States, [2]Biovinc, United States, [3]University of Rochester, United States, [4]University of Southern California, United States, [5]University 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 Endo[2], Yukiyo Ohnishi[2], Zhengju Fu[1], Toshio Matsumoto[3], Yangang Wang[1]. [1]Department of Endocrinology and Metabolism, the Affiliated Hospital of Qingdao University, Qingdao, China, [2]Department of Hematology, Endocrinology and Metabolism, Tokushima University Graduate School of Medical Sciences, Japan, [3]Fujii 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 Papavasiliou[2], Ioannis Mirisidis[3], Ioannis Margaritis[4], Ioannis Sarris[2], Pericles Papadopoulos[5], Dimosthenis Tsitouras[2], Dimitrios Tsatsalis[2], Fares Sayegh[2]. [1]2nd Dept. of Orthopaedics and Trauma Surgery, 424 General Military Hospital, Thessaloniki, Greece, [2]3rd Orthopaedic dept., Aristotle University of Thessaloniki, Papageorgiou General Hospital, Thessaloniki, Greece, [3]Dept. of Mechanical Engineering, University of Western Macedonia, Kozani, Greece, [4]Laboratory of Physiology, Faculty of Veterinary Medicine, School of Health Sciences, Aristotle University of Thessaloniki, Greece, [5]1st 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 Lehtimaki, 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 Aromeh[2], Pamela Lachcik[1], Sharon Moe[2], Neal Chen[2], Kathleen Hill Gallant[1]. [1]Department of Nutrition Science, Purdue University, United States, [2]Division 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 Raijmakers[2], Maqsood Yaqub[2], Bernd Teunissen[2], Coen Netelenbos[1], Lothar Schwarte[3], Wouter Lubbers[3], Adriaan Lammertsma[2], Marelise Eekhoff[1]. [1]Department of Internal Medicine, section Endocrinology, Netherlands, [2]Department of Nuclear Medicine and Radiology, Netherlands, [3]Department 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 Högler[2], Erik Imel[3], Anthony A. Portale[4], Annemieke Boot[5], Agnès Linglart[6], Raja Padidela[7], William Van’T Hoff[8], Gary S. Gottesman[9], Meng Mao[10], Alison Skrinar[10], Javier San Martin[10], Michael P. Whyte[9]. [1]Yale University School of Medicine, United States, [2]Birmingham Children’s Hospital, United Kingdom, [3]Indiana University School of Medicine, United States, [4]University of California, San Francisco, United States, [5]University of Groningen, Netherlands, [6]APHP Hôpital Bicêtre Paris Sud, France, [7]Royal Manchester Children’s Hospital, United Kingdom, [8]Great Ormond Street Hospital, United Kingdom, [9]Shriners Hospitals for Children, United States, [10]Ultragenyx 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 Shiau[2], Nandini Nair[1], John Williams[1], Robert Recker[3], Joan Lappe[3], David Dempster[1], Hua Zhou[4], Mafo Kamanda-Kosseh[1], Mariana Bucovsky[1], Julie Stubby[3], Elizabeth Shane[1]. [1]Columbia University Medical Center, United States, [2]Mailman School of Public Health, United States, [3]Creighton University Medical Center, United States, [4]Helen 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 Brown[1], Lori C Guthrie[1], Luis Fernandez De Castro[1], Michael T Collins [1], Alison M Boyce[1]. [1]Skeletal Diseases and Mineral Homeostasis Section, National Institute of Dental and Craniofacial Research, National Institutes of Health., United States, [2]Department of Endocrinology, School of Medicine. Pontificia Universidad Catolica de Chile., United States, [3]NIH 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 Muxi [2], Eva Gonzalez [3], Ana Monegal [1], Núria Guañabens [1], Pilar Peris [1]. [1]Metabolic Bone Diseases Unit, Department of Rheumatology. Hospital Clinic. University of Barcelona, Spain, [2]Department of Nuclear Medicine. Hospital Clinic, University of Barcelona, Spain, [3]Department 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 Bober[2], Syed Hashmi[3], Jacqueline Hecht[3], Janet Legare[4], Mary Ellen Little[2], John Mcgready[1], Peggy Modaff[4], Richard Pauli[4], David Rodriguez-Buritica[3], Kerry Schulze[1], Elena Serna[3], Cory Smid[4], Adekemi Alade[1]. [1]Johns Hopkins University, United States, [2]AI duPont Hospital for Children, United States, [3]University of Texas, United States, [4]University 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 Rauch[2], Peter Kamenický[3], Nobuaki Ito[4], Takuo Kubota[5], Akie Nakamura[6], Lin Zhang[7], Matt Mealiffe[7], Javier San Martin[7], Anthony A. Portale[8]. [1]Yale School of Medicine, United States, [2]McGill University, Canada, [3]Université Paris-Sud, France, [4]University of Tokyo Hospital, Japan, [5]Osaka University Hospital, Japan, [6]Hokkaido University Hospital, Japan, [7]Ultragenyx Pharmaceutical Inc., United States, [8]University 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-Zarrabeitia[2], Maite Garcia-Unzueta[1], Carmen Valero[1,3], Jair Tenorio[4], Marta Garcia-Hoyos[1], Pablo Lapunzina[4], Jose A. Riancho[1,3]. [1]Hospital UM Valdecilla, Spain, [2]Hospital Sierrallana, Spain, [3]Univ Cantabria, IDIVAL, Spain, [4]Institute 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 **Iatrogenic Osteosclerosis in Osteogenesis Imperfecta**
Vandana Dhiman*[1], Anshita Aggarwal[2], Nirmal G Raj[3], Ruban Dhaliwal[4], Sanjay Kumar Bhadada[5], Naresh Sachdeva[3], Sudhaker D Rao[6]. [1]PhD student, India, [2]DM Resident, India, [3]Additional Professor, India, [4]Assistant Professor, United States, [5]Professor, India, [6]Professor, 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 Wenkert[1], William H Mcalister[2], Geetika Khanna[2], Karen Mack[1], Steven Mumm[2], Michael P Whyte[1]. [1]Shriners Hospital for Children - St. Louis, United States, [2]Washington 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 Takahashi[1], Anna Petryk[2], David Polly[1]. [1]University of Minnesota, United States, [2]Alexion 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 Shumate[1], Monica Reyes[1], Isilay Taskaldiran[2], Tulay Omma[2], Nese Ersoz Gulcelik[3], Murat Bastepe[1]. [1]Endocrine Unit, Massachusetts General Hospital and Harvard Medical School, United States, [2]Ankara Training and Research Hospital, Endocrinology, Turkey, [3]University of Health Sciences, Gulhane Training Hospital, Turkey
Disclosures: Anara Karaca, None

SAT-1035 **Bruck Syndrome Variant Lacking Congenital Contractures Due To Novel Compound Heterozygous PLOD2 Mutations**
Steven Mumm*[1], Gary S. Gottesman[2], Philippe M. Campeau[3], Angela Nenninger[2], Margaret Huskey[1], Vinieth N. Bijanki[2], Deborah J. Veis[1], Aileen Barnes[4], Joan C. Marini[4], Deborah Wenkert[2], William H. Mcalister[5], Michael P. Whyte[2]. [1]Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine, United States, [2]Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States, [3]Department of Pediatrics, University of Montreal, Canada, [4]National Institute of Child Health and Human Development, NIH, United States, [5]Mallinckrodt 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 Garcia Fontana[2], Juan Miguel Villa Suarez [3], Francisco Andújar-Vera [2], José María Gómez Vida [4], Tomás De Haro [3], Beatriz García-Fontana García-Fontana [5]. [1]Endocrinology and Nutrition Unit. University Hospital San Cecilio. Department of Medicine. University of Granada. Biomedical Research Institute of Granada. (ibs GRANADA), Spain, [2]Biomedical Research Institute of Granada. (ibs GRANADA), Spain, [3]Clinical Analyses Unit. University Hospital San Cecilio., Spain, [4]Pediatric Unit. University Hospital San Cecilio, Spain, [5]Endocrinology 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*. Unifomed 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 Boyce[1], Edmond J Fitzgibbon[2], Michael T Collins[1], Janice S Lee[3]. [1]Skeletal Disorders and Mineral Homeostasis Section, National Institute of Dental and Craniofacial Research, National Institutes of Health, United States, [2]Laboratory of Sensorimotor Research, National Eye Institute, National Institutes of Health, United States, [3]Office 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 Niemi[2], Frank Rauch[1], Mary Nakamura[2], Svetlana Komarova[1]. [1]Shriners Hospital-Canada/ McGill University, Canada, [2]University 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 Tsuji[2], Sho Tsukamoto[1], Mai Kuratani[1], Satoshi Ohte[1], Kiyosumi Takaishi[2,3], Yoshihiro Kawaguchi[4], Jun Hasegawa[4]. [1]Division of Pathophysiology, Research Center for Genomic Medicine, Saitama Medical University, Japan, [2]Rare Disease & LCM Laboratories, R&D Division, Daiichi-Sankyo Co., Ltd., Japan, [3]Kensuke Nakamura, Modality Research Laboratories, Biologics Division, Daiichi-Sankyo Co., Ltd., Japan, [4]Modality 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 Brtl/+ mouse model of osteogenesis imperfecta**
Hsiao Hsin Sung*[1,2,3], Rachel Surowiec[3,4], Rebecca Falzon[3], Lauren Battle[3], Chris Stephan[3], Michelle S. Caird[3], Kenneth M. Kozloff[3,4]. [1]RIMLS, Department of Rheumatology, Radboudumc, The Netherlands, [2]Department of Oral and Maxillofacial Surgery, University of Michigan, United States, [3]Department of Orthopaedic Surgery, University of Michigan, United States, [4]Biomedical 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 Dhiman[2], Ruban Dhaliwal[3], Anil Bhansali[1], Wim Van Hul[4], Sudhaker D Rao[5]. [1]Professor, India, [2]PhD student, India, [3]Assistant Professor, United States, [4]Professor, Belgium, [5]Professor, United States
Disclosures: Sanjay Kumar Bhadada, None

SAT-1085 **Whole-cell proteomic profiling of osteoclasts from a mouse model for craniometaphyseal dysplasia**
Jitendra Kanaujiya*[1], Jeremy Balsbaugh[2], Ernst Reichenberger[1], I-Ping Chen[1]. [1]University of Connecticut Health, United States, [2]University of Connecticut, United States
Disclosures: Jitendra Kanaujiya, None

SAT-1086 **Lack of mature collagen-links is associated with osteomalacia in patients with X-linked hypophosphatemia**
Nadja Fratzl-Zelman*[1], Stamatia Rokidi[1], Stéphane Blouin[1], Pia Plasenzotti[2], Kamilla Nawrot-Wawrzyniak[1], Katharina Roetzer[3], Goekhan Uyanik[3], Gabriele Haeusler[4], Klaus Klaushofer[1], Peter Fratzl[5], Eleftherios Paschalis[1], Paul Roschger[1], Elisabeth Zwettler[1,6]. [1]Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK and AUVA Trauma Centre Meidling, 1st Medical Department Hanusch Hospital, Austria, [2]1st Medical Department, Hanusch-Hospital, Austria, [3]Center for Medical Genetics, Hanusch-Hospital, Austria, [4]Department of Pediatrics, Medical University of Vienna, Austria, [5]Max Planck Institute of Colloids and Interfaces, Department of Biomaterials, Germany, [6]Medical Directorate, Hanusch-Hospital, Austria
Disclosures: Nadja Fratzl-Zelman, None

SAT-1087 **Patient with resistant poliostotic Paget relapsed after discontinuing long time olpadronate oral treatment. A case-report of protracted drug exposition**
Claudia Gomez Acotto*[1], Susana Moggia[1], Emilio Roldán[2]. [1]Maimonides Univ., Argentina, [2]Scientific 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 Yoo[3], Jung Hee Kim[1], Hyung Jin Choi[4], Kyung Sil Chae[1], A Ram Hong[5], Sang Wan Kim[5], Murim Choi[3], Chan Soo Shin[1]. [1]Department of Internal Medicine, Seoul National University College of Medicine, Republic of Korea, [2]Department of Internal Medicine, VHS Medical Center, Republic of Korea, [3]Department of Biomedical Sciences, Seoul National University College of Medicine, Republic of Korea, [4]Department of Anatomy, Seoul National University College of Medicine, Republic of Korea, [5]Department 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 Hurd[2], John A. Wixted[3], Jonathan A.R. Gordon[4], Katrina A. Conard[5], Micheal B. Bober[2], Jane B. Lian[6]. [1]University of Massachusetts Medical School, United States, [2]Department of Biomedical Research, Alfred I. duPont Hospital for Children, United States, [3]University of Massachusetts Medical Center School, United States, [4]Department of Biochemistry, University of Vermont, United States, [5]Department of Pathology, Alfred I. duPot Hospital for Children, United States, [6]Department 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 Rødbro[1], Lars Rolighed[2], Tanja Sikjaer[1], Lars Rejnmark[1]. [1]Department of Endocrinology and Internal Medicine, Denmark, [2]Department 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 Moon[2], Michael Whitaker[1], Thurmon Lockhart[2]. [1]Mayo Clinic, AZ, United States, [2]Arizona State University, United States

Disclosures: Krupa Doshi, None

SAT-1120 **Genetic Basis of Falling Risk Susceptibility**

Katerina Trajanoska*[1], Felix Day[2], Carolina Medina-Gomez [1], Andre G. Uitterlinden[1], John Perry[2], Fernando Rivadeneira[1]. [1]Department of Internal Medicine, Erasmus Medical Center, Rotterdam, The Netherlands, Netherlands, [2]MRC 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**

Mélany Hars*[1], Natalia Fernandez[2], François Herrmann[3], René Rizzoli[1], Gabriel Gold[3], Patrik Vuilleumier[2], Andrea Trombetti[1]. [1]Division of Bone Diseases, Department of Internal Medicine Specialties, Geneva University Hospitals and Faculty of Medicine, Switzerland, [2]Laboratory for Behavioural Neurology and Imaging of Cognition, Campus Biotech, University of Geneva, Switzerland, [3]Division of Geriatrics, Department of Internal Medicine, Rehabilitation and Geriatrics, Geneva University Hospitals and Faculty of Medicine, Switzerland

Disclosures: Mélany Hars, None

SAT-1122 **Effect of Vitamin D3 supplementation on muscle strength in HIV+ postmenopausal women**

Michael Yin*[1], Mariana Bucovsky[1], John Williams[1], Danielle Brunjes[1], Arindam Roychoudhury [2], Ivelisse Colon[1], David Ferris[3], Susan Olender[1], P.Christian Schulz[4], Anjali Sharma[5], Cosmina Zeana[3], Barry Zingman[5], Elizabeth Shane[1]. [1]Columbia University Medical Center, United States, [2]Weill Cornell Medical College, United States, [3]BronxCare Health System, United States, [4]University Hospital Jena, Germany, [5]Albert 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 Balogun[3], David Scott[4], Graeme Jones[3], Alan Hayes[5], Steven Phu[1], Gustavo Duque[1], Tania Winzenberg[3]. [1]University of Melbourne, Australia, [2]Australian Institute for Musculoskeletal Science, Australia, [3]University of Tasmania, Australia, [4]Monash University, Australia, [5]Victoria 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. Chan[1], Ying Chin Lin[2], Ing-Jy Tseng[3]. [1]Department of Radiology, Wan Fang Hospital, Taipei Medical University, Taiwan, [2]Shuang Ho Hospital, Taipei Medical University, Taiwan., Taiwan, [3]School 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 Logan[1], E.L Yong[1], Jane A. Cauley[2]. [1]Department of Obstetrics & Gynaecology, National University of Singapore, Singapore, [2]Department of Epidemiology, Graduate School of Public Health, University of Pittsburgh, United States

Disclosures: Win Pa Pa Thu, None

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 Nuno[1], Suzanne Morin[2]. [1]Laboratoire de recherche en imagerie et orthopédie, École de technologie superieure, Canada, [2]Department 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 Lenherr[1], Benjamin Voumard[1], Ghislain Maquer[1], Jasmin Wandel[2], Ron Alkalay[3], Philippe Zysset[1]. [1]University of Bern, Switzerland, [2]Bern University of Applied Sciences, Switzerland, [3]Harvard 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 Dinges[2], Knashawn Morales[2], Nicholas Huffnagle[1], Struan Grant[1], Babette Zemel[1]. [1]Children's Hospital of Philadelphia, United States, [2]University 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]. [1]Department of Anatomy & Cell Biology, Indiana University School of Medicine, [2]Indiana Center for Musculoskeletal Health, United States, [3]Department of Surgery, Indiana University School of Medicine, [4]Roudebush 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 Suominen[1], Jenni Mäki-Jouppila[1], Jussi M Halleen[1], Teppo Haapaniemi[2], Azusa Tanaka[3], Michael Seiler[3], Jenni Bernoulli[1]. [1]Pharmatest Services, Finland, [2]BioSiteHisto Ltd, Finland, [3]Taconic 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 Sadvakassova[1], Nicolas Mikolajewicz[1], Michal Juhas[1], Zarina Sabirova[1], Sebastien Tabaries[1], Jan Gettemans[2], Peter M. Siegel[1], Svetlana V. Komarova[1]. [1]McGill University, Canada, [2]Gent 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 Schwartz[1], Xiaojuan Li[2], Kaipin Xu[2], Galateia Kazakia[1], Carl Grunfeld[1], Robert Nissenson[1], Dolores Shoback[1], Anne Schafer[1]. [1]University of California, San Francisco, United States, [2]Cleveland 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 Lee[1], Zhongkai Cui[1], Michael Zhou[2], Hye-Lim Lee[3], Min Lee[1], Cun-Yu Wang[1], Christine Hong[1], Tara Aghaloo[1]. [1]University of California, Los Angeles, United States, [2]University of California, Berkeley, United States, [3]University 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 Baron[2], Sandra Shefelbine[1]. [1]Northeastern University, United States, [2]Harvard 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 Laing[1], Nitin Shivappa[2], James Hebert[3], Richard Lewis[4]. [1]Department of Foods and Nutrition, University of Georgia, United States, [2]Cancer Prevention and Control Program, University of South Carolina, United States, [3]Cancer Prevention and Control Program, Epidemiology and Biostatistics, University of South Carolina, United States, [4]Department 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*[1], Gabriele Griffanti[2], Showan N. Nazhat[2], Geoffrey N. Hendy[1]. [1]Division of Experimental Medicine, McGill University, Canada, [2]Department 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 Wu[1], Qisheng Tu[1], Jake Chen[1,3]. [1]Division of Oral Biology, Tufts University School of Dental Medicine, Boston, Massachusetts, United States, [2]Department of Periodontology, Peking University School of Stomatology, United States, [3]Department 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*[1], Jennifer L. Krauss[1], Pei Ying Ng[2], Linda Cox[1], Emily Goering[1], Nathan J. Pavlos[2], Deborah J. Veis[1]. [1]Division of Bone and Mineral Diseases, Washington University School of Medicine, United States, [2]School 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 Mahrous[1], Alessandra Casagrande[1], Muriel Tania Go[2], Hasan Husni[2], Mirette Hanna[1], Sara Bedrose[2], Dingfeng Li[2], Monica Tawfic[1], Yu-Chien Cheng[1,2], Sanford Baim[1]. [1]Rush University Medical Center, United States, [2]John 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 Semionov[2], Brian C. Lentle[3], Christopher S Kovacs[4], David A Hanley[5], Stephanie M Kaiser[6], Robert G Josse[7], Jerilynn C Prior[3], Jonathan D Adachi[8], Wojciech Olszynski[9], K Shawn Davison[10], Nancy Kreiger[11], Suzanne N Morin[12], David Goltzman[12]. [1]Research Institute of the McGill University Health Centre, Canada, [2]McGill University Health Centre, Canada, [3]University of British Columbia, Canada, [4]Memorial University, Canada, [5]University of calgary, Canada, [6]Dalhousie University, Canada, [7]St. Michael's Hospital, Canada, [8]McMaster University, Canada, [9]University of Saskatchewan, Canada, [10]CaMos, Canada, [11]University of Toronto, Canada, [12]McGill 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 Wu[1], Ruby Kuang[1], Malcolm John[2], Phyllis Tien[2], Thomas Link[1], Roland Krug[1], Galateia Kazakia[1]. [1]Department of Radiology and Biomedical Imaging, UCSF, United States, [2]Department 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 Heureux*. DIAsource Immunoassays, Belgium

Disclosures: Nicolas Heureux, None

OSTEOPOROSIS - PATHOPHYSIOLOGY

LB SAT - 1218 Mechanisms of Bone Loss Associated with Inflammatory Bowel Disease

Christopher Peek*[1], Caleb Ford[1], Nicole Putnam[1], Jacob Curry[2], Blanca Piazuelo[1], Keith Wilson[1,2], Jim Cassat[1,2]. [1]Vanderbilt University, United States, [2]Vanderbilt 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 Tran[1], Tineke Van Geel[2], Jonathan Adachi[3], Claudie Berger[4], Joop Van Den Bergh[5], John Eisman[1], Piet Geusens[2], David Goltzman[3], David Hanley[6], Robert Josse[7], Stephanie Kaiser[8], Christopher Kovacs[9], Lisa Langsetmo[10], Jerilynn Prior[11], Tuan Nguyen[1], Jacqueline Center[1]. [1]Bone Biology Garvan Institute of Medical Research, Australia, [2]University of Maastricht, Netherlands, [3]Department of Medicine, McMaster University, Canada, [4]McGill University, Canada, [5]Maastricht University, Netherlands, [6]University of Calgary, Canada, [7]University of Toronto, Canada, [8]Dalhousie University, Canada, [9]Memorial University, Canada, [10]University of Minnesota, United States, [11]University 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 Singer[2], Kathleen Cody[3]. [1]Stanford University, United States, [2]John Wayne Cancer Institute, United States, [3]American 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 Blixt[1], Gordon Warren[2], Andrew Benton[2], Zhou Ye[1], Conrado Aparicio[1], Kim Mansky[1], Lincoln Potter[1]. [1]University of Minnesota, United States, [2]Georgia 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 Acvr1[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

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 Kasikis[2], Charis Chourpiliadis[2], Dimintra Bantouna[2], Panagiota Koukoutsidi[2], Juan Carlos Jaume[3], Rodis D Paparodis[4]. [1]Agia Sofia General Pediatric Hospital, Greece, [2]University of Patras Medical School, Greece, [3]Division of Endocrinology, Diabetes and Metabolism and Center for Diabetes and Endocrine Research (CeDER), University of Toledo, United States, [4]Division 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 Rubin[2], Fan Mu[3], Elyse Swallow[3], Jing Zhao[3], Jessie Wang[3], Alan Krasner[1], Nicole Sherry[1], James Signorovitch[3], Markus Ketteler[4], John Bilezikian[2]. [1]Shire Human Genetic Therapies, Inc., United States, [2]Columbia University College of Physicians and Surgeons, United States, [3]Analysis Group Inc., United States, [4]Division 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 Hill[2], Robert Wermers[2], Tricia Veglahn[2], Hatem Amer[2], Matthew Hathcock[2]. [1]Tan Tock Seng Hospital, Singapore, [2]Mayo 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 Nair[1], Stephanie Shiau[1], Robert R. Recker[2], Joan M. Lappe[2], David W. Dempster[1,3], Hua Zhou[3], Binsheng Zhao[1], Xiaotao Guo[1], Mafo Kamanda-Kosseh[1], Mariana Bucovksy[1], Julie Stubby[2], Elizabeth Shane[1]. [1]Columbia University Medical Center, United States, [2]Creighton University, United States, [3]Helen 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 Cohn[2], Rehan Saiyed[1], Omer Or[3], Eric Marty[1], Gülce Askin[4], Joseph Lane[1]. [1]Hospital for Special Surgery, United States, [2]Rush University Medical Center, United States, [3]Hebrew University Hadassah Medical Center, Israel, [4]Weill 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 Salmon[2], Carlo Rondinoni[1], Marcello Nogueira-Barbosa[1], Francisco De Paula[1]. [1]Ribeirao Preto Medical School-University of Sao Paulo, Brazil, [2]Faculty 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 Santana[2], Elen Almeida Romão [2], Anderson Marliere Navarro[2]. [1]Sao Paulo State University, Brazil, [2]University 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. Miller[1], Kimberly J. Hemmerling[1], Maho Koga[1], Kelsie A. Lopez[1], Kendall F. Moseley[2], Eve Donnelly[1,3]. [1]Department of Materials Science and Engineering, Cornell University, United States, [2]Division of Endocrinology, Johns Hopkins University School of Medicine, United States, [3]Research 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 Pihl[2], Aimee Shu[1], Eva Mortensen[1], Jonathan A. Leff[1]. [1]Ascendis Pharma Inc., United States, [2]Ascendis 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 unrealiable 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 Naciu[1], Roberto Cesareo[2], Claudio Pedone[3], Gianluigi Gaspa[2], Assunta Santonati[4], Daniela Bosco[4], Daria Maggi[1], Nicola Napoli[1], Paolo Pozzilli[1], Silvia Manfrini[1], Andrea Palermo[1]. [1]Unit of Endocrinology and Diabetes, Dept. of Medicine, University Campus Bio-Medico, Italy, [2]Thyroid Disease Center, "S. M. Goretti" Hospital, Italy, [3]Unit of Geriatrics, University Campus Bio-Medico, Italy, [4]Department 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 Tabacco[1], Natalie Cusano[2], John Williams[1], Beatriz Omeragic[1], Rukshana Majeed[1], Maximo Gomez Almonte[1], John Bilezikian[1], Mishaela Rubin[1]. [1]Columbia University Medical Center, United States, [2]Lenox 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 Griebeler[2], Euijung Ryu[1], Prabin Thapa[1], Matthew Hathcock[1], Ann Kearns[1]. [1]Mayo Clinic, United States, [2]Cleveland 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 Almehaimid*, Chelsea M Heveran, Bhavya Senwar, Virginia L Ferguson. University of Colorado, Boulder, United States
Disclosures: Faisal Almehaimid, None

SUN-0074 **The effects of age and sex on viscoelastic bone properties in mice**
Ingo Grafe*[1], Ian Tomkinson[2], Heather Haeberle[2], Yi-Chien Lee[1], Xiaohong Bi[3], Brendan Lee[1], Catherine G. Ambrose[2]. [1]Department of Molecular and Human Genetics, Baylor College of Medicine, United States, [2]Department of Orthopaedic Surgery, UTHSC-Houston, United States, [3]Department 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 Sawyer[1], Roumen Stamenkov[2], Thomas Robertson[3], Catherine Stapledon[3], Gerald Atkins[3], Peter Clifton[1], Lucian Solomon[2], Morris Howard[1], Paul Anderson[1]. [1]University of South Australia, Australia, [2]Royal Adelaide Hospital, Australia, [3]University 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 Mei[2], Felix Kopp[2], Peter Noel[2], Thomas Baum[2], Karupppasamy Subburaj[1]. [1]Singapore University of Technology and Design, Singapore, [2]Technical 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. Quillen[2], Donald E. Moravits[1], Roberto J. Fajardo[3], Karl J. Jepsen[4], Todd L. Bredbenner[5]. [1]Materials Engineering, Southwest Research Institute, United States, [2]Molecular Medicine, Wake Forest School of Medicine, United States, [3]Clinically Applied Science Education, University of the Incarnate Word School of Osteopathic Medicine, United States, [4]Orthopedic Surgery, University of Michigan, United States, [5]Mechanical 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 Mcmanus[1], Madelyn R Lorenz[1], Amy Stickland[1], Kristann Magee L[1], Natalie K Wee[2], Eric D Hilker[1], Sungjae Park[1], Zhaohua Wang[1], Yusuf Bekirov[1], Aaron Diantonio[1], Jeff Milbrandt[1], Erica L Scheller[1]. [1]Washington University in St. Louis, United States, [2]University 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 Bose[2], Navin Kumar[2], Praveer Sihota[3], Ram Naresh Yadav[3], Vijay Goni[4], Sameer Agarwal[4], Sudhaker D. Rao[5], Sanjay Kumar Bhadada[2]. [1]Endocrinology, Diabetes and Metabolism, Department of Medicine, State University of New York Upstate Medical University, United States, [2]Department of Endocrinology, Postgraduate Institute of Medical Education and Research, India, [3]Department of Mechanical Engineering, Indian Institute of Technology Ropar, India, [4]Department of Orthopedics, Postgraduate Institute of Medical Education and Research, India, [5]Bone 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 Chang[2], Jae Lee[1], Alexander Farid[1], Sneha Shetye[1], Michael Hast[1], Chamith Rajapakse[1]. [1]University of Pennsylvania, United States, [2]New 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 Foley[2], Eric Marty[3], Amelia Ni[3], Jordan Troy[2], Abigail Campbell[3], Douglas Mintz[3], Jingyan Yang[5], Joseph Lane[3]. [1]Brown University, United States, [2]Cornell University, United States, [3]Hospital for Special Surgery, United States, [4]Helen Hayes Hospital, United States, [5]Columbia University, United States

Disclosures: Van Krueger, None

SUN-0086 **Osseointegrated implants for trans femoral amputees: radiographic evaluation of bone remodeling**

Seamus Thomson*[1], William Lu[1], Munjed Al Muderis[2]. [1]The University of Sydney, Australia, [2]The 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 Hoang[2], Matthew Burow[2], Bruce Bunnell[3], Paula Witt-Enderby[1]. [1]Duquesne University Division of Pharmaceutical, Administrative and Social Sciences, United States, [2]Tulane University School of Medicine Department of Pharmacology, United States, [3]Tulane 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 Bigelow[1], Stephen Schlecht[2], Todd Bredbenner[3], Karl Jepsen[1]. [1]Department of Orthopedic Surgery, University of Michigan, United States, [2]Mechanical Engineering, University of Michigan, United States, [3]Department 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 reparation**

Andrea Mattiuzzi*[1], Miguel Angel Pellegrini[1], Macarena Gonzales-Chaves[1], Ricardo Orzuza[2], Susana N Zeni[1], Gretel G Pellegrini[1]. [1]CONICET-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, [2]Universidad 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 Kent[1], Jin Long[1], Jessica Whalen[1], Ariana Strickland[1], Andrew Burghardt[2], Mary B. Leonard[1]. [1]Stanford University School of Medicine, United States, [2]University 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 Brunetti[2], Maria Felicia Faienza[3], Lorenzo Sanesi[1], Monica Celi[4], Laura Piacente[3], Gabriele D'Amato[3], Giorgio Mori[5], Silvia Colucci[2], Maria Grano[1]. [1]Department of Emergency and Organ Transplantation, University of Bari, Italy, [2]Department of Basic Medical Sciences, Neuroscience and Sense Organs, University of Bari, Italy, [3]Department of Biomedical Science and Human Oncology, Paediatric Unit, University of Bari, Italy, [4]Tor Vergata, University of Rome, Italy, [5]Department 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 Fiscaletti[1], Chris Cowell[1], Nicholas Wood[1], Yvonne Zurynski[2], John Coakley[1], Philip Britton[1], Hasantha Gunasekera[1], Andrew Biggin[1], Craig Munns[1]. [1]Children's hospital at Westmead, Australia, [2]Australian 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*[1], Amy Bunyamin[2], Chantal Kawalilak[2], Kelsey Bjorkman[2], Jd Johnston[2]. [1]University of Saskatchewan, UofS, Canada, [2]UofS, Canada
Disclosures: Saija Kontulainen, None

SUN-0124 **Is adiposity increased in children with achondroplasia and hypochondroplasia?**
Takuo Kubota*[1], Yukako Nakano[1], Kei Miyata[1], Kenichi Yamamoto[1], Shinji Takeyari[1], Hirofumi Nakayama[1,2], Takeshi Kimura[1], Yasuhisa Ohata[1,3], Taichi Kitaoka[1], Keiichi Ozono[1]. [1]Department of Pediatrics, Osaka University Graduate School of Medicine, Japan, [2]The Japan Environment and Children's Study, Osaka unit center, Japan, [3]The 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 Lee[2], Rita Herskovitz[3], Babette Zemel[4], Mary Leonard[5]. [1]Department of Medicine, Stanford University, Stanford, United States, [2]Department of Pediatrics, Seattle Children's Hospital, Seattle, WA, United States, [3]Department of Pediatrics, The Children's Hospital of Philadelphia, Philadelphia, PA, United States, [4]Division of GI, Hepatology & Nutrition, The Children's Hospital of Philadelphia, Philadelphia, PA, United States, [5]Department 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 Surridge[2], Joseph Wallace[2]. [1]Weldon School of Biomedical Engineering, Purdue University, United States, [2]Department 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 Kanagalingam[1], Oriane Duchamp De Lageneste [1], Jerome Megret[2], Frédéric Relaix[3], Céline Colnot[1]. [1]INSERM U1163, Imagine Institute, Paris Descartes University, France, [2]INSERM US24 - CNRS UMS3633 Cytometry Platform, Paris Descartes University, France, [3]INSERM 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 Univerisity, 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 Takayanagi[1], Yohei Asada[1], Shogo Nakayama[1], Eisuke Tomatsu[1], Yasumasa Yoshino[1], Sahoko Sekiguchi-Ueda[1], Megumi Shibata[1], Eishin Yaoita[2], Atsushi Suzuki[1]. [1]Department of Endocrinology and Metabolism, Fujita Health University, Japan, [2]Department 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 Wang[1], Liangqiao Bian[2], Janalee Isaacson[3], Robert Recker[4], Joan Lappe[5], Lynda Bonewald[6], Marco Brotto[1]. [1]College of Nursing and Health Innovation, the University of Texas-Arlington, Arlington, TX, United States, [2]Shimadzu Center for Advanced Analytical Chemistry, the University of Texas at Arlington, Arlington, TX, United States, [3]School of Nursing & Human Physiology, Gonzaga University, Spokane, WA, United States, [4]School of Medicine Osteoporosis Research Center, Creighton University, Omaha, NE, United States, [5]School of Nursing, Creighton University, Omaha, NE, United States, [6]Department 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 Millecamps[1], Seiji Ohtori[2], Laura S. Stone[1]. [1]The Alan Edwards Centre for Research on Pain, Faculty of Dentistry, McGill University, Canada, [2]Department 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 Alexander[1], Irina Kulina[1], Marjorie Salga[2,3], Beulah Jose[1], François Genet[2,3], Frédéric Torossian[4], Bernadette Guerton[4], Adrienne Anginot[4], Whitney Fleming[1], Susan Millard[1], Allison Pettit[1], Natalie Sims[5], Jean-Jacques Lataillade[4,6], Marie-Caroline Le Bousse-Kerdilès[4], Jean Pierre Levesque[1]. [1]Mater Research Institute-The University of Queensland, Brisbane, Queensland, Australia, [2]Service de Médecine Physique et de Réadaptation, Raymond Poincaré Hospital, Garches, France, [3]END:ICAP U1179 INSERM, UFR des Sciences de la Santé-Simone Veil, Université Versailles Saint Quentin en Yvelines, Montigny le Bretonneux, France, [4]Inserm UMR-S-MD1197, Paris 11 University, Paul Brousse Hospital, Villejuif, France., France, [5]St. Vincent's Institute of Medical Research and Department of Medicine, St. Vincent's Hospital, The University of Melbourne, Fitzroy, Victoria, Australia, [6]Centre 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 Noh[1], Jeong-Bong Lee[2], Rhonda Prisby[1]. [1]University of Texas, Arlington, United States, [2]University 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 Hook[2], Shadaan Abid[1], Li Li[1], Megan Mead[1], Abraham Behrmann[1], Jessica Moreland[2], Dwight Towler[1], Raksha Jain[1]. [1]Department of Internal Medicine, UT Southwestern Medical Center, United States, [2]Department 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 Frost[1], Florence Figeac[1], Anders Kristian Haakonsson[1], Jens-Jacob Lauterlein[1], Tina Kamilla Nielsen[1], Dalia Ayesh Hafez Ali[1], Kurt Højlund[1,2], Moustapha Kassem[1,2]. [1]Department of Molecular Endocrinology, KMEB, University of Southern Denmark and Odense University Hospital, DK-5000 Odense C, Denmark, [2]Danish 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 Jiang[1], Qisheng Tu[2], Jinkun Chen[2,4]. [1]Jiangsu Key Laboratory of Oral Diseases, Nanjing Medical University, Department of Oral and Maxillofacial Surgery, Affiliated Hospital of Stomatology, Nanjing Medical University, Nanjing, China, China, [2]Division of Oral Biology, Tufts University School of Dental Medicine, Boston, Massachusetts, United States, [3]Jiangsu Key Laboratory of Oral Disease, Nanjing Medical University, Nanjing, China, [4]Department 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 Rizzi[2], Giuseppina Storlino[3], Sara Bortolotti[3], Graziana Colaianni[3], Lorenzo Sanesi[3], Luciana Lippo[3], Maria Grano[3], Silvia Colucci[1]. [1]Department of Basic and Medical Sciences, Neurosciences and Sense Organs, Section of Human Anatomy and Histology, University of Bari, Bari, Italy, [2]Department of Emergency and Organ Transplantation, Section of Hematology with Transplantation, University of Bari, Bari, Italy, [3]Department 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 Tandon[2], Jitesh Pratap[1]. [1]Rush University Medical Center, United States, [2]KBI 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 Xu[1], Wissam Beaino[1], Kai Liu[1], Xuemei Zeng[1], Nathan Yates[1], Rong Chong[1], Konstas Verdelis[1], G Roodman[2], Denise Toscani[3], Nicola Giuliani[3], Yan Lin[1], Carolyn Anderson[1], Hongjiao Ouyang[4]. [1]University of Pittsburgh, United States, [2]Indiana University School of Medicine, United States, [3]University of Parma, Italy, [4]Texas 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 Loftus[1], Christopher George[1], Kirsty Shefferd[1], Argia Ucci[1], Simona Delle Monache[1], Alfredo Cappariello[1,2], Maurizio Muraca[3], Anna Maria Teti[1], Nadia Rucci[1]. [1]Department of Biotechnological and Applied Clinical Sciences, University of L'Aquila, Italy, [2]Bambino Gesù Children Hospital, Rome, Italy, [3]Department 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 Fang[1], Ashley Vancleave[1], Ralph Helmuth[1], Jing Zhao[1], Kirby Rickel[1], Erliang Zeng[2]. [1]Sanford Research, United States, [2]University 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 Desai[1], Meera Mohan[1], Frits Van Rhe[1], Sharmilan Thanendrarajan[1], Carolina Schinke[1], Faith Davies[1], Gareth Morgan[1], Larry Suva[2], Donghoon Yoon[1], Leo Rasche[1], Niels Weinhold[1], Shobhit Sharma[1], Manoj Kumar[1]. [1]University of Arkansas for Medical Sciences, United States, [2]College 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]. [1]Paris Diderot University, Paris, France, [2]Inserm 1132, Paris, France, [3]Hopital 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 Laperre[1], Guy Eelen[2], Gianmarco Rinaldi[3], Sophie Torrekens[1], Sarah-Maria Fendt[3], Peter Carmeliet[2], Geert Carmeliet[1]. [1]Clinical and Experimental Endocrinology, KU Leuven, Belgium, [2]Angiogenesis and Vascular Metabolism, Vesalius Research Center, VIB/KU Leuven, Belgium, [3]Cellular 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 Gou[2], Liu Zhang[2]. [1]Medical Research Center, North China University of Science and Technology, China, [2]Department 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*[1], Jennifer Wolf[2], David Bridgewater[1], Ernesto Canalis[1]. [1]UConn Health, United States, [2]University 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 Phu[2], Gustavo Duque [1]. [1]Australian Institute for Musculoskeletal Science (AIMSS), The University of Melbourne and Western Health, St. Albans, VIC, Australia, [2]Department 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 Tu[1], Zoe(Xiaofang) Zhu[1,3], Jake(Jinkun) Chen[1,4]. [1]Division of Oral Biology Tufts University School of Dental Medicine, Boston, MA, United States, [2]State Key Laboratory of Oral Diseases, National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu, China, [3]Shanghai Jiaotong University, China, [4]Department 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-Ogura[2], Woongchul Shin[2], Michito Shimozuru[1], Mohamed Abdallah Mohamed Moustafa[1], Toshio Tsubota[1]. [1]Laboratory of Wildlife Biology and Medicine, Department of Environmental Veterinary Science, Graduate School of Veterinary Medicine, Hokkaido University, Japan, [2]Department 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 Haudum[1], Michaela Goschnik[2], Ewald Kolesnik[3], Ines Mursic[1], Albrecht Schmidt[3], Thomas R Pieber[1], Barbara Obermayer-Pietsch[1]. [1]Div. Endocrinology and Diabetology, Medical University Graz, Austria, [2]Endocrinology Lab Platform, Medical University Graz, Austria, [3]Div. Cardiology, Medical University Graz, Austria
Disclosures: Natascha Schweighofer, None

SUN-0276 **AdipoRon Alleviates Diabetic Bone Disorders via Suppressing Inflammation**
Wei Qiu*[1], Jake Chen[2], Qisheng Tu[2], Xingwen Wu[2], Xuedong Zhou[1], Junxiang Lian[2]. [1]West China School of Stomatology, Sichuan University, China, [2]Tufts 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 Helderman[1], Michael Czech[2], Clifford Rosen[1]. [1]Maine Medical Center Research Institute, United States, [2]Program in Molecular Medicine, University of Massachusetts Medical School, United States
Disclosures: Elizabeth Rendina-Ruedy, None

SUN-0278 **Complex Role for PPARγ 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. Woods[2], Sigurdur Sigurdsson[3], Susan K Ewing[4], Phuong T. Le[5], Trisha F. Hue[4], Eric Vittinghoff[4], Kaipin Xu[6], Vilmundur Gudnason[7], Gunnar Sigurdsson[7], Deborah M. Kado[9], Gudny Eiriksdottir[3], Tamara Harris[8], Xiaojuan Li[6], Clifford J Rosen[5], Ann V. Schwartz[4]. [1]Academic Medical Center dept of Endocrinology and Center for Clinical and Translational Research, Maine Medical Center Research Institute, Netherlands, [2]Dept. Medicine, University of California San Diego and VA San Diego Healthcare System, United States, [3]Icelandic Heart Association, Iceland, [4]Department of Epidemiology and Biostatistics, University of California San Francisco, United States, [5]Center for Clinical and Translational Research, Maine Medical Center Research Institute, United States, [6]Program of Advanced Musculoskeletal Imaging (PAMI), Cleveland Clinic, United States, [7]Icelandic Heart Association Faculty of Medicine, University of Iceland, Iceland, [8]National Institute on Aging, National Institutes of Health (NIA, NIH), United States, [9]Dept 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 Childress[2], Raina Kumar[3], George Dimitrov[3], Bintu Sowe[4], Aarti Gautam[5], Nabarun Chakraborty[6], Rasha Hammamieh[5], Melissa Kacena[2]. [1]Penn State College of Medicine, United States, [2]Indiana University School of Medicine, United States, [3]Advanced Biomedical Computing Center, NCI, United States, [4]ORISE, US Army Center for Environmental Health Research, United States, [5]Integrative Systems Biology, US Army Center for Environmental Health Research, United States, [6]Geneva 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 Lu[1], Lulu Chen[1], David Goltzman[2], Dengshun Miao[1]. [1]Nanjing Medical University, China, [2]McGill University, Canada

Disclosures: Jie Chen, None

SUN-0307 **Effects of Alzheimer's Disease and high-fat diet on bone quality and quantity in mice**

Ryanne Chitjian*[1], Anthony Capellino[2], Lisa S Robison[3], Olivia J Gannon[3], Abigail E Salinero[3], Kristen L Zuloaga[3], David E Komatsu[2]. [1]Stony Brook University, Department of Biomedical Engineering, United States, [2]Stony Brook University, Department of Orthopaedics, United States, [3]Albany Medical College, Department of Neuroscience & Experimental Therapeutics, United States

Disclosures: Ryanne Chitjian, None

SUN-0308 **Investigating Zbtb40 as a Determinant of Osteoblast Function and Commitment**

Madison Doolittle*[1], Robert Maynard[1], Gina Calabrese[2], Charles Farber[2], Cheryl Ackert-Bicknell[1]. [1]University of Rochester, United States, [2]University 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 He[2], Haibo Liu[3], Guangchuang Yu[4], Bradford Tremblay[3], Ben Zhang[5], Cole Haynes[3], Jaehyuck Shim[1]. [1]Department of Medicine, Division of Rheumatology, University of Massachusetts Medical School, United States, [2]Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, United States, [3]Department of Molecular, Cell and Cancer Biology, University of Massachusetts Medical School, United States, [4]State Key Laboratory of Emerging Infectious Diseases, School of Public Health, The University of Hong Kong, China, [5]Department 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 Hsu[2], Mariel Young[1], Douglas P. Kiel [2], David Karasik[2]. [1]Human Evolutionary Biology, Harvard University, United States, [2]Institute 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 Günther[2], Mazyar Yazdani[3], Einar Lindalen[1], Haldor Valland[4], Vigdis T. Gautvik[1], Ole K. Olstad[3], Marit Holden[2], Tor P. Utheim[3], Sjur Reppe[1]. [1]Lovisenberg Diakonale Hospital, Norway, [2]Norwegian Computing Center, Norway, [3]Oslo University Hospital, Norway, [4]Diakonhjemmet 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 Adams[2], Hong Seung-Hyun[3], Caibin Zhang[4], Shin Dong-Guk[3], Sundberg John[5], Cheryl Ackert-Bicknell[6]. [1]School of Dental Medicine, University of Connecticut, United States, [2]School of Medicine, University of Connecticut Health, United States, [3]School of Engineering, University of Connecticut, United States, [4]School of Dental Medicine, University of Connecticut Health, United States, [5]The Jackson Laboratory, United States, [6]University 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 Mitchell[1], Alyssa Falck[1], Shannon Huggins[1], Kent Mckelvey[2], Dana Gaddy[1], Larry Suva[1]. [1]Texas A&M University, United States, [2]University 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 Noel[1], Chao Qiang Lai[2], Laurence Parnell[2], Jose Ordovas[2], Katherine Tucker[1]. [1]University of Massachusetts, Lowell, United States, [2]Nutrition 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 Calabrese[1], Cheryl Ackert-Bicknell[2], Charles Farber[1]. [1]University of Virginia, United States, [2]University 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 Perwad[2], Myles S. Wolf[3], Ian H. De Boer[4], Bryan Kestenbaum[4], Loren Lipworth[1], Adriana Hung[1], T. Alp Ikizler[1]. [1]Vanderbilt University Medical Center, United States, [2]University of California San Francisco, United States, [3]Duke University, United States, [4]University 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 Farman[1], Petra Henning[1], Vikte Lionikaite[1], Sofia Movérare-Skrtic[1], Klara Sjögren[1], Pierre Chambon[2], Claes Ohlsson[1], Marie Lagerquist[1]. [1]Centre for Bone and Arthritis Research at the Institute of Medicine, Sahlgrenska Academy at University of Gothenburg, Sweden, [2]Institut de Génétique et de Biologie Moléculaire et CellulaireCentre National de la Recherche Scientifique, National de la Sante et de la Recherche Medicale, 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. Rapp[2], Ann-Kristin Picke[1], Anita Ignatus[3], Jan Tuckermann[1]. [1]Institute of Comparative Molecular Endocrinology, Ulm University., Germany, [2]German Rheumatism Research Centre, Germany, [3]Institue 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 Godwin[1], Subburaman Mohan[1,2]. [1]Musculoskeletal Disease Center, VA Loma Linda Healthcare System, United States, [2]Department 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-Ruedy[2], Ron Helderman[2], Victoria Demambro[2], Daniel Brooks[3], Anyonya Guntur[2], Vicki Rosen[1], Beate Lanske[1], Mary Bouxsein[3], Clifford Rosen[2]. [1]Harvard School of Dental Medicine, United States, [2]Maine Medical Center Research Institute, United States, [3]Center 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 Hashmi[1], Daniel Brooks[2], Kenichi Nagano[3], Deborah Barlow[4], Karen Houseknecht[4], Roland Baron[3], Mary Bouxsein[2], Anyonya Guntur[1], Katherine Motyl[1]. [1]Maine Medical Center Research Institute, United States, [2]Beth Israel Deaconess Medical Center, United States, [3]Harvard School of Dental Medicine, United States, [4]University 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 Agellon[1], Paula Lavery[1], Catherine A. Vanstone[1], Nora Shero[1], Nathalie Gharibeh[1], Maryam Razaghi[1], Shuqin Wei[2], Hope A. Weiler[1]. [1]School of Human Nutrition, McGill University, Canada, [2]Department 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 Kinoshita[2], Nobuaki Ito[2], Shun Sawatsubashi[1], Hidetaka Kosako[1], Masahiro Abe[1], Munehide Matsuhisa[1], Toshio Matsumoto[1], Seiji Fukumoto[1]. [1]Tokushima University, Japan, [2]The 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-Larouche[2], Roth-Visal Ung[1], David Simonyan[3], Anne-Marie Carreau[2], André Carpentier[2], Fabrice Mac-Way[1], Claudia Gagnon[1]. [1]Laval University, Canada, [2]Sherbrooke University, Canada, [3]Chu 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 Quittner[1], Nicola Ridgers[1], Adnan Shiekh[2], Timo Rantalainen[3], Guy Trudel[2]. [1]Deakin University, Australia, [2]University of Ottawa, Canada, [3]University 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*, Rabecca 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-Maldonado[1], Herb Sun[1], Mitchell Schaffler[2], Sylvia Suadicani[1], Mia Thi[1]. [1]Albert Einstein College of Medicine, United States, [2]City 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 Sankaran[1], Negin Misaghian-Xanthos[1], Buer Sen[1], Zhihui Xie[1], Martin A Styner[2], Xiaopeng Zong[3], Maya Styner[1]. [1]Division of Endocrinology and Metabolism, Department of Medicine, UNC-Chapel Hill, United States, [2]Departments of Computer Science and Psychiatry, UNC, United States, [3]Biomedical 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 Wright[1], Gabriel Pagnotti[1], Gunes Uzer[2], Clinton Rubin[3], Uma Sankar[1], Katherine Powell[1], Joseph Wallace[1], Khalid Mohammad[1], Theresa Guise[1], William Thompson[1]. [1]Indiana University, United States, [2]Boise State University, United States, [3]Stony 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 Eliseev[1], Addisu Mesfin[1], Noriaki Yokogawa[2], Alex Hollenberg[1]. [1]University of Rochester School of Medicine and Dentistry, United States, [2]Kanazawa 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. Patton[1], Gurjit Mandair[1], Ferrous S. Ward[1], Stephen H. Schlecht[1], Michael D. Morris[1], David Kohn[1], Todd L. Bredbenner[2], Karl J. Jepsen[1]. [1]University of Michigan, United States, [2]University 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 Metzger[1], Alexandra Marich[1], Emily Sturgell[1], Matthew Allen[2], Alyssa Flack[1], Larry Suva[1], Susan Bloomfield[1]. [1]Texas A&M University, United States, [2]Indiana 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 Iyer[1], Jianhui Chang[1], Aaron Warren[1,2], Julie Crawford[1,2], Daohong Zhou[1], Stavros Manolagas[1,2], Maria Almeida[1,2]. [1]University of Arkansas for Medical Sciences, United States, [2]Central 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 Yamada[1], Ko Chiba[1], Toshiyuki Tsurumoto[2], Makoto Osaki[1]. [1]Department of Orthopaedic Surgery, Nagasaki University Hospital, Japan, [2]Department 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 Johnson[2], Abigail Radcliff[2], Robert D Blank[1]. [1]Medical College of Wisconsin, United States, [2]University 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 Childress[1], Riley Gorden[1], Alexander Brinker[1], Elliott Beckner[1], Rachel Mannfeld[1], Faisal Khan[1], Matthew Allen[1,2], Nabarun Chakraborty[3], Aarti Gautam[4], Rasha Hammamieh[4], Melissa Kacena[1,2]. [1]Indiana University School of Medicine, United States, [2]Richard L. Roudebush VA Medical Center, United States, [3]Geneva Foundation, US Army Center for Environmental Health Research, United States, [4]US 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 Patel[1], Nathalie Gharibeh[1], Nora Shero[1], Sherry Agellon[1], Catherine Vanstone[1], Shugin Wei[2], Hope Weiler [1]. [1]McGill University, Canada, [2]Hôpital Sainte-Justine (Montréal), Canada
Disclosures: Maryam Razaghi, None

SUN-0454 **Effect of extracellular high phosphate on myogenesis of C2C12 myoblasts**
Eisuke Tomatsu*[1], Hidehito Inagaki[2], Tsukasa Kawakami[1], Yohei Asada[1], Shogo Nakayama[1], Izumi Hiratsuka[1], Yasumasa Yoshino[1], Sahoko Sekiguchi-Ueda[1], Megumi Shibata[1], Takeshi Takayanagi[1], Yoshihisa Sugimura[1], Hiroki Kurahashi[2], Atsushi Suzuki[1]. [1]Department of Endocrinology and Metabolism, Fujita Health University, Japan, [2]Division 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 Mohamed[2], Yi Tang[3], Stephan Weiss[3], Renny Franceschi[1]. [1]Dept of Periodontics & Oral Medicine, University of Michigan School of Dentistry, United States, [2]Dept of Periodontics & Oral Medicine, Univ. of Michigan School of Dentistry, United States, [3]Life 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-Heinrich[1], Marie A Harris[1], Jian Feng[2], Yong Cui[1], Ivo Kalajzic[3]. [1]uthscsa, United States, [2]texas a and m Dental School, United States, [3]Uconn 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 Barrett[2], Ahmed Elmansi[2], Khaled Hussein[2], Tanner Mobley[1], Wendy Bollag[3], Sadanand Fulzele[4], Xingming Shi[5], Meghan Mcgee-Lawrence[2], Mark Hamrick[2], Carlos Isales[6], William Hill[2,7]. [1]Medical College of Georgia, Augusta University, United States, [2]Dept Cellular Biology & Anatomy, Medical College of Georgia, Augusta University, United States, [3]Department of Physiology and Endocrinology, Medical College of Georgia, Augusta University, United States, [4]Department of Orthopedic Surgery, Medical College of Georgia, Augusta University, United States, [5]Dept of Neuroscience and Regenerative Medicine, Medical College of Georgia, Augusta University, United States, [6]Dept of Medicine Endocrinology, Medical College of Georgia, Augusta University, United States, [7]Charlie 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-Albert[2], Inaam Nakchbandi[1]. [1]Max-Planck Institute for Medical Research, Germany, [2]University of Heidelberg, Germany
Disclosures: Katrin Huck, None

SUN-0482 **Cartilage tissue engineering using poly(PCL/PTHF urethane)/collagen nanofibers via blocking NF–kappa 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. Gordon[1], Kristiaan Finstad[1], Roland Elling[2], Kate A. Fitzgerald[2], Janet L. Stein[1], Gary S. Stein[1], Jane B. Lian[1]. [1]Department of Biochemistry, University of Vermont Larner College of Medicine, United States, [2]Department 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 Liu[2], Lei Zhang[1], Hu Zhao[3], Xiaohua Liu[3], Yan Jing[3], Jian Q. Feng[2]. [1]Postdoctoral Fellow, United States, [2]Professor, United States, [3]Assistant Professor, United States
Disclosures: Chi Ma, None

SUN-0485 **Characterizing Osteogenic Deficiency in Neurofibromatosis Type 1 at Single-Cell Resolution**
Nandina Paria*[1], Jinyan Chan[2], Jingua Gu[2], Carol Wise[1], Jonathan Rios[1]. [1]Texas Scottish Rite Hospital for Children, United States, [2]Baylor Research Institute, United States
Disclosures: Nandina Paria, None

SUN-0486 **βcatenin preserves stem state of MSC through activation of EZH2**
Buer Sen*[1], Zhihui Xie[1], Jeyantt S Sankaran[1], Amel Dudakovic[2], Gunes Uzer[3], Maya Styner[1], Mark B Meyer[4], Andre J Van Wijnen[2], Janet Rubin[1]. [1]University of North Carolina, United States, [2]Mayo Clinic, United States, [3]Boise State University, United States, [4]University 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 Daniels[4], Maarten Depypere[8,9], Pieter-Jan Stiers[1,2], Riet Van Looveren[1], Sophie Torrekens[1], Patrizia Agostinis[10], Frederik Maes[8,9], Johan Swinnen[4], Liesbet Geris[2,6,7], Hans Van Oosterwyck[2,6], Peter Carmeliet[4,5], David Scadden[3,11], Geert Carmeliet[1,2]. [1]Department of chronic diseases, metabolism and ageing, KU Leuven, Belgium, [2]Prometheus, Division of Skeletal Tissue Engineering, KU Leuven, Belgium, [3]Department of Stem Cell and Regenerative Biology, Harvard University, Cambridge, MA, United States, [4]Department of Oncology, KU Leuven, Belgium, [5]Center for Cancer Biology, VIB, Belgium, [6]Department of Mechanical Engineering, KU Leuven, Belgium, [7]Biomechanics Research Unit, GIGA In Silico Medicine, University of Liege, Belgium, Netherlands, [8]Medical Imaging Research Center, KU Leuven, Belgium, [9]Department of Electrical Engineering, KU Leuven, Belgium, [10]Department of Cellular and Molecular Medicine, KU Leuven, Belgium, [11]Center 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 Wang[2], Manman Gao[2], Changjun Li[2], Hui Xie[3], Lingling Xian[4], Mei Wan[5], Qianming Chen[1], Xu Cao[2]. [1]State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, China, [2]Department of Orthopedic Surgery, School of Medicine, Johns Hopkins University, United States, [3]Department of Sports Medicine, Xiangya Hospital, Central South University, China, [4]Division of Hematology, Department of Medicine, The Johns Hopkins University School of Medicine, United States, [5]Department 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 Solomon[2], Dawn Bryce[1], Frank Beier[1]. [1]Department of Physiology and Pharmacology, The University of Western Ontario, Canada, [2]Department 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 Thomas[1], N Jeffery[1], L R Ranganath[1], A Boyde[2]. [1]University of Liverpool, United Kingdom, [2]Queen 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 Wei[2], Wei He[2], Yi-Xian Qin[3]. [1]First School of Clinical Medicine, Guangzhou University of Chinese Medicine, China, [2]Department of Orthopaedics Surgery, The First Affiliated Hospital of Guangzhou University of Chinese Medicine, China, [3]Department 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, Arnavaz 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 Davis[1], Justin Lewicke[2]. [1]University of Alberta, Canada, [2]Glenrose 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 Odri[2], Rachid Jennane[1], Hechmi Toumi[1], Eric Lespessailles[3]. [1]University of Orléans, I3MTO Laboratory, France, [2]Hospital Lariboisière, Orthopedics, France, [3]Hospital of Orléans, Rhumatology, 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 Jarraya[2], Michelle Yau[3], Elise Morgan[4], Brett Allaire[5], Mary Bouxsein[5], Marian Hannan[3], Douglas Kiel[3], Thomas Travison[3], Pradeep Suri[6], Ali Guermazi[7]. [1]Institute for Aging Research, Hebrew SeniorLife, Harvard Medical School, United States, [2]Mercy Catholic Medical Center, United States, [3]Institute for Aging Research, Hebrew SeniorLife, United States, [4]Boston University, United States, [5]Beth Israel Deaconess Medical Center, United States, [6]University of Washington, United States, [7]Boston 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 Santana[2], Alexander Dash[1], Yi Liu[1], Alana Serota[1], David Mayman[1], Kaitlin Carroll[1], Michael Pitta[1], Timothy Wright[1], Emily Stein[1]. [1]Hospital for Special Surgery, United States, [2]Cornell University, United States

Disclosures: Blossom Samuels, None

SUN-0522 **CaMKK2-AMPK-p38MAPK Axis Regulates the Onset of Post-Traumatic Osteoarthritis**

Uma Sankar*[1], Elsa Mevel [1], Yong Li[1], Ushashi Dadwal[1], William Thompson[1], Diane Wagner[2], Stephen Trippel[1], Matthew Allen[2], David Burr[1]. [1]Indiana University School of Medicine, United States, [2]Indiana 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 Le[2], Tianlu Wang[1], Tejal Desai [2], Daniel Bikle[1]. [1]Endocrine Unit, University of California, San Francisco and San Francisco VA Health Care System, United States, [2]Department 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-Ugarte[2], Susana Balcells[3], Xavier Nogues[1], Daniel Grinberg[3], Adolfo Diez-Perez[1]. [1]IMIM (Hospital del Mar Medical Research Institute), CIBERFES, Spain, [2]IMIM (Hospital del Mar Medical Research Institute), Spain, [3]Universitat de Barcelona, CIBERER, Spain
Disclosures: Natalia Garcia-Giralt, None

SUN-0558 **Role of Methylsufonylmethane (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 Kitazawa[2], Yuuki Imai[3], Sohei Kitazawa[1]. [1]Department of Molecular Pathology, Ehime University Graduate School of Medicine, Japan, [2]Department of Diagnostic Pathology, Ehime University Hospital, Japan, [3]Proteo-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 Usami[1], Kaori Oya[1], Sunao Sato[1], Toshihisa Komori[2], Satoru Toyosawa[1]. [1]Osaka University Graduate School of Dentistry, Japan, [2]Nagasaki 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 Ferguson[2], Nianli Zhang[3], Erik I. Waldorff[3], James T. Ryaby[3], Joseph A. Didonato[1]. [1]Cleveland Clinic, United States, [2]Washington University in St. Louis, United States, [3]Orthofix, 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-Nakamura[1], Norihisa Uehara[1], Akiko Kukita[2], Toshio Kukita[1]. [1]Molecular Cell Biology & Oral Anatomy, Faculty of Dental Science, Kyushu University, Japan, [2]Microbiology, Faculty of Medicine, Saga University, Japan
Disclosures: Tamer Badawy, None

SUN-0566 **Osteoblast-specific overexpression of Gαs or Gα11 leads to differential fracture healing responses.**
Kathy Kyungeun Lee*[1], Jane Mitchell[1], Marc Grynpas[2]. [1]University of Toronto, Canada, [2]Lunenfeld-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 differenntiation**
Xiangzhi Li*[1], Jianmei Chen[1], Di Liu[2], Minqi Li[3], Yang Yang[1], Shuang Gao[1], Meng Wang[1], Shiguo Yan[4]. [1]Department of Cell Biology, Shandong University School of Basic Medical Sciences, China, [2]Department of Prosthodontics, Shandong Provincial Key Laboratory of Oral Tissue Regeneration, School of Stomatology Shandong University, China, [3]Department of Bone Metabolism, School of Stomatology Shandong University, China, [4]Department 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-kB Activation**
Thomas Mbimba*[1], Gregory Sondag [1], Fouad Moussa[1], Fayez Safadi[2]. [1]Musculoskeletal Research Group, NEOMED, United States, [2]Musculoskeletal 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 Zan[1], Roman Thaler[1], Farzaneh Khani[1], Merel O. Mol[2], Esther Liu[1], Guodong Li[3], Peter Kloen[2], Marianna Kruithof-De Julio[4], Simon M. Cool[5], David R. Deyle[1], Amel Dudakovic[1], Andre J. Van Wijnen[1]. [1]Mayo Clinic, United States, [2]University of Amsterdam, Netherlands, [3]Tongji University, China, [4]University of Bern, Switzerland, [5]Agency 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]. [1]School of Life Sciences, Northwestern Polytechnical University, China, [2]Key Laboratory for Space Bioscience and Biotechnology, Institute of Special Environment Biophysics, Northwestern Polytechnical University, China, [3]Research & 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 Johnson[2], Sumei Lu[2], Andrew Wells[2,3], Alessandra Chesi[2], Struan F.A. Grant[2,4], Kurt Hankenson[1]. [1]Department of Orthopaedic Surgery, University of Michigan Medical School, United States, [2]Center for Spatial and Functional Genetics and Division of Human Genetics, The Children's Hospital of Philadelphia, United States, [3]Department of Pathology and Laboratory Medicine, University of Pennsylvania Perelman School of Medicine, United States, [4]Department 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 Picotto[2], Leslie Morse[3], Megan Summers[3], Ricardo Battaglino[1]. [1]UC Denver, United States, [2]U de Cordoba, Argentina, [3]Craig 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 Wadajkar [2], Anthony Kim[2], Meenakshi Chellaiah[1]. [1]Department of Oncology and Diagnostics, University of Maryland, School of Dentistry, United States, [2]Departments 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 Teguh[2], Warren Raymond[1], Jennifer Tickner[2], Jiake Xu[2]. [1]Sir Charles Gairdner Hospital and University of WA, Australia, [2]University of WA, Australia
Disclosures: Charles Inderjeeth, None

SUN-0621 **Ion-doped hydroxyapatite nanoparticles designed for bone regeneration affect osteoclastogenesis in vitro**
Carina Kampleitner*[1], Montserrat Espanol[2], Maria-Pau Ginebra[2], Michelle Epstein[3], Oskar Hoffmann[1]. [1]Dept. Pharmacology and Toxicology, University of Vienna, Austria, [2]Universitat Politècnica de Catalunya, Spain, [3]Dept. 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 Kimura[1], Masahiko Ishida[1], Kazuhiro Shima[1], Saika Ogawa[1], Jiawei Qi[1], Wei-Ren Shen[2], Fumitoshi Ohori[1], Takahiro Noguchi[1], Aseel Marahleh[1], Hideki Kitaura[1]. [1]Division of Orthodontics and Dentofacial Orthopedics, Department of Translational Medicine, Tohoku University Graduate School of Dentistry, Japan, [2]Division of Orthodontics and Dentofacial Orthopedics, Tohoku University Graduate School of Dentistry, 4-1 Seiryo-machi, Aoba-ku, Sendai 980-8575, Japan
Disclosures: Akiko Kishikawa, None

SUN-0624 **Local Regulator Del1 Inhibits Bone-resorption via Suppression of Wnt5a-Ror2 Signaling Axis**
Tomoki Maekawa*[1], Yasuhiro Kobayashi[2], Hisanori Domon[1], Hikaru Tamura[1], Takumi Hiyoshi[1], Takeyasu Maeda[1], Yutaka Terao[1], George Hajishengallis[3]. [1]Niigata University, Japan, [2]Matsumoto Dental University, Japan, [3]University 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 Kajiya[2], Jun Hirose[1], Takumi Matsumoto[1], Koji Okabe[2], Takeshi Miyamoto[3], Sakae Tanaka[1]. [1]Department of Orthopaedic Surgery, The University of Tokyo, Japan, [2]Department of Physiological Science and Molecular Biology, Fukuoka Dental College, Japan, [3]Department 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 Shi[2], Yuji Mishina[1]. [1]Department of Biologic and Materials Sciences, University of Michigan, School of Dentistry, United States, [2]Department 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 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: 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 Hirata[2], Asana Kamohara[2], Juan Iovanna[3], Toshio Kukita[4], Masaaki Mawatari[1], Akiko Kukita[2]. [1]Department of Orthopaedic Surgery, Faculty of Medicine, Saga University, Japan, [2]Department of Pathology and Microbiology, Faculty of Medicine, Saga University, Japan, [3]Centerb de Recherche en Cancérologie de Marselle, INSERM U1068, France, [4]Department 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-κB 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 NFκB 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 Gerber[1], Samantha Neuburg[1], Maralee Capella[1], Xueyan Wang[1], Corey Dussold[1], Lixin Qi[1], Wenhan Chang[2], Myles Wolf[3], Aline Martin[1], Valentin David[1]. [1]Division 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, [2]Division of Endocrinology and Metabolism, UCSF, San Francisco, CA, United States, [3]Division 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. Davis[2], Kevin Mcandrews[2], Meloney D. Cregor[2], William R. Thompson[3], Lilian I. Pltokin[2], Alexander G. Robling[2], Teresita Bellido[2], Jesus Delgado-Calle[1]. [1]Indiana University School of Medicine, Dept. of Medicine, Hematology/Oncology, United States, [2]Indiana University School of Medicine, Dept. of Anatomy and Cell Biology, United States, [3]School 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 Ma[1], Hongyun Cheng[1], Roberto Fajardo[2], Joseph Pearson[3], Teja Guda[3], Daniel Shropshire[1], Sumin Gu[1], Jean X. Jiang[1]. [1]Department of Biochemistry, UT Health San Antonio, United States, [2]Department of Orthopaedics, UT Health San Antonio, United States, [3]Department 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*, 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 Hiyama[1], Tadashige Nozaki[1], Masaki Noda[2]. [1]Osaka Dental University, Japan, [2]Yokohama City Minato Red Cross Hospital, Japan
Disclosures: Takuya Notomi, None

SUN-0669 **Nfat Transcription Factors are Key Regulators of Osteocyte Function Independent of c-fos**
Matt Prideaux*, 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 Yan[1], Yiran Zhao[1], Yiming Lei[1], Liting Ma[1], Simin Lin[1], Yumei Lai[2], Huiling Cao[1], Chuanyue Wu[1], Guozhi Xiao[1]. [1]Department of Biology and Guangdong Provincial Key Laboratory of Cell Microenvironment and Disease Research, Southern University of Science and Technology, China, [2]Department 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*, 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 Lu[1], Ying Chin Lin[2]. [1]Department of Radiology, Wan Fang Hospital, Taipei Medical University, Taiwan, [2]Shuang 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 Warzecha[2], Malgorzata Berwecka[2], Anna Kumorek[3], Jaroslaw Amarowicz[2], Didier Hans[4]. [1]Krakow Medical Centre, Poland, [2]Department of Bone and Joint Diseases Jagiellonian University Medical College, Poland, [3]Healthy Statistic, Poland, [4]Center 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 Popp[2], Chun Xu[3], Amy Yuan[2], Ginu Unnikrishnan[3], Jaques Reifman[3], Mary Bouxsein[2]. [1]USARIEM, United States, [2]MGH, United States, [3]BHSAI, 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 Luo[1]. [1]CyberLogic, Inc., United States, [2]The 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 Sami[2], Renaud Winzenrieth[3], David Kendler[4]. [1]King Fahad Medical City, , Saudi Arabia, [2]Prohealth Clinical Research, Canada, [3]Galgo Medical, Spain, [4]University 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 Khoo[2], Joshua Lewis[3], Keenan Brown[4], Xiaoguang Cheng[1], Richard Prince[5]. [1]Beijing Jishuitan Hospital, China, [2]Medical Technology & Physics, Australia, [3]Edith Cowan University, Australia, [4]Mindways Software, United States, [5]University 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 Kubota[1], Kazutaka Nomura[1], Yusuke Horiguchi[1], Ko Chiba[2], Masafumi Machida[3]. [1]Ratoc System Engineering Co., LTD., Japan, [2]Department of Orthopedic Surgery, Nagasaki University Graduate School of Biomedical Sciences, Japan, [3]Department 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 Srisukh[1], Jintanan Jangsiripornpakorn[1], Nantaporn Siwarasanond[1], Sirimon Reutrakul [1,2], Sunee Saetung[1], Suchawadee Musikarat[3], Chanika Sritara[3], Piyamitr Sritara[1], Boonsong Ongphiphadhanakul[1]. [1]Department of Medicine, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand, [2]Division of Diabetes, Endocrinology and Metabolism, University of Illinois College of Medicine at Chicago, Chicago, Illinois, United States, [3]Department of Diagnostic and Therapeutic Radiology, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand
Disclosures: Hataikarn Nimitphong, None

SUN-0711 **Optimal Bone Mineral Density Testing Intervals in Korean Women**
Seung Shin Park*[1], Jung Hee Kim[1], Hyung Jin Choi[2], Eu Jeong Ku[3], Seo Young Lee[1], A Ram Hong[1], Nam H. Cho[4], Chan Soo Shin[1]. [1]Department of Internal Medicine, Seoul National University College of Medicine, Republic of Korea, [2]Department of Anatomy, Seoul National University College of Medicine, Republic of Korea, [3]Department of Internal Medicine, Chungbuk National University College of Medicine, Republic of Korea, [4]Department 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 Rudolph[1], Amy Yuan[1], Julie Hughes[2], Chun Xu[3], Ginu Unnikrishnan[3], Jaques Reifman[3], Mary Bouxsein[4]. [1]Massachusetts General Hospital, United States, [2]United States Army Research Institute of Environmental Medicine, United States, [3]Department of Defense Biotechnology High Performance Computing Software Applications Institute, United States, [4]Massachusetts 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 Dash[1], Mariana Bucovsky[2], Sanchita Agarwal[2], X. Edward Guo[2], Elizabeth Shane[2]. [1]Hospital for Special Surgery, United States, [2]Columbia 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*, 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 Cheng[1], Glen Blake[2], Keenan Brown[3], Li Xu[1], Zhe Guo[1]. [1]Department of Radiology, Beijing Jishuitan Hospital, China, [2]King's College London Osteoporosis Research Unit, United Kingdom, [3]Mindways 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 Humbert[1], Edward Leib[2]. [1]Galgo Medical SL, Spain, [2]Dept. 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 Daigle[2], Mary Melton[2], Elizabeth Delzell[1], Akhila Balasubramanian[3], Jeffrey Curtis[2]. [1]Department of Epidemiology, University of Alabama at Birmingham, United States, [2]Division of Clinical Immunology and Rheumatology, University of Alabama at Birmingham, United States, [3]Center 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**
Patryk Zarecki*[1], Matthias Hackl[2], Johannes Grillari[3], Miguel Debono[1], Richard Eastell[1]. [1]University of Sheffield, United Kingdom, [2]TAmiRNA GmbH, Austria, [3]TAmiRNA GmbH, Christian Doppler Laboratory on Biotechnology of Skin Aging, Austria
Disclosures: Patryk 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 Banefelt[2], Kristina Akesson[3], Anna Spangeus[4], Gustaf Ortsater[2], Cesar Libanati[1]. [1]UCB Pharma, Belgium, [2]Quantify Research, Sweden, [3]Lund University, Skåne University Hospital, Department of Orthopaedics, Sweden, [4]Department 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 Gamache[1], Suzanne N. Morin[3], Jacques P. Brown[4], Louis Bessette[4], Sonia Jean[1]. [1]Institut national de santé publique du Québec, Canada, [3]McGill University, Canada, [4]CHU 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 Neuburger[2], Yoav Ben-Shlomo[3], Celia L Gregson[1]. [1]Translational Health Sciences, Bristol Medical School, University of Bristol, United Kingdom, [2]Department of Health Services Research and Policy, London School of Hygiene and Tropical Medicine, United Kingdom, [3]Population 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 Schousboe[2], Suzanne Morin[3], Lisa Lix[4], William Leslie[4]. [1]University of California, Los Angeles, United States, [2]Park Nicollet Institute, United States, [3]McGill University, Canada, [4]University 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 Wyers[1], Patrick C Souverein[2], 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]. [1]VieCuri Medical Center, Department of Internal Medicine; Maastricht UMC+, NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Internal Medicine, Netherlands, [2]Utrecht University, Utrecht Institute of Pharmaceutical Sciences, Division of Pharmacoepidemiology and Clinical Pharmacology, Netherlands, [3]London School of Hygiene & Tropical Medicine, [4]University of Manchester, Farr Institute for Health Informatics Research, [5]Maastricht UMC+, CAPHRI Care and Public Health Research Institute, Department of Internal Medicine subdivision of Rheumatology, Netherlands, [6]Hasselt 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 Dort[2], Piet Geusens[3], Frank De Vries[4,5], Emiel Wouters[6], Joop Van Den Bergh[7,8]. [1]CAPHRI 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, [2]NUTRIM School of Nutrition and Translational Research in Metabolism, Maastricht University Medical Centre+ (MUMC+), Netherlands, [3]Department of Internal Medicine, Rheumatology, Maastricht University Medical Centre+ (MUMC+), the Netherlands, Netherlands, [4]Department of Clinical Pharmacy and Toxicology, Maastricht University Medical Centre+ (MUMC+), Netherlands, [5]CAPHRI Care and Public Health Research Institute, Netherlands, [6]Department of Respiratory Diseases, Maastricht University Medical Centre+ (MUMC+), the Netherlands, Netherlands, [7]Department of Internal Medicine, VieCuri Medical Centre, Venlo, Netherlands, [8]Department 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 Luo[2], Andrew Goertzen[3], Kimberly Hannam[1], Ahmed Elhakeem[1], Emma M Clark[1], William D Leslie[4], Jon H Tobias[1]. [1]Bristol Medical School, University of Bristol, United Kingdom, [2]Faculty of Engineering, University of Manitoba, Canada, [3]Department of Radiology, University of Manitoba, Canada, [4]Rady Faculty of Health Sciences, University of Manitoba, Canada

Disclosures: April Hartley, None

SUN-0769 **Contribution of Multimorbility to Post-Fracture Mortality: Result of a Long Term Population Based Study**

Thao P. Ho-Le*[1], Thach S. Tran[2], Jacqueline R. Center[2,3], John A. Eisman[2,3,4], Tuan V. Nguyen[1,4,5,6]. [1]School of Biomedical Engineering, University of Technology, Sydney, Australia, [2]Bone Biology Division, Garvan Institute of Medical Research, Australia, [3]St Vincent Clinical School, UNSW Australia, Australia, [4]School of Medicine, Notre Dame University, Australia, [5]Bone Biology Division, lia, Australia, [6]School 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 Sundh[1], Hilda Svensson[2], Jon Karlsson[3], Lars-Eric Olsson[2], Dan Mellstrom[1], Mattias Lorentzon[1]. [1]Geriatric Medicine, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, University of Gothenburg, Gothenburg, Sweden, [2]Institute of Health and Care Sciences/ Centre for Person-Centred Care (GPCC) Sahlgrenska academy Gothenburg university, Sweden, [3]Sahlgrenska 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 Sloane[1], Carl Pieper[1], Cathleen Colon-Emeric[2]. [1]Duke University, United States, [2]Durham 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 Fajardo[2], Todd Bredbenner[3], Khang Dang[1], Rose Huynh[1], Sean Catlett[1], Mtchell Hymowitz[1], Patrick Ryan[1], Ventrice Shillingford-Cole[1], Sara Spreicher[1]. [1]UT Health San Antonio, United States, [2]Univeristy of Incarnate Word School of Osteopathic Medicine, United States, [3]University 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 Vandenput[1], Anna Eriksson[1], Sara Windahl[1], Thomas Funck-Brentano[1], Claes Ohlsson[1]. [1]Centre for Bone and Arthritis Research, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Bioinformatics 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 Caksa[1], Dennis E. Anderson[2,3], Mary L. Bouxsein[1,2,3]. [1]Endocrine Unit, Massachusetts General Hospital, United States, [2]Harvard Medical School, Boston, MA, United States, [3]Center 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-Kew[1], Adolfo Diez-Perez[2], Mark A Kotowicz[1], Julie A Pasco[1]. [1]Deakin University, Australia, [2]Department 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**

Siri Marie Solbakken*[1], Jeanette H. Magnus[2], Haakon E. Meyer[1,3], Anne Johanne Søgaard[4], Grethe S. Tell[5,6], Nina Emaus[7], Kristin Holvik[4], Siri Forsmo[8], Clara G. Gjesdal[9], Berit Schei[10,11], Peter Vestergaard[12], Tone K. Omsland[1]. [1]Department of Community Medicine and Global Health, Institute of Health and Society, University of Oslo, Norway, [2]Section for Leadership, Faculty of Medicine, University of Oslo, Norway, [3]Division of Mental and Physical Health, Norwegian Institute of Public Health, Norway, [4]Division of Mental and Physical Health, Norwegian Institute of Public Health, Norway, [5]Department of Global Public Health and Primary Care, University of Bergen, Norway, [6]Division of Mental and Physical Health, Norwegian Institute of Public Health, Norway, [7]Department of Health and Care Sciences, UiT The Arctic University of Norway, Norway, [8]Department of Public Health and Nursing, NTNU, Norwegian University of Science and Technology, Norway, [9]Department of Clinical Science, University of Bergen and Department of Rheumatology, Haukeland University Hospital, Norway, [10]Department of Public Health and Nursing, Faculty of Medicine and Health Sciences, University of Science and Technology, Norway, [11]Department of Obstetrics and Gynaecology, St. Olav's hospital, Trondheim University Hospital, Norway, [12]Department of Endocrinology, Aalborg University Hospital and Department of Clinical Medicine, Aalborg University, Denmark

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**

Akira Taguchi*[1], Mikio Kamimura[2], Shigeharu Uchiyama[3], Hiroyuki Kato[4]. [1]Department of Oral and Maxillofacial Radiology, School of Dentistry, Matsumoto Dental University, Japan, [2]Center for Osteoporosis and Spinal Disorders, Kamimura Orthopedic Clinic, Japan, [3]Department of Orthopedic Surgery, Okaya City Hospital, Japan, [4]Department of Orthopedic Surgery, Shinshu University School of Medicine, Japan

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**

Francisco Torres-Naranjo*[1], Alejandro Gaytán-González [1], Roberto González-Mendoza[3], Noé Albino González-Gallegos[4], Pilar De La Peña-Rodríguez[5], Hugo Gutiérrez-Hermosillo [6], Pedro García-Hernández[7], Claudia Flores-Moreno[7], Jorge Alberto Morales-Torres[8], Juan López-Taylor[9]. [1]Centro de Investigación Ósea, Universidad de Guadalajara., Mexico, [3]Instituto de Ciencias Aplicadas a la Actividad Física y del Deporte, Universidad de Guadalajara, Mexico, [4]Departamento de Bienestar y Desarrollo Sustentable, Centro Universitario del Norte, Universidad de Guadalajara, Colotlán, Mexico, [5]Servicios Médicos De la Peña, Mexico, [6]Universidad de Guanajuato Hospital Aranda de la Parra, Mexico, [7]Endocrinología/Centro de Osteoporosis, Hospital Universitario de Monterrey, Mexico, [8]Hospital Aranda de la Parra y CIMOVA, Mexico, [9]Instituto de Ciencias Aplicadas a la Actividad Física y del Deporte, Mexico

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**

Thierry Chevalley*[1], Herve Spechbach[2], Isabelle Fabreguet[1], Emilie Saule[1], Magaly Hars[1], Jerome Stirnemann[3], Serge Ferrari[1], Rene Rizzoli[1]. [1]Division of Bone Diseases, University Hospitals and Faculty of Medicine, Switzerland, [2]Division of General Internal Medicine, University Hospitals and Faculty of Medicine, Switzerland, [3]Division of General Internal Medicine, University Hospitals of Geneva and Faculty of Medicine, Switzerland

Disclosures: Thierry Chevalley, None

SUN-0812 **Self-reported fracture history compared to fracture codes from an electronic health record dataset**
Maria I. Danila*[1], Amy Mudano[1], Elizabeth Rahn[1], Andrea Lacroix[2], Jeffrey Curtis[1], Kenneth Saag[1]. [1]University of Alabama at Birmingham, United States, [2]University of California, San Diego, United States
Disclosures: Maria I. Danila, None

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 Curtis[2], Rui Chen[2], Huifeng Yun[2], Tarun Arora[2], Suzanne Cadarette[3], Nicole Wright[2], Amy Mudano[2], Phillip Foster[2], Kenneth Saag[2]. [1]Brookwood Baptist Hospital, United States, [2]University of Alabama at Birmingham, United States, [3]University 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 Choi[1], Jung-Taek Kim[2], Ye-Yeon Won[2], Yoon-Sok Chung[1]. [1]Department of Endocrinology and Metabolism, Ajou University School of Medicine, Suwon, South Korea, Republic of Korea, [2]Department 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 Roedbro[1], Lars Rolighed[2], Tanja Sikjaer[1], Lars Rejnmark[1]. [1]Department of Endocrinology and Internal Medicine, Denmark, [2]Department 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 Mcarthur*[1,2], Jenna C. Gibbs[3], Jonathan Adachi[1], Maureen C. Ashe[4], Robert Bleakney[5], Angela M. Cheung[5], Keith D. Hill[6], David L. Kendler[4], Aliyah Khan[1], Sandra Kim[7], Judi Laprade[5], Nicole Mittman[5], Alexandra Papaioannou[1,2], Sadhana Prasad[8], Samuel C. Scherer[9], Lehana Thabane[1], John D. Wark[10], Lora Giangregorio[3]. [1]McMaster University, Canada, [2]GERAS Centre for Aging Research, Canada, [3]University of Waterloo, Canada, [4]University of British Columbia, Canada, [5]University of Toronto, Canada, [6]Curtin University, Australia, [7]Women's College Hospital, Canada, [8]Centre for Bone Health, Canada, [9]Northern Health, Australia, [10]University of Melbourne, Australia
Disclosures: Caitlin Mcarthur, 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 Lee[2], Kwang Hwan Jung[3], Jai Hyung Park[4], Hyun Chul Shon[5], Jae Suk Chang[1]. [1]Asan Medical Center, Republic of Korea, [2]Haeundae Paik Hospital, Republic of Korea, [3]Ulsan University Hospital, Republic of Korea, [4]Kangbuk Samsung Hospital, Republic of Korea, [5]Chungbuk 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.Hermosillo[3], Gilberto Aguilar-Orozco[1], Jaime Romero-Ibarra[2], Enrique Diaz De Leon-Gonzalez[4], Francisco Torres-Naranjo[5]. [1]Hospital Aranda de la Parra, Mexico, [2]Morales Vargas Centro de Investigacion, Mexico, [3]Medicina y Nutricion, Universidad de Guanajuato, Mexico, [4]Instituto Mexicano del Seguro Social, Mexico, [5]Centro 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 Guerriere[2], Laura Lutz[2], Leila Walker[2], Jonathan Scott[3], Heath Gasier[3], James Mcclung[2], Erin Gaffney-Stomberg[2]. [1]Oak Ridge Institute for Science and Education, United States, [2]US Army Research Institute of Environmental Medicine, United States, [3]Uniformed 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 Wu[2], Edwin Oei[3], Fernando Rivadeneira[1], Andre Uitterlinden[1], John Ioannidis[4], Michael Snyder[2], Chirag Patel[5]. [1]Erasmus MC, Dept. Internal Medicine, Netherlands, [2]Stanford School of Medicine, United States, [3]Erasmus MC Dept. Radiology, Netherlands, [4]Stanford School of Medicine, Netherlands, [5]Harvard 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 Weiler[1], Suzanne Morin[2], Kai Kang[1]. [1]School of Human Nutrition, McGill University, Canada, [2]McGill 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 Montain, 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 Ward[2], Diana Kuh[1], Ahmed Elhakeem[3], Judith Adams[4], Rachel Cooper[1]. [1]MRC Lifelong Health and Ageing at University College London, United Kingdom, [2]MRC Lifecourse Epidemiology, University of Southampton, United Kingdom, [3]MRC Integrative Epidemiology at University of Bristol, United Kingdom, [4]University 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 Shaul[1], David Burr[2], Deborah Hall[3], Thomas Turner[3], Robert Urban[3], Bryan Huber[4], Ronald Hill[1], Klaus Engelke[5], Harry Genant[6]. [1]AgNovos Healthcare, United States, [2]Indiana University School of Medicine, United States, [3]Rush University Medical Center, United States, [4]Copley Hospital, United States, [5]Bioclinica-Synarc, Germany, [6]Synarc-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 Do[2], Amy Koh[2], Hernan Roca[2], Laurie Mccauley[2]. [1]UConn Health, United States, [2]University 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 Hu[1], Xingwen Wu[1], Qisheng Tu[1], Jinkun Chen[1,3]. [1]Division of Oral Biology Tufts University School of Dental Medicine., United States, [2]Department of Periodontology, Peking University School and Hospital of Stomatology, Beijing, China, [3]Department 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 Sayani[2], Mohammad El Sibai[1], Mona Al Mukaddam[1]. [1]Perelman School of Medicine at the University of Pennsylvania, Division of Endocrinology, Diabetes and Metabolism, United States, [2]Perelman 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 Kim[2], Mihye Jung[1], Yoon Young Cho[3], Sunghwan Suh[4], Beom-Jun Kim[5], Seongbin Hong[1], Seung Hun Lee[5], Jung-Min Koh[5], Kee-Ho Song[6]. [1]Department of Endocrinology and Metabolism, Inha University Hospital, Inha University School of Medicine, Republic of Korea, [2]Division of Endocrinology and Metabolism, Department of Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine, Republic of Korea, [3]Division of Endocrinology and Metabolism, Department of Medicine, Gyeongsang National University Hospital, Gyeongsang National University School of Medicine, Republic of Korea, [4]Division of Endocrinology and Metabolism, Department of Medicine, Dong-A University Medical Center, Dong-A University College of Medicine, Republic of Korea, [5]Division of Endocrinology and Metabolism, Asan Medical Center, University of Ulsan College of Medicine, Republic of Korea, [6]Division of Endocrinology and Metabolism, Department of Medicine, Konkuk University Medical Center, Konkuk University School of Medicine, Republic of Korea

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 Lee[2], Sihoon Lee[3], Yoon-Sok Chung[1], Young-Min Ye[4]. [1]Department of Endocrinology and Metabolism, Ajou University School of Medicine, Republic of Korea, [2]Clinical Trial Center, Ajou University Medical Center, Republic of Korea, [3]Gachon University School of Medicine, Republic of Korea, [4]Department 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 Kim[2], In Joo Kim[1], Kyoung Min Kim[3], Kyoungjune Pak[2], Seong-Jang Kim[4]. [1]Endocrinology and metabolism, Pusan National University Hospital, Republic of Korea, [2]Department of Nuclear Medicine and Biomedical Research Institute, Pusan National University Hospital, Republic of Korea, [3]Seoul National University College of Medicine and Seoul National University Bundang Hospital, Republic of Korea, [4]Department 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 Donlon[1], Nancy Cook[2,3,4], Julie Buring[2,3,4], Joann Manson[2,3,4]. [1]Division of Endocrinology, Diabetes and Hypertension, Brigham and Women's Hospital, United States, [2]Harvard Medical School, United States, [3]Division of Preventive Medicine, Brigham and Women's Hospital, United States, [4]Department 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 Finlayson[1], Okechukwu Ekuma[2], Ruth Ann Marrie[2], William D Leslie[2]. [1]Faculty of Health Sciences, Queen's University, Canada, [2]Rady 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 Sundh[1], Mattias Lorentzon[1,3]. [1]Geriatric unit, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Dept Endocrinology, Internal Medicine, Sahlgrenska University Hospital, Sweden, [3]Geriatric 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 Shea[2], Sheila Markwardt[3], Orfeu Buxton[4], Katie Stone[5], Thuy-Tien Dam[6], Nancy Lane[7], Susan Redline[8], Jane Cauley[9], Douglas Bauer[10], Eric Orwoll[11]. [1]University of Colorado, Division of Endocrinology, Metabolism and Diabetes, United States, [2]Oregon Institute of Occupational Health Sciences, Oregon Health and Science University, United States, [3]OHSU-PSU School of Public Health, United States, [4]Department of Biobehavioral Health, Pennsylvania State University, United States, [5]California Pacific Medical Center Research Institute and San Francisco Coordinating Center, United States, [6]Columbia University, United States, [7]Center for Musculoskeletal Health, University of California, Davis Medical Center, United States, [8]Department of Medicine, Brigham and Women's Hospital and Beth Israel Deaconess Medical Center, Harvard Medical School, United States, [9]Department of Epidemiology, Graduate School of Public Health, University of Pittsburgh, United States, [10]University of California Medical Center, United States, [11]Division of Endocrinology Bone and Mineral Unit, Oregon Health and Science University, United States

Disclosures: Christine Swanson, None

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 Cohen[1], Stephanie Shiau[2], Mafo Kamanda-Kosseh[1], Mariana Bucovsky[1], X Edward Guo[3], Elizabeth Shane[1]. [1]Division of Endocrinology, Department of Medicine, Columbia University, United States, [2]Gertrude H. Sergievsky Center, Columbia University Medical Center, United States, [3]Bone 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 Pascariu[2], Veronica Mocanu[3], Mihail Romeo Galesanu[4]. [1]University of Medicine and Pharmacy "Grigore T.Popa", Romania, [2]Sf.SpiridonEmergency Clinical Hospital, Romania, [3]Grigore T. Popa University of Medicine and Pharmacy, Romania, [4]Romanian 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 Black[2], Antonella Barone[3], Josef Hruska[4], Gerolamo Bianchi[1]. [1]La Colletta Hospital, Italy, [2]University of California San Francisco, United States, [3]Galliera Hospital, Italy, [4]EffRx Pharmaceuticals, Switzerland

Disclosures: Andrea Giusti, Merck & Co, Consultant, Internis Pharma, Speakers' Bureau, Abiogen, Consultant, Labatec, Speakers' Bureau, EffRx Pharmacauticals, 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 Marin[2], David Kendler[3], Piet Geusens[4], Luis Russo[5], Jorge Malouf[6], Peter Lakatos[7], Salvatore Minisola[8], Pedro López-Romero[2], Astrid Fahrleitner-Pammer[9]. [1]Krankenhaus Nordwest GHMB, Germany, [2]Lilly Research Center Europe, Spain, [3]University of British Columbia, Canada, [4]Maastricht University Medical Center, Netherlands, [5]Centro de Analises e Pesquisas Clínicas LTDA, Brazil, [6]Hospital Sant Pau, Spain, [7]Semmelweis University Medical School, Hungary, [8]Sapienza Rome University, Italy, [9]Division 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 Karabelas[2], Abdulhafez Selim[3]. [1]Mouwasat Hospitals, Saudi Arabia, [2]Independent Investigator, United States, [3]PCOM, 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 Li[2], Fang Niu[3], Romain Neugebauer[1], Bruce Ettinger[1], Susan Ott[4], Joan Lo[1], Annette Adams[2]. [1]Division of Research, Kaiser Permanente Northern California, United States, [2]Department of Research & Evaluation, Kaiser Permanente Southern California, United States, [3]Pharmacy Outcomes Research Group, Kaiser Permanente California, United States, [4]Department 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 Jobke[2], Eva Maria Wölfel[1], Tobias Barth[1], Christoph Riedel[1], Maya Hellmich[3], Mathias Werner[4], Björn Busse[1]. [1]University Medical Center Hamburg-Eppendorf, Germany, [2]Telemedicine Clinic, Spain, [3]Immanuel Krankenhaus Berlin, Germany, [4]Helios 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 Hirano[2], Nobunori Takahashi[3], Naoki Ishiguro[3], Toshihisa Kojima[3]. [1]Toyota Kosei Hospital, Japan, [2]Toyohashi Municipal Hospital, Japan, [3]Nagoya 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 Lee[2], Young Kyu Kim[1]. [1]Inje University, Ilsanpaik Hospital, Republic of Korea, [2]Seoul 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 Kim[2]. [1]Kangdong Sacred Heart Hospital, Hallym University College of Medicine, Republic of Korea, [2]Hallym 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 Lee[1], Jin-Hwan Kim[2]. [1]Seoul National University, College of Medicine, Republic of Korea, [2]Inje 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 Grimsrud[2], Susan Ott[3], Malini Chandra[1], Rita Hui[4], Monika Izano[1], Annette Adams[5], Bruce Ettinger[1]. [1]Division of Research, Kaiser Permanente Northern California, United States, [2]Department of Orthopedic Surgery, Kaiser Permanente Oakland Medical Center, United States, [3]Department of Medicine, University of Washington, United States, [4]Pharmacy Outcomes Research Group, Kaiser Permanente California, United States, [5]Research 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 Pannacciulli[2], Piet Geusens[3], Jonathan Adachi[4], Eric Lespessailles[5], Jorge Malouf-Sierra[6], Bente Langdahl[7], Peter W. Butler[2], Xiang Yin[2], Willem F. Lems[8]. [1]University of Alabama, Birmingham, United States, [2]Amgen Inc., United States, [3]Maastricht University Medical Center, Netherlands, [4]McMaster University, Canada, [5]University Hospital Orleans, France, [6]Hospital San Pablo, Spain, [7]Aarhus University Hospital, Denmark, [8]VU 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 Kanesaki[2], Yoichi Kishikawa[3], Sathoshi Ikeda[4], Masato Nagashima[5], Tsuyoshi Miyajima[1], Hiromi Oda[1]. [1]Saitama medical university, Japan, [2]Nagat orthopedic hospital, Japan, [3]Kishikawa orthopedic surgery, Japan, [4]Ken-ai memorial hospital, Japan, [5]Katsuki 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 Driessen[3], Jonathan V Visser[4], Frank De Vries[5], Katrien Van De Wijdeven[4], Sonja Gevers[4], Willem F Lems[6], Marielle H Emmelot-Vonk[7], Joop Pw Van Den Bergh[1,2,8]. [1]VieCuri Medical Center, Department of Internal Medicine, Netherlands, [2]Maastricht University Medical Center (Maastricht UMC+), NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Internal Medicine, Netherlands, [3]Maastricht UMC+, CAPHRI Care and Public Health Research Institute, NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Clinical Pharmacy and Toxicology, Netherlands, [4]ApotheekZorg (Pharmacy), Netherlands, [5]Maastricht UMC+, Department of Clinical Pharmacy and Toxicology, Netherlands, [6]VU Medical Centre, Amsterdam Rheumatology and Immunology Center, Netherlands, [7]University Medical Center Utrecht, Department of Geriatric Medicine, Netherlands, [8]Hasselt University, Netherlands

Disclosures: Maud Van Maren, None

SUN-0940 **Treatment Patterns in the Management of Osteoporotic Fractures in Older Adults**

Lagari Violet*[1], Levis Silvina[1], Naomi Leonore[1], Berger Hara[2], Rodriguez Gracielena[1]. [1]Miami VA Healthcare System, United States, [2]Reproductive 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 ACTIVExtend Phase 3 Trial**
Nelson B. Watts*[1], Robin K. Dore[2], Sanford Baim[3], Gary Hattersley[4], Greg Williams[4], Yamei Wang[4], Tamara D. Rozental[5], Meryl S. Leboff[6]. [1]Mercy Health Osteoporosis and Bone Health Services, United States, [2]Robin K Dore M.D., Inc., United States, [3]Rush University Medical Center, United States, [4]Radius Health, Inc., United States, [5]Beth Israel Deaconess Medical Center, United States, [6]Brigham 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 Tang[2], Xinlong Ma[3], Qun Cheng[4], Hua Lin[5], Xiaolan Jin[6], Zhenlin Zhang[7], Wei Yu[1], Tsuyoshi Kobayashi[8], Satomi Uehara[8], Toshio Matsumoto[9], Weibo Xia[1]. [1]Beijing Union Medical College Hospital, China, [2]Beijing Friendship Hospital, Capital Medical University, China, [3]Tianjin Hospital, China, [4]Huadong Hospital affiliated to Fudan University, China, [5]Nangjing Drum Tower Hospital Affiliated of Nanjing University Medical School, China, [6]Chengdu Military Central Hospital, China, [7]Shanghai Sixth People Hospital, China, [8]Chugai Pharmaceutical Co., Ltd., Japan, [9]okushima 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 Ho[1], Rachelle W Johnson[2], T John Martin[1], Natalie A Sims[1]. [1]St. Vincent's Institute of Medical Research, Australia, [2]Vanderbilt 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 Ruan[1], Glenda Evans[1], Christine Hachfeld[1], Jean Vacher[2], Bart Williams[3], Sundeep Khosla[1], Jennifer Westendorf[1], Merry Jo Oursler[1]. [1]Mayo Clinic, United States, [2]McGill University, Canada, [3]Van 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-Justino[3], Vanessa Karine Schneider[3], Andressa Vilas Boas Nogueira[4], Rafael Scaf Molon[4], Flavio Henrique Da Silva[3], Andrea Soares Da Costa Fuentes[3], Ulf Holger Lerner[5], Joni Augusto Cirelli[4], Pedro Paulo Chaves Souza[2]. [1]Department of Diagnosis and Surgery, School of Dentistry at Araraquara, Sao Paulo State University, Brazil, [2]Department of Physiology and Pathology, School of Dentistry at Araraquara, Sao Paulo State University-UNESP, Brazil, [3]Department of Genetics and Evolution, Federal University of São Carlos, Brazil, [4]Department of Diagnosis and Surgery, School of Dentistry at Araraquara, Sao Paulo State University-UNESP, Brazil, [5]Centre 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 Yang[2], Taeyong Ahn[3], Le Duong[4], Brenda Pennypacker[5], Meagan Cauble[6], Sriram Vaidyanathan[7], Kenneth Kozloff[8], Bradford Orr[9], Mark Banaszak Holl[10]. [1]Chemistry Department, University of Michigan, United States, [2]Biomedical Engineering, University of Michigan, United States, [3]Macromolecular Science and Engineering, University of Michigan, United States, [4]Merck & Co, Inc (Retired), United States, [5]Merck & Co, Inc, United States, [6]Department of Orthopaedic Surgery, University of Connecticut Health Center, United States, [7]Department of Pediatrics, Stanford University, United States, [8]Department of Orthopaedic Surgery and Biomedical Engineering, University of Michigan, United States, [9]Physics Department, University of Michigan, United States, [10]Department 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 Cappellino[1], Ryanne Chitjian[2], Anne Savitt[3], Sardar Mz Uddin[1], Suresh Anaganti[3], Srinivas Pentyala[4]. [1]Stony Brook University, Department of Orthopaedics, United States, [2]Stony Brook University, Department of Biomedical Engineering, United States, [3]AJES Lifesciences, United States, [4]Stony 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 Hasegawa[2], Norio Amizuka[2]. [1]Pharmacology Research Department, Teijin Pharma Limited, Japan, [2]Developmental 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 Lehtimaki, 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 Poloxamers as a Drug Delivery System for Bone Regeneration**
Young-Eun Park*[1], Kaushik Chandramouli[2], Maureen Watson[3], Karen Callon[3], Mark Zhu[4], Donna Tuari[3], Dorit Naot[4], David Musson[4], Darren Svirskis[4], Manisha Sharma[4], Jillian Cornish[5]. [1]Miss, New Zealand, [2]Mr, New Zealand, [3]Ms, New Zealand, [4]Dr, New Zealand, [5]Professor, 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 Pellegrini[2], Meloney Cregor[1], Kevin Mcandrews[1], Emily Atkinson[1], Roy B Choi[1], Maria Maiz[3], Lilian I Plotkin[1], Linda D Mccabe[4], George P Mccabe[4], Munro Peacock[5], Connie Weaver[3], David Burr[6], Teresita Bellido[7]. [1]Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, [2]CONICET-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, [3]Department of Nutrition Science, Purdue University, United States, [4]Department of Statistics, Purdue University, United States, [5]Department of Medicine, Division of Endocrinology, Indiana University School of Medicine, United States, [6]Department of Anatomy & Cell Biology, Department of Biomedical Engineering, Indiana University School of Medicine, United States, [7]Department 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 Scheffler[1], Petra Henning[1], Karin Gustafsson[1], Karin Nilsson[1], Hannah Colldén[1], Ulrika Islander[1], Willem M De Vos[2], Patrice Cani[3], Hubert Plovier[3], Claes Ohlsson[1], Klara Sjögren[1]. [1]Centre for Bone and Arthritis Research, Institute of Medicine, Sahlgrenska Academy at University of Gothenburg, Sweden, [2]Laboratory of Microbiology, Wageningen University, Netherlands, [3]Université 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 Thomas[2], Laurence Vico[1], Maura Strigini[1]. [1]INSERM, U1059 and University of Lyon, UJM Saint-Etienne, France, [2]INSERM, 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 Mosti[2], Astrid Kamilla Stunes[2], Unni Syversen[2], Deepak Vashishth[1]. [1]Rensselaer Polytechnic Institute, United States, [2]Norwegian 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 Lachcik[1], Sharon Moe[2], Neal Chen[2], Kathleen Hill Gallant[1]. [1]Department of Nutrition Science, Purdue University, United States, [2]Department 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 Wong[1], Christina Chui Wa Poon[1], Wenxuan Yu[1], Chi-On Chan[1], Daniel Kam-Wah Mok[1], Hui-Hui Xiao[2], Man-Sau Wong[1]. [1]The Hong Kong Polytechnic University, Hong Kong, [2]The 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. Majoor[2], P.D.Sander Dijkstra[2], Socrates E. Papapoulos[1], Neveen A.T. Hamdy[1]. [1]Leiden University Medical Center; Center for Bone Quality:Department of Medicine: Division Endocrinology, Netherlands, [2]Leiden 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 Loeys-Dietz Syndrome**
Alison Boyce*, Caeden Dempsey, Samara Levin, Marjohn Rasooly, Pamela Guerrerio. 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 Curiel[1], Natalia Bravo Martin[2], Manuel Quesada Gómez[3], Miguel Torralbo Garcia[1]. [1]Bone Mineral Department. Fundación Jiménez Díaz. Quironsalud, Spain, [2]Internal Medicine Department. Fundación Jiménez Díaz. Quinosalud, Spain, [3]Endocrinology 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 Gonzalez[2], Felisa Quiroga[3], Claudio Silva[3], Paula Rozenfeld[4], Camilo Lis[5], Omar Riemersma[5], Martin Kot[5]. [1]Conicet UBA Hospital de Clinicas, Argentina, [2]Mautalen Salud e Investigacion, Argentina, [3]Diagnostico Maipu, Argentina, [4]IIFP, Universidad Nacional de La Plata, CONICET, Facultad de Ciencias Exactas, Departamento de Ciencias Biológicas, Argentina, [5]Shire 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**
Bérengère Aubry-Rozier*[1], Céline Richard[2], Sheila Unger[3], Didier Hans[4], Belinda Campos-Xavier[3], Luisa Bonafe[3], Aline Bregou[5]. [1]Rheumatology and Centre of Bone Diseases, Lausanne University Hospital, Switzerland, [2]ENT, Head and Neck Surgery Department, Lausanne University Hospital, Switzerland, [3]Service of Genetic Medicine, Lausanne University Hospital, Switzerland, [4]Centre of Bone Diseases, Lausanne University Hospital, Switzerland, [5]Orthopaedic Surgery UPCOT, Lausanne University Hospital, Switzerland
Disclosures: Bérengère 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 Imanishi[2], Yasuhiro Takeuchi[3], Yutaka Takahashi[4], Yumie Rhee[5], Chan Soo Shin[6], Hironori Kanda[7], Seiji Fukumoto[8]. [1]University of Tokyo Hospital Division of Nephrology and Endocrinology, Japan, [2]Osaka City University Graduate School of Medicine, Department of Metabolism, Endocrinology and Molecular Medicine, Japan, [3]Toranomon Hospital Endocrine Center, Japan, [4]Division of Diabetes and Endocrinology, Department of Internal Medicine, Kobe University Graduate School of Medicine, Japan, [5]Department of Internal Medicine, Yonsei University College of Medicine, Democratic People's Republic of Korea, [6]Department of Internal Medicine, Seoul National University Hospital, Democratic People's Republic of Korea, [7]Kyowa Hakko Kirin Co., Ltd., Japan, [8]Department 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 Kitoh[1], Kenichi Mishima[1], Naoki Ishiguro[1], Sayaka Fujiwara[2], Nobuhiko Haga[2], Taichi Kitaoka[3], Takuo Kubota[3], Keiichi Ozono[3]. [1]Department of Orthopaedic Surgery, Nagoya University Graduate School of Medicine, Japan, [2]Department of Rehabilitation Medicine, The University of Tokyo, Japan, [3]Department 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 Takeyari[1], Taichi Kitaoka[1], Hirofumi Nakayama[1,3], Varoona Bizaoui[1,4], Yukako Nakano[1], Kenichi Yamamoto[1,5], Kei Miyata[1], Keiko Yamamoto[1,6], Takuo Kubota[1], Katsusuke Yamamoto[7], Toshimi Michigami[8], Takehisa Yamamoto[9], Keiichi Ozono[1]. [1]Department of Pediatrics Osaka University Graduate School of Medicine, Japan, [2]The 1st. Department of Oral and Maxillofacial Surgery Osaka University Graduate School of Dentistry, Japan, [3]The Japan Environment and Children's Study Osaka unit center, Japan, [4]Department of Medical Genetics Reference Center for Skeletal Dysplasia Hôpital Necker - Enfants Malades, Japan, [5]Department of Statistical Genetics Osaka University Graduate School of Medicine, Japan, [6]Department of Bone and Mineral Metabolism Osaka Women's and Children's Hospital, Japan, [7]Department of Pediatric Nephrology and Metabolism Osaka Women's and Children's Hospital, Japan, [8]Department of Bone and Mineral Metabolism Osaka Women's and Children's Hospital, Japan, [9]Department 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 Kutty[2], Rose Kreikemeier[3], Ling Li[2], Mary Craft[2], David Danford[2]. [1]Children's Mercy Hospital, United States, [2]University of Nebraska Medical Center, United States, [3]Children'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*, 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 Xu[2], Xuedong Zhou[3], Eileen Shore[4], Fred Kaplan[5]. [1]Harvard University, United States, [2]Harvard School of Dental Medicine and West China Hospital of Stomatology, United States, [3]West China Hospital of Stomatology, China, [4]University of Pennsylvania School of Medicine, United Kingdom, [5]University 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 Robbiani[1], Fernando Silveira[2], Jose Ruben Zanchetta[1]. [1]IDIM, Universidad del Salvador, Argentina, [2]IDIM, 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*, 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*, 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 **Cystinosin Deficiency Primarily Affects Bone Remodeling In Cystinosis**
Giulia Battafarano*[1], Michela Rossi[1], Laura Rita Rega[2], Gianna Di Giovamberardino[3], Anna Pastore[4], Matteo D'Agostini[5], Ottavia Porzio[5], Francesco Emma[2], Anna Taranta[2], Andrea Del Fattore[1]. [1]Bone Physiopathology Group, Multifactorial Disease and Complex Phenotype Research Area, Bambino Gesù Children's Hospital, IRCCS, Italy, [2]Department of Nephrology and Urology, Division of Nephrology, Bambino Gesù Children's Hospital, IRCCS, Italy, [3]Laboratory of Metabolomics and Proteomics, Bambino Gesù Children's Hospital, IRCCS, Italy, [4]Laboratory of Metabolomics and Proteomics, Bambino Gesù Children's Hospital, IRCCS, Italy, [5]Clinical 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 Jung[2], Ji-Ae Jang[2], Min-Su Han[2], Seungwoo Han[3]. [1]Laboratory for arthritis and bone biology, Fatima Research Institute, Departmernt of Internal medicine, Daegu Fatima Hospital, Republic of Korea, [2]Laboratory for arthritis and bone biology, Fatima Research Institute, Daegu Fatima Hospital, Republic of Korea, [3]Department 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 Ohata[1], Jolene J. Windle[2], G. David Roodman[1,3], Noriyoshi Kurihara[1]. [1]Medicine/Hematology-Oncology; Indiana University, United States, [2]Human and Molecular Genetics, Virginia Commonwealth University, United States, [3]Roudebush 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**

Iichiro Okabe*, Jitendra Kanaujiya, Nelson Monteiro, Ernst Reichenberger, I-Ping Chen. University of Connecticut Health, United States

Disclosures: Iichiro 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 Convente[2], Nicole Fleming[1], Yueqi Zhang[1], Amisha Kalra[1], Cody M Elkins[1], Eileen M Shore[2], Daniel S Perrien[1]. [1]Vanderbilt University Medical Center, United States, [2]University of Pennsylvania, United States

Disclosures: Chuanmin Cheng, None

SUN-1100 **Cell-Autonomous And Systemic Alterations In Gorham-Stout Disease**

Michela Rossi*[1], Giulia Battafarano[1], Eda Mariani[1], Paola Sabrina Buonuomo[2], Ippolita Rana[3], Alessandro Jenkner[4], Rita De Vito[5], Simone Pelle[6], Matteo D'Agostini[7], Andrea Bartuli[2], Andrea Del Fattore[1]. [1]Bone Physiopathology Group Multifactorial Disease and Complex Phenotype Research Area Bambino Gesù Children's Hospital, IRCCS, Italy, [2]Rare Disease and Medical Genetic Unit, Bambino Gesù Children's Hospital, IRCCS, Italy, [3]UO Rare Diseases, Bambino Gesù Children's Hospital, IRCCS, Italy, [4]Division of Immunology and Infectious Diseases Department of Pediatrics, Bambino Gesù Children's Hospital, IRCCS, Italy, [5]Histopathology Unit, Bambino Gesù Children's Hospital, IRCCS, Italy, [6]Casa di Cura Villa Aurora-San Feliciano, Italy, [7]Clinical 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 Wouters[1], Dimitra Micha[2], Coen Netelenbos[3], Marelise Eekhoff[3], Nathalie Bravenboer[4], Teun De Vries[1]. [1]Department of Periodontology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam and Vrije Universiteit, Netherlands, [2]Department of Clinical Genetics, VU University Medical Center, Amsterdam Movement Sciences, The Netherlands, Netherlands, [3]Internal Medicine, Endocrinology Section, VU University Medical Center, Netherlands, [4]Department 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 Battle[2], Stephen Schlecht[3], Michelle Caird[2], Kenneth Kozloff[1]. [1]Departments of Biomedical Engineering and Orthopaedic Surgery, University of Michigan, United States, [2]Department of Orthopaedic Surgery, University of Michigan, United States, [3]Departments 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 Zhang[1], Gary S. Gottesman[1], Steven Mumm[2], Rajiv Kumar[3]. [1]Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States, [2]Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine, United States, [3]Division 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]. [1]Department of Orthopaedics and Traumatology, SH Ho Scoliosis Research Laboratory, The Chinese University of Hong Kong, Hong Kong, [2]Joint Scoliosis Research Center of the Chinese University of Hong Kong and Nanjing University, The Chinese University of Hong Kong, Hong Kong, [3]Department of Orthopaedics and Traumatology, The Chinese University of Hong Kong, Hong Kong, [4]Spine 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 Osteodynapenia with Incident Fracture and Mortality over 10 years in Community-dwelling Older Adults**
Saliu Balogun*[1], Tania Winzenberg[1], Karen Wills[1], David Scott[2,3], Michele Callisaya[1], Flavia Cicuttini[4], Graeme Jones[1], Dawn Aitken[1]. [1]Menzies Institute for Medical Research, University of Tasmania, Australia, [2]Department of Medicine, School of Clinical Sciences at Monash Health, Australia, [3]Faculty of Medicine, Nursing and Health Sciences, & Peninsula Clinical School, Central Clinical School, Monash University, Australia, [4]Department 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 Welti[2], Annie Mampieri[2], Stephen Rapp[1], Kristen Beavers[2], Edward Ip[1], Sally Shumaker[1]. [1]Wake Forest School of Medicine, United States, [2]Wake Forest University, United States
Disclosures: Daniel Beavers, None

SUN-1130 **Dynapenia and Muscle Loss in Older-Aged Women**

Francisco Torres-Naranjo*[1], Roberto González-Mendoza[2], Alejandro Gaytán-González [3], Hugo Gutiérrez-Hermosillo [4], Noé Albino González-Gallegos[5], Claudia Flores-Moreno[6], Pilar De La Peña-Rodríguez[7], Pedro Alberto García-Hernández[8], Juan López-Taylor[2]. [1]Centro de Investigación Ósea, Universidad de Guadalajara, Mexico, [2]Instituto de Ciencias Aplicadas a la Actividad Física y del Deporte, Universidad de Guadalajara, Mexico, [3]Universidad de Guadalajara, Mexico, [4]Universidad de Guanajuato, Hospital Aranda de la Parra, Mexico, [5]Departamento de Bienestar y Desarrollo Sustentable, Centro Universitario del Norte, Universidad de Guadalajara, Colotlán, Mexico, [6]Endocrinología/Centro de Osteoporosis, Hospital Universitario de Monterrey, Mexico, [7]Servicios Médicos De la Peña, Mexico, [8]Servicio 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 Hong[2], Ye Soo Park[3]. [1]College of medicine, Hanyang university, Republic of Korea, [2]College of medicine, Hanleem University, Republic of Korea, [3]Hanyang 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**

Mélany 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: Mélany Hars, None

SUN-1135 **Greater visceral adiposity is associated with lower paraspinal muscle density: the Framingham Study**

Timothy Tsai*[1], Brett Allaire[2], Ilean Isaza[1], Marian Hannan[1,2,3], Mary Bouxsein[2], Douglas Kiel[1,2,3], Thomas Travison[1,2,3]. [1]Hebrew SeniorLife Institute for Aging Research, United States, [2]Beth Israel Deaconess Medical Center, United States, [3]Harvard 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 Karlsson[3], Björn Rosengren[3], Eva Ribom[4], Dan Mellström[5], Claes Ohlsson[1]. [1]Centre for Bone and Arthritis Research, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Bioinformatics Core Facility, Sahlgrenska Academy, University of Gothenburg, Sweden, [3]Clinical and Molecular Osteoporosis Research Unit, Department of Clinical Sciences, Lund University, and Department of Orthopaedics, Skåne University Hospital, Sweden, [4]Department of Surgical Sciences, University of Uppsala, Sweden, [5]Centre 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 Hackl[2], Susanna Skalicky[2], Janina Patsch[3], Thomas Baum[4], Fabian Schröder[5], Klemens Vierlinger[5], Andrew Burghardt[6], Ann Schwartz[7], Johannes Grillari[8], Thomas Link[9]. [1]Department of Radiology &Biomedical Imaging, United States, [2]TamiRNA GmbH, Austria, [3]Department of Biomedical Imaging and Image-Guided Therapy, Medical University of Vienna, Austria, [4]Department of Neuroradiology, Technical University Munich, Germany, [5]Department of Molecular Diagnostics, Austrian Institute of Technology (AIT), Austria, [6]Musculoskeletal Quantitative Imaging Research Group, Department of Radiology & Biomedical Imaging, University of California San Francisco, United States, [7]Department of Epidemiology and Biostatistics, University of California San Francisco, United States, [8]Department of Biotechnology, University of Natural Resources and Life Sciences, Austria, [9]Musculoskeletal 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 Kim[1], Ji Hyun Lee[1], A Ram Hong[1], Chan Soo Shin[1], Nam H. Cho[2]. [1]Seoul National University College of Medicine, Republic of Korea, [2]Ajou 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 Rokidi[1], Klaus Klaushofer[1], Severin Vennin[2], Anastasia Desyatova[2], Joseph Turner[2], P Watson[3], Joan Lappe[3], Mohammed Akhter[3], Robert Recker[3]. [1]Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK and AUVA Trauma Centre Meidling, 1st Medical Department, Hanusch Hospital, Austria, [2]University of Nebraska, United States, [3]Osteoporosis 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 Arslanian[2], Ulai Fidow[3], Theresa Atanoa[4], Folla Unasa-Apelu[3], Abigail I Wetzel[5], Alysa Pomer[6], Take Naseri[7], Natalie Hyde[8], Nicola L Hawley[6]. [1]Institute for Physical Activity and Nutrition, Deakin University, Australia, [2]Department of Anthropology, Yale University, United States, [3]Yale-Ministry of Health Research Center, Samoa, [4]Community Studies Program, University of California-Santa Cruz, United States, [5]International Health Institute, Brown University, United States, [6]Department of Chronic Disease Epidemiology, Yale School of Public Health, United States, [7]Ministry of Health, Samoa, [8]Epi-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 Fang[1], Danielle May[1], Kyle Roux[1,2,3], Jianning Tao[1,2,3]. [1]Sanford Research, United States, [2]South Dakota State University, United States, [3]The 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 Deiana[1], Michela Serena[1], Samuele Cheri[1], Francesca Parolini[1], Giulia Marchetto[1], Mihaela Mina[1], Antonio Mori[1], Alberto Gandini[1], Franco Antoniazzi[1], Natascia Tiso[2], Giovanni Malerba[1], Luigi Gennari[3], Monica Mottes[1], Donato Zipeto[1], Luca Dalle Carbonare[1]. [1]University of Verona, Italy, [2]University of Padova, Italy, [3]University 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 Doherty[1], Evan Jellison[2], Ernesto Canalis[1], Archana Sanjay[1]. [1]UConn Musculoskeletal Institute, UConn Health, Farmington, CT 06030, United States, [2]Department of Immunology, UConn Health, Farmington, CT 06030, United States

Disclosures: Jungeun Yu, None

ENERGY METABOLISM, BONE, MUSCLE AND FAT

LB SUN - 1174 PGC1α deficiency negatively regulates bone mass and strength

Graziana Colaianni*[1], Luciana Lippo[1], Lorenzo Sanesi[1], Giacomina Brunetti[2], Monica Celi[3], Nunzio Cirulli[2], Giovanni Passeri[4], Janne Reseland[5], Ernestina Schipani[6], Maria Felicia Faienza[7], Umberto Tarantino[3], Silvia Colucci[2], Maria Grano[1]. [1]Department of Emergency and Organ Transplantation, University of Bari, Italy, [2]Department of Basic Medical Science, Neuroscience and Sense Organs, University of Bari, Italy, [3]Department of Orthopedics and Traumatology, Tor Vergata University of Rome, Italy, [4]Department of Clinical and Experimental Medicine, University of Parma, Italy, [5]Department of Biomaterials, Institute for Clinical Dentistry, University of Oslo, Norway, [6]Departments of Medicine and Orthopaedic Surgery, University of Michigan, United States, [7]Department 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 Zimmermann[2], Bettina Willie[1], Svetlana Komarova[1]. [1]McGill University, Canada, [2]Shriners 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 Shafiee[2], Afshin Ostovar[3], Ramin Heshmat[4], Farshad Sharifi[5], Iraj Nabipour[6]. [1]Endocrinology and Metabolism Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, [2]Chronic Diseases Research Center, Endocrinology and Metabolism Population Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, [3]Osteoporosis Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran., Islamic Republic of Iran, [4]Chronic Diseases Research Center, Endocrinology and Metabolism Population Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, [5]Elderly Health Research Center, Endocrinology and Metabolism Population Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, [6]The 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, Jihwan Park, 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 Wilde[1], Nicole Putnam[1], Jacob Curry[2], Jim Cassat[1,2]. [1]Vanderbilt University, United States, [2]Vanderbilt 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 Mei[1], Yushan Song[1], Carly Bachus[1], Chunxiang Sun[1], Hooshmand Sheshbaradaran[2], Michael Glogauer[1]. [1]University of Toronto, Canada, [2]Altum 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 Tu[1], Jake Chen[1,3]. [1]Division of Oral Biology, Tufts University School of Dental Medicine, United States, [2]State Key Laboratory of Oral Diseases, West China School of Stomatology, Sichuan University, United States, [3]Department of Cellular, Molecular, Developmental Biology, United States
Disclosures: Junxiang Lian, None

OSTEOCYTES

LB SUN - 1206 PPARγ: A Molecular Brake for Osteocyte Energy Metabolism and Bone Mass
Sudipta Baroi*[1], Lance Stechschulte[1], Amit Chougule[1], Patrick Griffin[2], Beata Lecka-Czernik[1]. [1]University of Toledo College of Medicine, United States, [2]Scripps 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 Roux[1], Quentin Chuzel[2], Francois Duboeuf[1], Roland Chapurlat[1,2], Helene Follet[1], Jean-Baptiste Pialat[2]. [1]Univ Lyon, Université Claude Bernard Lyon 1, INSERM, Lyos UMR1033, Lyon, France, [2]Hospices 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 Vo[2], Lisa Langsetmo[2], Brent Taylor[2], Allyson Kats[2], Susan Diem[2], Pawel Szulc[3], Joshua Lewis[4], Kristine Ensrud[2]. [1]HealthPartners Institute, United States, [2]University of Minnesota, United States, [3]INSERM UMR 1033, University of Lyon, Hospices Civils de Lyon, France, [4]University 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 Milovanovic[2], Felix N. Schmidt[1], Matthias Krause[1], Klaus Püschel[3], Robert O. Ritchie[4], Michael Amling[1], Björn Busse[1]. [1]Department of Osteology and Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, [2]Laboratory for Anthropology, Institute of Anatomy, Faculty of Medicine, University of Belgrade, Serbia, [3]Department of Legal Medicine, University Medical Center Hamburg-Eppendorf, Germany, [4]Materials 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 Giovane[3], Martin Feller[3,4], Patricia Kearney[5], Jacobijn Gussekloo[6], Simon P. Mooijaart[6], Rudi Gj Westendorp[7], David J Stott[8], Daniel Aeberli[9], Doug Bauer[10], Didier Hans[1], Nicolas Rodondi[2,3]. [1]Center of Bone Diseases, Rheumatology Unit, Bone and Joint Department, CHUV, Switzerland, [2]Endocrinology, Diabetology and Metabolism Unit, Internal Medicine Department, CHUV, Switzerland, [3]Institute of Primary Health Care (BIHAM), University of Bern, Switzerland, [4]Department of General Internal Medicine, Inselspital, Bern University Hospital, University of Bern, Switzerland, [5]Department of Epidemiology and Public Health University College Cork, Ireland, [6]Departments of Gerontology and Geriatrics Leiden University Medical Center, Netherlands, [7]Department of Public Health and Center for Healthy Aging, University of Copenhagen, Denmark, [8]Institute of Cardiovascular and Medical Sciences, University of Glasgow, United Kingdom, [9]Department of Rheumatology and Clinical Immunology/ Allergology, Bern University Hospital, Switzerland, [10]Departments 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 Noss[2], Jonathan Lee[1], Hongfan Jin[1], Carrie Schneider[1], Christine Thai[1]. [1]Pfenex Inc, United States, [2]Synexus, 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 Casagrande[1], Paul Mahrous[1], Muriel Tania Go[2], Hasan Husni[2], Mirette Hanna[1], Sara Bedrose[2], Dingfeng Li[2], Yu-Chien Cheng[1,2], Sanford Baim[1]. [1]Rush University Medical Center, United States, [2]John 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 Casagrande[1], Paul Mahrous[1], Muriel Tania Go[2], Hasan Husni[2], Mirette Hanna[1], Dingfeng Li[2], Sara Bedrose[2], Mishita Goel[1], Yu-Chien Cheng[1,2], Sanford Baim[1]. [1]Rush University Medical Center, United States, [2]John 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 Gossiel[1], Kim Naylor[1], Jennifer Walsh[1], Nicola Peel[2], Eugene Mccloskey[1], Richard Eastell[1,3]. [1]Academic Unit of Bone Metabolism, Oncology and Metabolism, University of Sheffield, United Kingdom, [2]Metabolic Bone Centre, Sheffield Teaching Hospitals, United Kingdom, [3]Mellanby 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 Chang[1], Jonathan Skinner[1], A. James O'Malley[1], Jeremy Smith[1], Gouri Chakraborti[1], Clifford J. Rosen[2], Nancy E. Morden[1]. [1]The Dartmouth Institute for Health Policy & Clinical Practice, The Geisel School of Medicine at Dartmouth, United States, [2]Maine 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 Alster[2], Evelien Gielen[1], David Cassiman[1], Franz Jakob[3], Lothar Seefried[3]. [1]University Hospitals Leuven, Belgium, [2]Tucson Endocrine, United States, [3]University 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-Jauregui[2], Harikiran Nistala[2], Johanna Jimenez[1], Silvia Smaldone[1], Saathyaki Rajamani[1], Johnathon Walls[1], Chia-Jen Siao[1], Andrew Murphy[1], Sarah Hatsell[1], Aris N Economides[1]. [1]Regeneron Pharmaceutical Inc, United States, [2]Regeneron 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 Librizzi[1], Mercedes Aramendi Ramos[2], Carlos Jiménez[3], Federico Hawkins[1], Guillermo Martínez Díaz-Guerra[1]. [1]Endocrinology Service, 12 de Octubre University Hospital, Spain, [2]Laboratory Service, 12 de Octubre University Hospital, Spain, [3]General 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 Clark[2], Lawrence Kim[2], Janet Rubin[2]. [1]University of North Carolina Hospitals, United States, [2]University 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 Borsari[2], Federica Saponaro[3], Elena Pardi[2], Chiara Banti[2], Laura Mazoni[2], Matteo Apicella[2], Claudio Marcocci[2]. [1]University Hospital of Pisa, Endocrine Unit 2, Italy, [2]Department of Clinical and Experimental Medicine, University of Pisa, Italy, [3]Department 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. Clarke[2], Helen Dahl-Hansen[3], Elizabeth Glenister[4], Davneet Judge[5], Nawal Bent-Ennakhil[5], Katie Gibson[5], John Germak[6], Kristina Chen[7], Claudio Marelli[6], Jens Bollerslev[8]. [1]Department of Gastroenterology and Endocrinology, University of Göttingen, Germany, [2]Mayo Clinic Division of Endocrinology, Diabetes, Metabolism, and Nutrition, United States, [3]Nordic hypoPARA Organisation, Norway, [4]Hypopara UK, United Kingdom, [5]Adelphi Real-World, United Kingdom, [6]Shire International GmbH, Switzerland, [7]Shire Human Genetic Therapies, Inc., United States, [8]Section 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 Högler[2], Hugo Gomes Da Silva[3], Anna Petryk[3], Shona Fang[3], Agnes Linglart[4], Keiichi Ozono[4], Cheryl Rockman-Greenberg[5], Craig Langman[6], Priya Kishnani[7]. [1]Orthopaedic Clinic King-Ludwig-Haus, University of Würzburg, Germany, [2]Department of Endocrinology and Diabetes, Birmingham Children's Hospital, and Institute of Metabolism and Systems Research, University of Birmingham, United Kingdom, [3]Alexion Pharmaceuticals, Inc., United States, [4]APHP, Bicêtre Paris-Sud, University Paris Saclay, France, [5]University of Manitoba, Rady Faculty of Health Sciences, Max Rady College of Medicine, and Children's Hospital Research Institute of Manitoba, Canada, [6]Feinberg School of Medicine, Northwestern University, and Lurie Children's Hospital of Chicago, United States, [7]Department 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 Filella[2], Silvia Ruiz-Gaspa[3], Helena Florez[1], Arantxa Conesa[4], Pilar Peris[1], Ana Monegal[1], Ferran Torres[5]. [1]Metabolic Bone Diseases Unit, Hospital Clinic, IDIBAPS, CIBERehd, Universisty of Barcelona, Spain, [2]Biochemistry and Molecular Genetics Department, Hospital Clinic, Spain, [3]Hospital Clinic, CIBERehd, Spain, [4]Rheumatology Department, Hospital General Universitario, Spain, [5]Biostatistics 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 Choi[1], Elizabeth R. Stremke[1], George P. Mccabe[1], Munro Peacock[2], Meryl E. Wastney[3]. [1]Purdue University, United States, [2]Indiana University School of Medicine, United States, [3]Purdue 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 Pihl[2], Eva Mortensen[1], Kennett Sprogøe[2], Jonathan A. Leff[1]. [1]Ascendis Pharma Inc., United States, [2]Ascendis 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], Yunglin Gazes[1], Ivelisse Colon[1], Mariana Bucovsky[1], Kevin Slane[1], John Williams[1], Randolph Marshall[1], Ronald Lazar[2], James Lee[1], Jennifer H. Kuo[1], Shonni Silverberg[1], Marcella Walker[1]. [1]Columbia University Medical Center, United States, [2]University of Alabama at Birmingham, United States
Disclosures: Minghao Liu, None

MON-0047 **A microRNA approach to diagnosing renal osteodystrophy**
Thomas Nickolas*[1], Neal Chen[2], Donald Mcmahon[1], David Dempster[3], Hua Zhou[3], Sharon Moe[2]. [1]Columbia University, United States, [2]Indiana Univeristy, United States, [3]Helen 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 Jean[2], Philipe Gamache[3], Lynne Moore[4], Fabrice Mac-Way[5]. [1]Chu de Quebec-Université Laval, Institut National de Santé Publique de Québec, Canada, [2]Université Laval, Institut National de Santé de Publique, Canada, [3]Université Laval, Institut National de Santé Publique de Québec, Canada, [4]Chu de Québec-Université Laval Research center, Enfant-Jésus Hospital, Traumatology Axis, Canada, [5]Chu 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 Zhang[2], Juraj Adamik[2], Mark A. Subler[3], Noriyoshi Kurihara[4], Laëtitia Michou[5], Jacques P. Brown[5], G. David Roodman[4,6], Philip E Auron[7], David W. Dempster[8,9], Jolene J. Windle[3], Kostas Verdelis[10], Hua Zhou[8], Deborah L. Galson[1]. [1]Department of Medicine, Hematology-Oncology Division, University of Pittsburgh, UPMC Hillman Cancer Center, Pittsburgh, PA, United States, [2]Department of Medicine, Hem-Onc Division, UPCI, University of Pittsburgh, United States, [3]Department of Human and Molecular Genetics, Virginia Commonwealth University, Richmond, VA, United States, [4]Department of Medicine, Hem-Onc Division, Indiana University, Indianapolis, IN, United States, [5]Department of Medicine, Laval University, CHU de Quebec Research Center and Department of Rheumatology, CHU de Quebec, Quebec City, Canada, [6]Veterans Administration Medical Center, Indianapolis, IN, United States, [7]Department of Biological Sciences, Duquesne University, Pittsburgh, PA, United States, [8]Regional Bone Center, Helen Hayes Hospital, Route 9W, West Haverstraw, NY 10993, United States, [9]Department of Pathology, College of Physician and Surgeons, Columbia University, New York, NY 10993, United States, [10]The 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 Yeh[2], Donovan Tay Yu-Kwang[1], Laurent Dercle[2], Jennifer Kuo[3], Leonardo Bandeira[1], Catherine Mcmanus[4], James Lee[3], John Bilezikian[1]. [1]Department of Medicine, Division of Endocrinology, College of Physicians & Surgeons, Columbia University, United States, [2]Department of Radiology Columbia University, New York, United States, [3]Department of Surgery GI/Endo, Columbia University, United States, [4]Columbia 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. Livingston[2], Alicia M. Ortega[1], Ted A. Bateman[2], Eric A. Vance[3], Louis S. Stodieck[4], Virginia L. Ferguson[1]. [1]Department of Mechanical Engineering, University of Colorado, Boulder CO, United States, [2]Department of Biomedical Engineering, University of North Carolina, Chapel Hill, NC, United States, [3]Department of Applied Mathematics, University of Colorado, Boulder CO, United States, [4]BioServe 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 Uppuganti[2], Alyssa Merkel[2], Deanna Bradley[1], Daniel Fernandes[1], Jeffry Nyman[2]. [1]Vanderbilt University, United States, [2]Vanderbilt 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 Mei[2], Felix Kopp[2], Peter Noel[2], Thomas Baum[3], Subburaj Karupppasamy[1]. [1]Singapore University of Technology and Design, Singapore, [2]Technical University of Munich, Germany, [3]Technical 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 Ruiz[2], Jérôme Noailly[2], Jordi Moretón[1], Silvana Di Gregorio[3], Ludovic Humbert[4], Luis Del Rio[3]. [1]CETIR Fundació Privada, Spain, [2]BCN MedTech, Universitat Pompeu Fabra, Spain, [3]CETIR Medical Centre, Spain, [4]Galgo 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 Lievers[2], A. Keith Pilkey[1]. [1]Department of Mechanical and Materials Engineering, Queen's University, Canada, [2]Bharti 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 Metzger[2], Scott Lenfest[1], Jessica Brezicha[1], Amelia Looper[3], Nicholas Igbinigie[2], Peter Phan[2], Susan Bloomfield[2], Harry Hogan[4]. [1]Department of Mechanical Engineering, Texas A&M University, United States, [2]Department of Health & Kinesiology, Texas A&M University, United States, [3]College of Veterinary Medicine, Texas A&M University, United States, [4]Departments 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. Guss[1], Erik A. Taylor[1], C. Hazel Higgins[1], Eve Donnelly[1], M. Kyla Shea[2], Sarah L. Booth[3], Rodrigo C. Bicahlo[1]. [1]Cornell University, United States, [2]Jean Mayer USDA Human Nutrition Research Center on Aging, Tufts University, United States, [3]Jean 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 Stringhetta 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 Comoposite Scaffolds Affects De Novo Bone formation**

Soyeon Jeong*[1], Adam Jakus[2,3], Chawon Yun[1], Ryan J. Lubbe[1], Adam Driscoll[1], Meraaj S. Haleem[1], Kevin Y. Chang[1], Wellington K. Hsu[1], Ramille Shah[2], Stuart R. Stock[4], Erin L. Hsu[1]. [1]Northwestern University Department of OrthoPaedic Surgery, United States, [2]Northwestern University Department of Materials Science and Engineering, United States, [3]Simpson Querrey Institute for BioNanotechnology, United States, [4]Northwestern 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 Che[1], Na-Rae Park[1], Yu-Min Hong[1], Clara Park[2], Yu-Ra Choi[1], Je-Yong Choi[1]. [1]Department 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, [2]Division 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 Han[2], Toru Deguchi[1], Frank Beck[1], Do-Gyoon Kim[1]. [1]Ohio State University, United States, [2]Seoul 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 Cooper[2], W. Brent Edwards[1]. [1]Human Performance Laboratory, Faculty of Kinesiology, University of Calgary, Canada, [2]Department 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 Wallace[1], Alexis Pulliam[1], Alycia Berman[2], Matt Allen[3]. [1]IUPUI Department of Biomedical Engineering, United States, [2]Purdue University Weldon School of Biomedical Engineering, United States, [3]IU 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 Boutroy[1], Mary L Bouxsein[2], Roland Chapurlat[1], Julien Wegrzyn[1,3]. [1]INSERM UMR 1033, Université de Lyon, France, [2]Center for Advanced Orthopedics Studies, Harvard Medical School - Beth Israel Deaconess Medical Center, United States, [3]Department 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 Farhat[2], Martin Pellicelli[2], Martin Garon[1], Eric Quenneville[1], René St-Arnaud[2]. [1]Biomomentum Inc., Canada, [2]Shriners 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 Floor[2], Mirini Kim[2], Lindsay Weigley[2], Elizabeth Carlson[4], Christina Dollar[2], Austin Gillies[2], Mary Scott Roberts[2], Rachel I. Gafni[1,2], Laura L. Tosi[2]. [1]Skeletal Disorders and Mineral Homeostasis Section, National Institute of Dental and Craniofacial Research, NIH, United States, [2]Bone Health Program, Division of Orthopaedics and Sports Medicine, Children's National Health System, United States, [3]Division of Endocrinology and Diabetes, Children's National Health System, United States, [4]Children's National Health System, United States
Disclosures: Alison M. Boyce, None

MON-0128 **Diagnosis of recurrent fracture in a pediatric cohort**
Melissa Fiscaletti*[1], Craig Peter Coorey[2], Julie Briody[2], Andrew Biggin[2], David Little[2], Aaron Schindeler[3], Craig Munns[2]. [1]Children's hospital at Westmead, Canada, [2]Children's hospital at Westmead, Australia, [3]University of Sydney, Australia
Disclosures: Melissa Fiscaletti, None

MON-0129 **Three Patient Kindred with Novel Phenotype of Osteogenesis Imperfecta due to a Mutation in the COL1A1 gene**
Nidhi Gupta*[1], Seth Gregory[2], David Deyle[3], Peter Tebben[3]. [1]Vanderbilt University Medical Center, United States, [2]Mayo Clinic Health System, United States, [3]Mayo Clinic, United States
Disclosures: Nidhi Gupta, None

MON-0130 **Calcemia and inflammatory markers in neonatal sepsis**
Stepan Kutilek*[1], Martina Vracovska[1], Kamila Pecenkova[1], Zlata Fejfarkova[2], Richard Pikner[2], Hana Brozikova[1]. [1]Dept. of Pediatrics, Klatovy Hospital, Czech Republic, [2]Dept. 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 Wientroub[2], Leonid Zeitlin[2]. [1]Pediatric Endcrinology Unit, The Edmond and Lily Safra Children's Hospital, Chaim Sheba Medical Center, Tel-Hashomer, Israel, [2]Pediatric 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 Shah[1], Anita Ying[2], Steven Waguespack[2]. [1]McGovern Medical School, United States, [2]The 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 Nakano[2], Mitsuyoshi Suzuki[2], Akifumi Tokita[3], Ayaka Kaneko[4], Eri Maeda-Murohara[4], Masashi Nagao[4], Toshiaki Shimizu[2], Kazuo Kaneko[4], Masahiko Nozawa[1], Muneaki Ishijima[4]. [1]Department of Orthopaedics, Juntendo University Nerima Hospital, Japan, [2]Department of Pediatrics, Juntendo University Graduate School of Medicine, Japan, [3]Clinic Bambini, Japan, [4]Department 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 Plotkin[1], Hannah Davis[1], Emily Atkinson[1], Matthew Allen[1], Leland Gomez[2], Padmini Deosthale[1], Carmen Herrera[2], Julian Dilley[1], Angela Bruzzaniti[3], Teresa Zimmers[1], Ziyue Liu[2], Rafael Pacheco[4], Joseph Rupert[1]. [1]Indiana University School of Medicine, United States, [2]Indiana University, United States, [3]Indiana University School of Dentistry, United States, [4]Brazil, 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-Melo[2], Viviana Toro-Ibacache[3], María Angélica Torres-Quintana[4], Kornelius Kupczik [5], Lilian Plotkin[6]. [1]Institute for Research in Dental Sciences, Faculty of Dentistry; CEMC, Faculty of Medicine; Universidad de Chile, Chile, [2]Institute 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, [3]Institute 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, [4]Department of Pathology and Oral Medicine, Faculty of Dentistry, Universidad de Chile, Chile, [5]Max Planck Weizmann Center, Max Planck Institute for Evolutionary Anthropology, Germany, [6]Department 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 Wang[2], Lora Shiflett[2], Leticia Brotto[1], Lynda Bonewald[3], Sarah Dallas[2], Marco Brotto[1]. [1]Bone-Muscle Collaborative Sciences, College of Nursing and Health Innovation, University of Texas at Arlington, United States, [2]Department of Oral and Craniofacial Sciences, School of Dentistry, University of Missouri-Kansas City, United States, [3]Department 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 Torres[1], Bianca Neofiti-Papi[1], Joao Silvestre[1], William Silva[1], Antonio Musarò[2], Anselmo Moriscot[1], Cecilia Gouveia[1]. [1]Institute of Biomedical Sciences, University of São Paulo, Brazil, [2]Sapienza Universita 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 Herndon[2], Andrea Bonetto[1], Celeste Finnerty[2], Christopher Nieten[2], Lynda Bonewald[1], Gordon Klein[2]. [1]Indiana University Medical Center, United States, [2]University 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 Peng[2], Yizhong Hu[3], Edward X. Guo[3], William A Bauman[1,2], Weiping Qin[1,2]. [1]Icahn School of Medicine at Mount Sinai, United States, [2]James J. Peters VA Medical Center, United States, [3]Columbia University, United States
Disclosures: Wei Zhao, None

MON-0168 **Osteocytic Connexin Channels Regulate Skeletal Muscle Structure and Function**
Guo Bin Li*[1], Lan Zhang[1], Peng Shang[2], Jean X. Jiang[3], Huiyun Xu[1]. [1]Key Laboratory for Space Bioscience and Biotechnology, School of Life Sciences, Northwestern Polytechnical University, Youyi Xilu 127, 710072, Xi'an, Shaanxi, China, [2]Key Laboratory for Space Bioscience and Biotechnology, Research & Development Institute in Shenzhen, Northwestern Polytechnical University, Gaoxin Fourth South Road 19, 518057, Shenzhen, Guangdong, China, [3]Department 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 Manilay[1], Gabriela Loots[2], Aris Edonomides[3]. [1]University of California Merced, United States, [2]University of California Merced, Lawrence Livermore National Laboratory, United States, [3]Regeneron 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 Oida[1], Emilio Satoshi Hara[3], Taishi Komori[1], Kentaro Akiyama[1], Ha Nguyen Thi Thu [1], Hai Thanh Pham [1], Kyawthu Aung[1], Toshitaka Oohashi[2], Takuo Kuboki [1]. [1]Department of Oral Rehabilitation and Regenerative Medicine, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan, [2]Department of Molecular Biology and Biochemistry, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan, [3]Department 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 Kurihara[1], Jessica H. Nelson[1], Emily G. Atkinson[2], Carlos Galmarini[3], G. David Roodman[1], Teresita Bellido[2]. [1]Indiana University School of Medicine, Dept. of Medicine, Hematology/Oncology, United States, [2]Indiana University School of Medicine, Dept. of Anatomy and Cell Biology, United States, [3]PharmaMar 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 Suominen[1], Jenni Mäki-Jouppila[1], Jussi M Halleen[1], Jenni Bernoulli[1], Pascale Lejeune[2]. [1]Pharmatest Services, Finland, [2]Bayer AG, Germany
Disclosures: Tiina E Kähkönen, None

MON-0216 **α4β1 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 Lee[1], Bo Yeon Seo[1], Sun Wook Cho[2], Serk In Park[1]. [1]Korea University College of Medicine, Republic of Korea, [2]Seoul 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 Middleton[2], Yu-Heng Ma[2], Liangcheng Xu[2], Noosheen Walji[1], Edmond Young[1,2], Lidan You[1,2]. [1]Department of Mechanical and Industrial Engineering, University of Toronto, Canada, [2]Institute 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 Sowder[1], Rachelle Johnson[2]. [1]Vanderbilt Center for Bone Biology, Vanderbilt University Medical Center, United States, [2]Vanderbilt 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 Kovcic[1], Albert Bondt[2], Stephanie Holst[2], Zeijan Zhang[3], Tobias Slørdahl[4], Anders Sundan[4], Anders Waage[4], Manfred Wuhrer[2], Therese Standal[1]. [1]Department of Clinical and Molecular Medicine/Centre of Molecular Inflammation Research, Norwegian University of Science and Technology (NTNU), Norway, [2]Leiden University Medical Center, Leiden University, Netherlands, [3]Key Laboratory of Glycoconjugate Research Ministry of Public Health, School of Basic Medical Sciences, Fudan University, China, [4]Department of Clinical and Molecular Medicine, Norwegian University of Science and Technology (NTNU), Norway
Disclosures: Marita Westhrin, None

MON-0222 **HIF-2α is Sufficient to Cause Agressive 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 Teramachi[2], Masahiro Hiasa[1], Asuka Oda[3], Mohannad Ashtar[1], Kotaro Tanimoto[1], Iwasa Masami[3], Ariunzaya Bat-Erdene[3], Takeshi Harada[3], Singen Nakamura[3], Hirokazu Miki[4], Itsuro Endo[3], Eiji Tanaka[1], Toshio Matsumoto[5], Masahiro Abe[3]. [1]Department of Orthodontics and Dentofacial Orthopedics, Institute of Biomedical Sciences, Tokushima University Graduate School, Japan, [2]Department of Tissue Regeneration, Institute of Biomedical Sciences, Tokushima University Graduate School, Japan, [3]Department of Hematology, Endocrinology and Metabolism, Institute of Biomedical Sciences, Tokushima University Graduate School, Japan, [4]Division of Transfusion Medicine and Cell Therapy, Tokushima University Hospital, Japan, [5]Fujii 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 Tenshin[1], Masahiro Hiasa[1], Asuka Oda[1], Ariunzaya Bat-Erdene[1], Takeshi Harada[1], Shingen Nakamura[1], Hirokazu Miki[2], Itsuro Endo[1], Toshio Matsumoto[1], Masahiro Abe[1]. [1]Tokushima University, Japan, [2]Tokushima 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 Shin[1], Juchan Lim[1], Carol Morris[1], Lucas Bennink[2], S. Michael Yu[2], Gareth Morgan[1], Maurizio Zangari[1]. [1]University of Arkansas for Medical Sciences, United States, [2]University 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 Kader[2], Takashi Nishida[1], Eriko Aoyama[3], Takanori Eguchi[4], Masaharu Takigawa[3], Satoshi Kubota[1]. [1]Biochemistry and Molecular Dentistry, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences., Japan, [2]Assistant professor, Health and Social Sciences Cluster Singapore Institute of Technology (SIT), Singapore, [3]Advanced Research Center for Oral and Craniofacial Sciences, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences., Japan, [4]Dental Pharmacology, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences., Japan

Disclosures: Abdellatif Elseoudi, None

MON-0248 **Role of IL36α 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 Godwin[1], Sheila Pourteymoor[1], Subburaman Mohan[1,2]. [1]Musculoskeletal Disease Center, VA Loma Linda Healthcare System, United States, [2]Department 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]. [1]Faculty of Dentistry, McGill University, Montreal, Quebec, Canada, [2]Shriners Hospital for Children, McGill University, Montreal, Quebec, Canada, [3]Department of Human Genetics, McGill University, Montreal, Quebec, Canada, [4]Department 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 βγ 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 Kram[1], Tina M. Kilts[1], Carl G Simon Jr[2], Marian F. Young[1]. [1]Molecular Biology of Bones and Teeth Section, NIDCR, NIH, United States, [2]Biosystems and Biomaterials Division, NIST, United States
Disclosures: Reut Shainer, None

MON-0254 **Role of Glycolysis in PHD2/HIF-Iα-Mediated Chondrocyte Differentiation**
Aruni Wilsonsanthoshkumar*[1], Sheila Pourteymoor[1], Subburaman Mohan[2]. [1]VA Loma Linda Healthcare System, United States, [2]VA 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 PPARγ 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 Andreasen*[1,2], Ann Kristin Hansen[1,2], Ken Sikaris[3], Clifford J Rosen[4], Åshild Bjørnerem[1,5]. [1]Department of Clinical Medicine, UiT The Arctic University of Norway, Tromsø, Norway, [2]Department of Orthopaedic Surgery, University Hospital of North Norway, Tromsø, Norway, [3]Melbourne Pathology, Melbourne, Australia, [4]Maine Medical Center Research Institute, Scarborough, Maine 04074, United States, [5]Department of Obstetrics and Gynecology, University Hospital of North Norway, Tromsø, Norway
Disclosures: Camilla Andreasen, 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 Stoetzel[1], Diaa Eldin S Daghma[1], Fathi Hassan[1], Stefanie Kern[1], Markus Rupp[2], Christian Heiss[2], Thaqif El Khassawna[1]. [1]Institute for Experimental Trauma Surgery, Faculty of Medicine, Justus Liebig University of Giessen, Germany, [2]Department 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 Wang[1], Xuejun Li[2], Jianxun Yi[2], Leticia Brotto[1], Marco Brotto[1], Jingsong Zhou[2]. [1]College of Nursing and Health Innovation, the University of Texas-Arlington, Arlington, TX, United States, [2]Department 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-Mare[2], Dagmar Kratky[3], Clifford Rosen[1]. [1]Maine Medical Center Research Institute, United States, [2]Gerot Lannach Pharma, Medical University of Graz, Austria, [3]Gottfried 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 Kawao[1], Yukinori Tamura[2], Kiyotaka Okada[1], Katsumi Okumoto[3], Shinji Kurashimo[3], Yoshitaka Horiuchi[3], Kohei Tatsumi[1], Osamu Matsuo[1], Hiroshi Kaji[1]. [1]Department of Physiology and Regenerative Medicine, Kindai University Faculty of Medicine., Japan, [2]Kobe Gakuin University, Faculty of Nutrition., Japan, [3]Life 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-Larouche[2], Roth-Visal Ung[1], David Simonyan[3], Anne-Marie Carreau[2], André Carpentier[2], Fabrice Mac-Way[1], Claudia Gagnon[1]. [1]Laval University, Canada, [2]Sherbrooke University, Canada, [3]CHU 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 Hof[2], Roland Baron[3], Dennis M. Black[4], Clifford J Rosen[5]. [1]Academic Medical Center Amsterdam and Center for Clinical and Translational Research, Maine Medical Center Research Institute, Netherlands, [2]Institute of Ageing & Chronic Disease, University of Liverpool, United Kingdom, [3]Department of Oral Medicine, Infection and Immunity, Harvard School of Dental Medicine, Harvard Medical School, United States, [4]Department of Epidemiology and Biostatistics, University of California San Francisco, United States, [5]Center 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 Milovanovic[1], Katharina Jähn[1], Felix N. Schmidt[1], Birgit Wulff[2], Michael Amling[1], Klaus Püschel[2], Graeme M. Campbell[3], Björn Busse[1]. [1]Department of Osteology and Biomechanics, University Medical Center Hamburg, Germany, [2]Department of Forensic Medicine, University Medical Center Hamburg, Germany, [3]Institute 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 Shen[2], Wade Berry[1], Robert Romano[1], Haeyoung Yi[1], Justin Bellizzi[1], Andrew Arnold[1]. [1]UConn SDM, United States, [2]UConn, 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 Jeong[1], Rory Cunningham[2,3], Grace Meers[2,3], R. Scott Rector[2,3], Charlotte L. Phillips[4]. [1]Department of Biochemistry, University of Missouri, United States, [2]Departments of Nutrition and Exercise Physiology and Medicine-GI, University of Missouri, United States, [3]Research Service-Harry S Truman Memorial VA Hospital, United States, [4]Departments 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 Johnson[2], Tonia Carter[3], Nicholas Keuler[1], Robert Blank[4]. [1]University of Wisconsin-Madison, United States, [2]Lucigen, United States, [3]Marshfield Clinic, United States, [4]Medical 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 Montoya[1], Omar Al Rifai[2], Genevieve Chiasson[1], Mathieu Ferron[2], Monzur Murshed[3,4]. [1]Faculty of Dentistry, McGill University, Canada, [2]Institut de Recherches Cliniques de Montreal, Canada, [3]Faculty of Dentistry and Department of Medicine, McGill University, Canada, [4]Shriners 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 Tommasini[2], Carolyn Macica[1]. [1]Frank H. Netter, M.D., School of Medicine at Quinnipiac University, United States, [2]Yale 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 Knox[1], Randall Roper[1], Elizabeth Fisher[2], Victor Tybulewicz[3], Joseph Wallace[1]. [1]Indiana University-Purdue University Indianapoli, United States, [2]UCL Institute of Neurology, United Kingdom, [3]The 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. Wong[2], Richard L. Gallo[3], Amanda R. Gamboa[2], Dawn A. Olson[2], Malcolm B. Lowry[4], Mary L. Fantacone[5], Claudia S. Maier[6], Jan F. Stevens[7], Russell T. Turner[2], Urszula T. Iwaniec[2], Adrian F. Gombart[8]. [1]School of Biological and Population Health Sciences, Linus Pauling Institute, Oregon State University, United States, [2]School of Biological and Population Health Sciences, Oregon State University, United States, [3]Department of Dermatology, University of California San Diego, United States, [4]Department of Microbiology, Oregon State University, United States, [5]Linus Pauling Institute, Oregon State University, United States, [6]Department of Chemistry, Oregon State University, United States, [7]Linus Pauling Institute, Department of Pharmaceutical Sciences, Oregon State University, United States, [8]School 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 Bemben*[1], Breanne Baker[1], Samuel Buchanan[1], Carl Ade[2]. [1]University of Oklahoma, United States, [2]Kansas State University, United States
Disclosures: Debra Bemben, 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 Laframboise[3], Maxime Vallée[1], Frédéric Fournier[1], Suzanne N Morin[4], Edith Gagnon[1], Arnaud Droit[1], Laetitia Michou[1,5]. [1]CHU de Québec-Université Laval Research Centre, Canada, [2]Department od medicine, Université Laval, Canada, [3]Department of Genetics, CHU de Québec-Université Laval, Canada, [4]Department of Medicine, McGill University, Canada, [5]Department of medicine, CHU de Quebec-Université Laval, Canada

Disclosures: Marie-Eve Boisvert, None

MON-0339 **Is serum free DNA methylation a bone biomarker?**

Alvaro Del Real*[1], Carolina Sañudo[1], Carmen Garcia Ibarbia[1], Carmen Valero[1], Mario F. Fraga[2], Agustin F. Fernandez[3], Flor M. Perez-Campo[4], Maria Isabel Perez-Nuñez[5], Esther Laguna[5], Jose A. Riancho[1]. [1]Department of Internal Medicine, Hospital Universitario Marqués de Valdecilla-IDIVAL, University of Cantabria, Spain, [2]Nanomaterials & Nanotechnology Research Center (CINN-CSIC), University of Oviedo, Spain, [3]Cancer Epigenetics Laboratory, Institute of Oncology of Asturias (IUOPA), HUCA, University of Oviedo, Spain, [4]Department of molecular biology, University of Cantabria-IDIVAL, Santander, Spain, [5]Department 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 Vallée[1], Frédéric Fournier[1], Arnaud Droit[1], Edith Gagnon[1], Jacques P. Brown[1,2], Laetitia Michou[1,2,3]. [1]CHU de Québec-Université Laval Research Centre, Quebec, Canada, [2]Department of Medicine, Division of Rheumatology, Université Laval, Quebec, Canada, [3]Department 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 Lutz[1], Anna Nakayama[1], Philip Fremont-Smith [2], Darrell Ricke[2], Martha Petrovick[2], James Mcclung[1]. [1]US Army Research Institute of Environmental Medicine, United States, [2]MIT 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 Zhou[2], Lauren O'Lear[2], Caela Long[2], Zahra Tara[2], Ilana Caplan[2], Meizan Lai[2], Michael Levine[2], Jeffrey Roizen[2]. [1]University of Maryland, United States, [2]The Children's Hospital of Philadelphia, United States

Disclosures: Alex Casella, None

HORMONAL REGULATORS

MON-0376 **Inhibition of FGF23 signaling corrects LPS-induced hypoferremia through the erythropoiesis-inflammation axis**

Rafiou Agoro*[1], Anna Montagna[1], Moosa Mohammadi[2], Despina Sitara[1]. [1]New York University, United States, [2]New 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 Capitano[1], Megan Noonan[1], Pu Ni[1], Mark Hanudel[2], Kenneth White [1]. [1]Indiana University School of Medicine, United States, [2]David 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 Ortiz[1], Yolanda Almaden[2], Julio Manuel Martinez Moreno[1], Carmen Herencia Bellido[1], Noemi Vergara Segura[1], Antonio Casado Diaz[1], Catarina Carvalho[3], João Miguel Frazão[4], Mariano Rodriguez Portillo[1], Juan Rafael Muñoz Castañeda[1]. [1]Maimonides Institute for Biomedical Research (IMIBIC), Reina Sofia University Hospital, University of Cordoba, Spain, [2]Maimonides 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, [3]Braga Hospital, Department of Nephrology, Institute of Investigation and Innovation in Health (I3S), National Institute of Biomedical Engineer (INEB), University of Porto, Portugal, [4]Department of Nephrology, São João Hospital Center, Institute of Investigation and Innovation in Health (I3S), National Institute of Biomedical Engineer (INEB), University of Porto, Portugal
Disclosures: Juan Miguel Diaz Tocados, None

MON-0379 **Estrogen Receptor-a Knockout Affects Femoral Cortical Geometry and Trabecular Microarchitecture, but not Osteocyte Sclerostin Expression, in Aged Male Mice**
Rebecca Dirkes*[1], Nathan Winn[1], Thomas Jurrissen[1], Dennis Lubahn[2], Victoria Vieira-Potter[1], Jaume Padilla[1], Pamela Hinton[1]. [1]Department of Nutrition and Exercise Physiology, University of Missouri, Columbia MO, United States, [2]Department 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-kB Activation, but not GATA4 Expression or Transcriptional Activity**
Ha-Neui Kim*[1,2], Li Han[1,2], Srividhya Iyer[1], Aaron Warren[1,2], Maria Almeida[1,2], Stavros Manolagas[1,2]. [1]University of Arkansas for Medical Sciences, United States, [2]Central 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. Ryan[1], K. Berit Sellars[1], René St-Arnaud[2], Christopher S. Kovacs[1]. [1]Memorial University of Newfoundland, Canada, [2]Shriner'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 Hassell[1], Benjamin Scandling[2], Beth Lee[1]. [1]The Ohio State University College of Medicine, United States, [2]The 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 Imanishi[1], Masayo Yamagata[2], Ikue Kobayashi[1], Noriyuki Hayashi[1], Masaya Ohara[1], Yuki Nagata[1], Katsuhito Mori[1], Masanori Emoto[1], Toshimi Michigami[3], Masaaki Inaba[1]. [1]Osaka City University Graduate School of Medicine, Japan, [2]Osaka Ohtani University, Japan, [3]Osaka 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. Clinkenbeard[1], Pu Ni[1], Mircea Ivan[1], Matthew Prideaux[1], Gerald J. Atkins[2], William R. Thompson[1], Mark R. Hanudel[3], Kenneth E. White[1]. [1]Indiana University School of Medicine, United States, [2]The University of Adelaide, Australia, [3]David 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 Plotkin[1], Teresita Bellido[2]. [1]Department of Anatomy & Cell Biology, Indiana University School of Medicine, United States, [2]Department 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 Fried[1], Amira Hussein Ali[2], James Watt[1], Paola Divieti Pajevic[2], Elise Morgan[3], Louis Gerstenfeld[2]. [1]Boston University School of Public Health, United States, [2]Boston University School of Medicine, United States, [3]Boston 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 Jones[2], Shima Assar[2], Stefania D'Angelo[3], Ann Prentice[2], Nick Bishop[4], Stephen Kennedy[5], Aris Papageorghiou[5], Robert Fraser[5], Saurabh Gandhi[5], Elisabeth Curtis[3], Sarah Crozier[3], Rebecca Moon[3], Keith Godfrey[3], Hazel Inskip[3], Elaine Dennison[3], Richard Eastell[7], Kassim Javaid[8], Cyrus Cooper[3], Nick Harvey[3], The Mavidos Study Group (Arden, Carr, Mughal, Reid, Robinson)[3]. [1]Department of Medicine, University of East Anglia and MRC Elsie Widdowson Laboratory, United Kingdom, [2]MRC Elsie Widdowson Laboratory, United Kingdom, [3]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [4]Academic Unit of Child Health, Sheffield Children's Hospital, University of Sheffield, United Kingdom, [5]Nuffield Department of Women's & Reproductive Health, John Radcliffe Hospital, University of Oxford, United Kingdom, [7]Academic Unit of Bone Metabolism, University of Sheffield, United Kingdom, [8]NIHR 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 Xie[1], Alexandra Clifford[1], Jinhua Gray[2], Nathanael Gray[2], Kei Sakamoto[2], Michael Mannstadt[1], Marc Wein[1]. [1]MGH Endocrine Unit, United States, [2]Dana Farber Cancer Institute, United States
Disclosures: Maureen Omeara, None

MON-0410 **Loss of Bone Volume and Bone Strength from Unloading is Mouse Strain-Dependent**
Michael Friedman*[1], Yue Zhang[1], Jennifer Wayne[1], Charles Farber[2], Henry Donahue[1]. [1]Virginia Commonwealth University, United States, [2]University 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. Jaspers[2], Astrid D. Bakker[1], Gang Wu[3], Johanna F.M. Verstappen[1], Mohammad Haroon[2], Joannes A.M. Korfage[4], Behrouz Zandieh-Doulabi[1], Jenneke Klein-Nulend[1]. [1]Dept Oral Cell Biology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam and Vrije Universiteit Amsterdam, Amsterdam Movement Sciences, Netherlands, [2]Laboratory for Myology, Faculty of Behavioral and Movement Sciences, Vrije Universiteit Amsterdam, Amsterdam Movement Sciences, Netherlands, [3]Dept Oral Implantology and Prosthetic Dentistry, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam and Vrije Universiteit Amsterdam, Amsterdam Movement Sciences, Netherlands, [4]Dept 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-Thomson[2], Lidan You[1,2]. [1]Institute of Biomaterials and Biomedical Engineering, University of Toronto, Canada, [2]Department 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 Etienne[2], Morgane Bourmaud[1], Christophe Helary[3], François Rannou[2], Eric Haÿ[1], Martine Cohen-Solal[1]. [1]Inserm UMR1132, Hôpital Lariboisière; Univ Paris Diderot, Sorbonne Paris Cité, Paris France, France, [2]Inserm UMR-S1124, Université Paris Descartes, Sorbonne Paris Cité, Paris France, France, [3]Sorbonne 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 HOSPITALIZRED 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 Dwyer [2], Jeevitha Srighanthan [1], Joan Murphy [3], Amy Finch[4], Joanne Kotsopoulos[5], Marcus Bernardini[1], Michelle Jacobson[5], Gabrielle E.V. Ene[1], Irene Ho[1], Suzanne Cohen[1], Paula Harvey[5], Barry Rosen[1], Steven Narod[5]. [1]University Health Network, Canada, [2]University of Toronto, Canada, [3]Trillium Health Partners, Canada, [4]Sunnybrook Health Sciences Centre, Canada, [5]Women'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 Shen[1], Katie Stone[2], Deborah Kado[1]. [1]University of California San Diego, United States, [2]California 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 Mohamad[1], Alexandra Aguilar-Perez[2], Artur Plett[1], Hui Lin Chua[1], Paul Childress[1], Marta Alvarez[1], Joydeep Ghosh[1], Irushi Abeysekera[1], Evan Himes[1], Chi Zhang[1], Jung Min Hong[2], Louis Pelus[1], Christie Orschell[1], Angela Bruzzaniti[2], Melissa Kacena[1]. [1]Indiana University School of Medicine, United States, [2]Indiana 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. Atkinson [3], Yu Peng[2], Ali Ghasem-Zadeh[1], Sundeep Khosla[3], Ego Seeman[1,2,4]. [1]Depts. Medicine and Endocrinology, Austin Health, University of Melbourne, Australia, [2]Straxcorp Pty Ltd, Australia, [3]Mayo Clinic, United States, [4]Australian 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 Gaucher[2], Nina Bon[1], Sophie Sourice[1], Jérôme Guicheux[1], Sarah Beck-Cormier[1], Laurent Beck[1]. [1]INSERM UMR 1229, France, [2]EA 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 α2δ1 Results in Impaired Skeletal Density, Mass, and Strength**
Madison Kelly*[1], Karan Sharma[1], Xin Yi[2], Christian Wright[2], Megan Noonan[2], Taylor Gorrell[2], Aaron Gegg[2], Brandon Chenoweth[2], Uma Sankar[2], Julia Hum[1], Alexander Robling[2], Mary Farach-Carson[3], William Thompson[2]. [1]Marian University, United States, [2]Indiana University, United States, [3]University 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 Wergedal[2], Catrina Godwin[2], Subburaman Mohan[1]. [1]VA Loma Linda Healthcare System, Loma Linda University, United States, [2]VA 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 Carpenter[1], Brittany Wilson[1], Abraham Palmer[2], D. Rick Sumner[1]. [1]Rush University Medical Center, United States, [2]University of California San Dieto, 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 Reznikov[2], Ievgeniia Morozova[3], Iskandar Tamimi[4], Jun Song[2], Faleh Tamimi[2]. [1]Objects Research Systems Inc., Canada, [2]McGill University, Canada, [3]Trikon Technologies Inc, Canada, [4]Hospital 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 Wise[1], Bruce Beutler[2]. [1]Texas Scottish Rite Hospital for Children, United States, [2]University of Texas Southwestern Medical Center, United States
Disclosures: Jonathan Rios, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION

MON-0489 **NF-kB 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 Josephson[2], Philipp Leucht[1]. [1]Dept. of Orthopaedic Surgery, NYU Langone Orthopedic Hospital, United States, [2]Dept. 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 Sbrana[2], Sanja Novak[2], Danka Grcevic[3], Ivo Kalajzic[2]. [1]Department of Molecular Medicine and Pathology, University of Auckland, New Zealand, [2]School of Dental Medicine, University of Connecticut, United States, [3]Department 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 Salisbury[2]. [1]Baylor College of Medicine, United States, [2]UTMB, United States
Disclosures: Elizabeth Olmsted-Davis, None

MON-0495 **Nucleoskeletal Actin-Lamin Architecture Regulates MSC Runx2 Directed Osteogenesis**
Jeyantt S. Sankaran*[1], Buer Sen[1], Zhihui Xie[1], Cody Mcgrath[1], Maya Styner[1], Amel Dudakovic[2], Andre J. Van Wijnen[2], Janet Rubin[1]. [1]UNC Chapel Hill, United States, [2]Mayo 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 Chun[2], Emad Bahrami-Samani[3], Lan Lin[3], Yi Xing[3], John Adams[4]. [1]Bioinformatics Interdepartmental Graduate Program, University of California, Los Angeles, United States, [2]Department of Orthopaedic Surgery, University of California, Los Angeles, United States, [3]Department of Microbiology, Immunology and Molecular Genetics, University of California, Los Angeles, United States, [4]Department of Orthopaedic Surgery, Department of Molecular, Cell & Developmental Biology, University of California, Los Angeles, United States
Disclosures: Yuanyuan Wang, None

MON-0498 **Multipotent Schwan cell precursors contribute to chondro- and osteo-progenitors during embryogenesis**
Meng Xie*[1], Dmitrii Kamenev[2], Baoyi Zhou[1], Maria Eleni Kastriti[1], Kaj Fried[2], Igor Adameyko[1], Viacheslav Dyachuk[2], Andrei Chagin[1]. [1]Department of Physiology and Pharmacology, Karolinska Institutet, Stockholm SE-171 77, Sweden., Sweden, [2]Department 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 Meyers[1], Leslie Chang[1], Leititia Zhang[1], Yiyun Wang[1], Kristen Broderick[1], Bruno Peault[2], Aaron James[1]. [1]Johns Hopkins University, United States, [2]University 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 Watanabe[1], Oki Nozomi[2], Naoki Iwamoto[3], Narihiro Okazaki[1], Atsushi Kawakami[2], Makoto Osaki[1]. [1]Department of Orthopedic Surgery, Nagasaki University Graduate School of Biomedical Sciences, Japan, [2]Department of Radiological Sciences, Nagasaki University Graduate School of Biomedical Sciences, Japan, [3]naoki_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 Aladlaan[1], Matthew Desanto[2], Fayez Safadi[1,3]. [1]Musculoskeletal Research Group, NEOMED, United States, [2]Musculoskeletal Research Group, United States, [3]Akron 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 Mohindroo[2], Salma Khan[3], Mohan Subburaman[1]. [1]VALLHCS, LLU, United States, [2]VALLHCS, United States, [3]Loma 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 Hakobyan[2], Tania Panellini[1], Camila Carballo[1], David Mcilwain[3], Tak W. Mak[4], Suchitra Acharya[5], Dan Li[1], Jackie Szymonifka[1], Scott Rodeo[1], Xiangqian Song[5], Sébastien Monette[6], Alok Srivastava[7], Jane Salmon[1], Carl Blobel[1]. [1]Hospital for Special Surgery at Weill Cornell Medicine, United States, [2]Pediatric Hematology/Oncology, Rush University Medical Center, United States, [3]Baxter Laboratory in Stem Cell Biology, Department of Microbiology and Immunology, Stanford University, United States, [4]Campbell Family Institute for Breast Cancer Research, Princess Margaret Cancer Center, University Health Network, Canada, [5]Pediatric Hematology/Oncology, Northwell Health, United States, [6]Laboratory of Comparative Pathology, Memorial Sloan Kettering Cancer Center, The Rockefeller University, Weill Cornell Medicine, United States, [7]Department 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 Kitade[1], Shinya Kawahara[1], Satoshi Ikemura[2], Gen Matsui[1], Takahiro Iguchi[1], Hiroaki Mitsuyasu[1], Reima Sueda[1]. [1]Hamanomachi Hospital, Japan, [2]Kyushu 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 Murugesh[2], Jillian Mccool[1], Edward Kuhn[2], Allison Hsia[3], Blaine Christiansen[3], Gabriela Loots[4]. [1]University of California-Merced, Lawrence Livermore National Laboratory, United States, [2]Lawrence Livermore National Laboratory, United States, [3]University of California-Davis, United States, [4]Lawrence 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 Lillis[1], Christopher Farnsworth[2], Javier Rangel-Moreno[1], John Ketz[1], Douglas Adams[3], Jennifer Anolik[1], Cheryl Ackert-Bicknell[1], Robert Mooney[1], Michael Zuscik[1]. [1]University of Rochester School of Medicine and Dentistry, United States, [2]Washington University in St. Louis, United States, [3]University of Connecticut, United States
Disclosures: Eric Schott, None

MON-0535 **Blocking Transforming Growth Factor-β1 By Oral Intake Of Losartan Can Improve Microfracture-Mediated Cartilage Healing- A Rabbit Model**
Hajime Utsunomiya*[1], Xueqin Gao[2], Zhenhan Deng[2], Gilberto Nakama[1], Haizi Cheng[2], Sudheer Ravuri[1], Julia Goldman[2], Tamara Alliston[3], Walter Lowe[2], William Rodkey[1], Marc J Philippon[1], Johnny Huard[1]. [1]Steadman Philippon Research Institute, United States, [2]University of Texas Health, United States, [3]University of California San Fransisco, 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 Reitsma[2], Hana Gillick[2], Abinaa Chandrakumar[3], Eva Szabo[3], Justin Chee[3], Angela M Cheung[3], Jonathan D Adachi[2]. [1]Joint Department of Medical Imaging, University Health Network, Canada, [2]Department of Medicine, McMaster University, Canada, [3]CESHA, 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 Rorβ 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 **CALM1 and GARS: novel biomarkers to diagnose Pseudarthrosis**

Thaqif El Khassawna*[1], Stefanie Kern[1], Deeksha Malhan[1], Markus Rupp[2], Christian Heiss[2]. [1]Institute for Experimental Trauma Surgery, Faculty of Medicine, Justus Liebig University of Giessen, Germany, [2]Department 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 Li[2], Qisheng Tu[1], Jake Chen[1,3]. [1]1Division of Oral Biology, Tufts University School of Dental Medicine, Boston, MA 02111, USA, American Samoa, [2]2Department of Stomatology of Nanfang Hospital, Southern Medical University, Guangzhou 510515, China, [3]Department 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, Airong 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 Blair[2], Irina L Tourkova[3], Jing H Bian[3], Li Liu[3], Donna Beer Stolz[4], Deborah J Nelson[5], Paul H Schlesinger [6]. [1]Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, Botnar Research Centre, Oxford University, United Kingdom, [2]Veteran's Affairs Medical Center and Department of Pathology, University of Pittsburgh, United States, [3]Department of Pathology, University of Pittsburgh, United States, [4]Department of Cell Biology, University of Pittsburgh, United States, [5]Department of Pharmacological and Physiological Sciences, University of Chicago, United States, [6]Department 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 Henaff[2], Nicola Partridge[2]. [1]New York University School of Medicine, United States, [2]New 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**
Jeremey Robinson *[1], Scott Mcdermott[1], Kevin Budge[2], Nazar Hussein[2], Fatima Jaber[2], Omar Azem[3], Matt Desanto[4], Adnan Raslan[4], Maleck Saleh[5], Bradley Inkrott[1], Fayez Safadi[4]. [1]Department of Orthopedic Surgery, SUMMA Health, United States, [2]School of Biomedical Sciences, Kent State University, United States, [3]Musculoskeletal Research Group, Northeast Ohio Medical University, United States, [4]Musculoskeletal Research Group, NEOMED, United States, [5]Musculoskeletal Research, NEOMED, United States
Disclosures: Jeremey Robinson , None

MON-0589 **Global Gene Expression Analysis Identifies Mef2c as a Wnt16 Target in Osteoblasts**
Aimy Sebastian*, Nicholas Hum, Cesar Morfin, Deepa Murugesh, 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 Sumita[2], Myumi Iwatake[2], Naomi Sakashita[2], Izumi Asahina[1]. [1]Department of Regenerative Oral Surgery, Unit of Translational Medicine, Graduate School of Biomedical Science, Nagasaki University, Nagasaki, Japan, [2]Basic 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 Driscoll[1], Ryan Lubbe[1], Soyeon Jeong[1], Kevin Chang[1], Meraaj Harleem[1], Richard Pahapill[1], Mark Oyer[1], Stuart Stock[2], Wellington Hsu[3], Erin Hsu[3]. [1]Northwesten University Department of Orthopaedic Surgery, Chicago, IL, United States, [2]Northwestern University Cell and Molecular Biology, United States, [3]Northwestern 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*[1], Kim Harrison[1], Arash Panahifar[2], Amir Ashique[1], Terra Arnason[1], Janna Andronowski[3], Kurtis Swekla[1], David Cooper[1]. [1]University of Saskatchewan, Canada, [2]Canadian Light Source, Canada, [3]University 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 Xu[1], Makoto Shiraki[2], Hirohito Hirata[1], Toshio Kukita[3], Akiko Kukita[1]. [1]Department of Microbiology, Faculty of Medicine, Saga University, Japan, [2]Department of Orthopedic Surgery, Faculty of Medicine, Saga University, Japan, [3]Department 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 PVQEET560-565 and PVQEQG604-609 Motifs play important roles in Porphyromonas gingivalis-mediated regulation of osteoclastogenesis**
Yuyu Li*[1], Shenyuan Chen[2], Zhenqu Shi[3], Xu Feng[3], Ping Zhang[4]. [1]Sichuan University, China, [2]Stomatological 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, [3]Department of Pathology, University of Alabama at Birmingham, AL35284, United States, [4]Department 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-κB Signaling Pathway in Osteoclastogenesis**
Sien Lin*[1], Haixing Wang[1], Bo Wei[2], Yuk Wai Lee[1], Liao Cui[2], Gang Li[1]. [1]The Chinese University of Hong Kong, Hong Kong, [2]Guangdong 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 Hultin[2], John C Lockhart[3], Carl S. Goodyear[1]. [1]Institute of Infection, Immunity, and Inflammation, University of Glasgow, United Kingdom, [2]Respiratory, Inflammation and Autoimmunity, Innovative Medicines and Early Development, AstraZeneca, Sweden, [3]Institute 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 Ohata[1], Jolene J. Windle[2], G. David Roodman[1,3], Noriyoshi Kurihara[1]. [1]Medicine/Hematology-Oncology; Indiana University, United States, [2]Human and Molecular Genetics, Virginia Commonwealth University, United States, [3]Roudebush 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 Chung[2], In-Jin Cho[2], You Cheol Hwang[2], In-Kyung Jeong[2], Kyu Jeung Ahn[2]. [1]Grace woman's Hospital, Republic of Korea, [2]Kyung 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 Kim[2], Mi Kyung Kwak[3], Seung Hun Lee[3], Jung-Min Koh[3]. [1]ASAN Institute for Life Sciences, Republic of Korea, [2]ASAN MEDICAL CENTER, Republic of Korea, [3]Division 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 Koide[2], Shunsuke Uehara[3], Atsushi Arai[2], Toshihide Mizoguchi[2], Teruhito Yamashita[2], Midori Nakamura[4], Yasuhiro Kobayashi[2], Naoyuki Takahashi[2], Seiichiro Kumakura[5], Chie Fukuda[5], Eisuke Tsuda[5]. [1]Department of Biochemistry, Institute for Oral Science, Matsumoto Dental University, Japan, [2]Institute for Oral Science, Matsumoto Dental University, Japan, [3]Department of Biochemistry, Matsumoto Dental University, Japan, [4]Department of Biochemistry, Institute for Oral Science, Matsumoto Dental University, Japan, [5]Rare 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 Kumar[1], Mohan Wani[1]. [1]National Centre for Cell Science, India
Disclosures: Suhas Mhaske, None

MON-0654 **Zscan10 Suppresses Osteoclast Differentiation through Expression of Haptoglobin.**
Yuta Yanagihara*[1], Kazuki Inoue[1], Noritaka Saeki[1], Yuichiro Sawada[2], Jiwon Lee[3], Tadahiro Iimura[3], Yuuki Imai[1]. [1]Division of Integrative Pathophysiology, Proteo-Science Center, Ehime University, Japan, [2]Department of Urology, Ehime University Graduate School of Medicine, Japan, [3]Division 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 Wong[1], Simon Kwoon Ho Chow[2], Meng Chen Li[2], Jack Chun Yiu Cheng[1], Wing-Hoi Cheung[1]. [1]Department of Orthopaedics and Traumatology, Faculty of Medicine, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, NT, Hong Kong, [2]Department 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 Chandler[2], Yuhei Uda[1], Amira Hussein[3], Raghad Shuwaikan[1], Ningyuan Sun[1], Mark Mccomb[2], Paola Divieti Pajevic[1]. [1]Molecular and Cell Biology, Boston University, United States, [2]Department of Biochemistry, Boston University, United States, [3]Department 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 Narayanan[2], Anne Michal Anderson[1], David C Zaweija[2], Susan A Bloomfield[1]. [1]Texas A&M University, United States, [2]Texas 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 Robinson[1], Jingyi Wang[2], Gill Holdsworth[3], Hua Zhu Ke[3], X. Edward Guo[1]. [1]Columbia University, United States, [2]Southern University of Science and Technology, China, [3]UCB 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 Kitase[2], Kaitlyn Tom[1], Mark Dallas[1], Hong Zhao[2], Yixia Xie[1], Michael Wacker[1], Marco Brotto[3], Lynda Bonewald[2], Sarah Dallas[1]. [1]University of Missouri, Kansas City, United States, [2]Indiana University, United States, [3]University 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 Yang[2], Rachel Embry[3], Whitney Bullock[4], Teresita Bellido[4], Russell Main[3]. [1]Weldon School of Biomedical Engineering Purdue University, United States, [2]Beijing University of Technology, China, [3]Musculoskeletal Biology and Mechanics Lab, Department of Basic Medical Sciences, Purdue University, United States, [4]Department 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-Cirera[1], Marta Arévalo[1], Luís Del Río[2], Joan Carles Oliva[3], Jordi Gratacós[1]. [1]Rheumatology Dpt. University Hospital Parc Taulí (UAB), Spain, [2]CETIR Centre Medic, Spain, [3]Statistics 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 Lee[1], Yi-Chien Lu[1], Hou-Ting Yang[2], Yi-Jui Liu[3]. [1]Department of Radiology, Wan Fang Hospital, Taipei Medical University, Taiwan, [2]Department of Nuclear Medicine, Chang Gung Memorial Hospital, Taiwan, [3]Department 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 Kwee[2], Matthew Bingfeng Chuah[2]. [1]Osteoporosis and Bone Metabolism Unit, Singapore General Hospital, Singapore, [2]Department 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 Oh[1], Hyeok-Jung Kweon[2]. [1]Department of Family Medicine, Eulji University School of Medicine, Republic of Korea, [2]Department 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 Zolendronic Acid using 3D Modelling Techniques obtained from DXA.**
Fidencio Cons Molina*[1], Mario Feuchter[1], Luis Ernesto Bejarano[1], Diana Wiluzanski[2], Carla Altieri[2], Edison Edgardo Romero Galvan [2], Jose Luis Mansur[3], Yves Martelli[4], Ludovic Humbert[4]. [1]Centro de Investigacion Artritis & Osteoporosis, Mexico, [2]CENTROSEO, Uruguay, [3]Centro de Endocrinología y Osteoporosis, Argentina, [4]Galgo 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 Damm[1], Stefan Reinhold[2], Wolfram Timm[3], Jan Borggrefe[4], Julian Ramin Andresen[5], Claus-Christian Glüer[1], Reimer Andresen[6]. [1]Section Biomedical Imaging, Department of Radiology and Neuroradiology, UKSH, Christian-Albrechts-Universität zu Kiel, Germany, [2]Department of Computer Science, Multimedia Information Processing Group, Christian-Albrechts-Universität zu Kiel, Germany, [3]MINDWAYS CT, United States, [4]Department of Diagnostic and Interventional Neuroradiology, University Hospital Cologne, Germany, [5]Medical School, Sigmund Freud University, Austria, [6]Institute 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 Fratcure 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 Robinson[1], Peter Lee[1], Christopher Yates[2], John Wark[1]. [1]The University of Melbourne, Australia, [2]The 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-Gamio[2]. [1]Department of Radiology and Biomedical Imaging, University of California, San Francisco, CA, United States, [2]Department 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 Brown[2], Linda Probyn[3], Ian Hammond[4], Jeffrey Hu[1], Ben Fine[3], Kevin Lian[1], Arvind Shergill[3], Jacques Trollip[1], Claudie Berger[5], William D Leslie[6], Jerilynn C Prior[1], David A Hanley[7], Jonathan D Adachi[8], Robert G Josse[3], Angela M Cheung[3], K Shawn Davison[9], Stephanie M Kaiser[10], Tanveer Towheed[11], Christopher S Kovacs[12], Andy Ko Wong[3], David Goltzman[13]. [1]University of British Columbia, Canada, [2]Université Laval, Canada, [3]University of Toronto, Canada, [4]University of Ottawa, Canada, [5]Research Institute of the McGIll University Health Centre, Canada, [6]University of Manitoba, Canada, [7]University of Calgary, Canada, [8]McMaster University, Canada, [9]A Priori Medical Sciences Inc, Canada, [10]Dalhousie University, Canada, [11]Queen's University, Canada, [12]Memorial University, Canada, [13]McGill 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 Ebina [1], Kohji Kuriyama[2], Kunihiro Oka[1], Hiroyuki Tanaka[1], Tsuyoshi Murase[1]. [1]Department of Orthopaedic Surgery, Osaka University, Graduate School of Medicine, Japan, [2]Department 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 Dosunmu[2], Keenan Brown[3], Orhan Oz[2]. [1]UT Southwestern Medical Center, United States, [2]UT Southwestern Medical Center - Radiology, United States, [3]Mindways 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 Gong[2]. [1]Department of Orthopedic Surgery, Asan Medical Center, Republic of Korea, [2]Department 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 Rathore[2], Gary Hunter[3], Debra Bemben[4], Zhaojing Chen[5], Kenneth Saag[6]. [1]Department of Physical Therapy, University of Alabama at Birmingham, United States, [2]Department of Physical Therapy, Temple University, United States, [3]Nutrition and Obesity Research Core, University of Alabama at Birmingham, United States, [4]Department of Health and Exercise Science, University of Oklahoma, United States, [5]Department of Kinesology, California State University San Bernardino, United States, [6]School 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 Geusens[4], Elisabeth Romme[5], Frank Smeenk[5], Emiel Wouters[6], Joop Van Den Bergh[7]. [1]NUTRIM School of Nutrition and Translational Research in Metabolism, Maastricht University Medical Centre+ (MUMC+), Netherlands, [2]CAPHRI Care and Public Health Research Institute, Netherlands, [3]Department of Clinical Pharmacy and Toxicology; Maastricht University Medical Centre+ (MUMC+), Netherlands, [4]Department of Internal Medicine, Rheumatology, Maastricht University Medical Centre+ (MUMC+), Netherlands, [5]Department of Respiratory Medicine, Catharina Hospital, Eindhoven, Netherlands, [6]Department of Respiratory Diseases, Maastricht University Medical Centre+ (MUMC+), Netherlands, [7]Department 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 Li[1], Yong Zhang[1], Ling Wang[1], Li Xu[1], Yangyang Duanmu[1], Cliff J Rosen[2], Glen M Blake[3]. [1]Department of Radiology, Beijing Jishuitan Hospital, China, [2]Center for Clinical & Translational Research, Maine Medical Center Research Institute, United States, [3]Biomedical 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 Fischer[1], David L. Kopperdahl[2], David C. Lee[2], Tony M. Keaveny[3]. [1]Kaiser Permanente Southern California, United States, [2]O.N. Diagnostics, United States, [3]University 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 Tran[1], Tineke Van Geel[2], Jonathan Adachi[3], Claudie Berger[4], Joop Van Den Bergh[2], John Eisman[1], Piet Geusens[2], David Goltzman[5], David Hanley[6], Robert Josse[7], Stephanie Kaiser[8], Christopher Kovacs[9], Lisa Langsetmo[10], Jerilynn Prior[11], Tuan Nguyen[1], Jacqueline Center[1]. [1]Bone Biology Group, Garvan Institute of Medical Research, Australia, [2]Maastricht University Medical Center, Netherlands, [3]Department of Medicine, McMaster University, Canada, [4]CaMos National Coordinating Centre, McGill University, Canada, [5]Department of Medicine, McGill University, Canada, [6]Department of Medicine, University of Calgary, Canada, [7]Department of Medicine, University of Toronto, Canada, [8]Department of Medicine, Dalhousie University, Canada, [9]Faculty of Medicine, Memorial University, Canada, [10]School of Public Health, University of Minnesota, Twin cities, United States, [11]Department 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 Dort[2], Piet Geusens[3], Elisabeth Romme[4], Frank Smeenk[4], Braim Rahel[5], Emiel Wouters[6], Joop Van Den Bergh[7]. [1]CAPHRI 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, [2]NUTRIM School of Nutrition and Translational Research in Metabolism, Maastricht University Medical Centre+ (MUMC+), Netherlands, [3]Department of Internal Medicine, Rheumatology, Maastricht University Medical Centre+ (MUMC+), the Netherlands, Netherlands, [4]Department of Respiratory Medicine, Catharina Hospital, Eindhoven, the Netherlands;, Netherlands, [5]Department of Cardiology, VieCuri Medical Centre, Venlo, the Netherlands;, Netherlands, [6]Department of Respiratory Diseases, Maastricht University Medical Centre+ (MUMC+), the Netherlands;, Netherlands, [7]Department 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 Kats[1], Cynthia Boyd[2], Susan Diem[1,2], John Schousboe[3], Brent Taylor[1,2], Douglas Bauer[4], Katie Stone[4], Lisa Langsetmo[1]. [1]University of Minnesota, United States, [2]Johns Hopkins University, United States, [3]HealthPartners Institute / University of Minnesota, United States, [4]University 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 Okazaki[2], Daniela Regina Brandão Tavares[1], Lais Abreu Bastos[3], Flavia Kurebayashi[4], Fania Cristina Santos[5]. [1]Doctorate Student at São Paulo Federal University, Brazil, [2]Associated Physician at São Paulo Federal Universisty, Brazil, [3]Affiliated physician at São Paulo Federal University, Brazil, [4]Pos-graduate studant at São Paulo Federal University, Brazil, [5]Professor 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 Rufus[1], Adolfo Diez-Perez[2], Lelia De Abreu[1], Mark Kotowicz[1], Muhammad Sajjad[1], Julie Pasco[1]. [1]Deakin University, Australia, [2]Autonomous 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 Kanis[2], Anders Odén[3], Nicholas C Harvey[4], Vilmundur Gudnason[5], Kerrie Sanders[6], Gunnar Sigurdsson[5], Kristin Siggeirsdottir[5], Lorraine Fitzpatrick[7], Mattias Lorentzon[8], Fredrik Borgström[9], Eugene Mccloskey[10]. [1]Institute for Health and Aging, Australian Catholic University, Melbourne, Australia, Sweden, [2]Institute for Health and Aging, Catholic University of Australia, Melbourne, Australia, Austria, [3]Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, United Kingdom, [4]MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton, United Kingdom, [5]Icelandic Heart Association Research Institute, Kopavogur, Iceland, [6]Department of Medicine, The University of Melbourne and Western Health, Sunshine hospital, Melbourne, VIC, Australia, [7]Radius Health, Waltham, MA, United States, [8]Centre 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, [9]LIME/MMC, Karolinska Institutet, Stockholm, Sweden, [10]Mellanby 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 Hall[2], Amy Finch[1], Barry Rosen[3], Joan Murphy[4], Steven A. Narod[1], Angela M. Cheung[5]. [1]Women's College Research Institute, Women's College Hospital, Canada, [2]University of Toronto, Canada, [3]Beaumont Health, United States, [4]Trillium Health Partners, Canada, [5]University 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 Zhu[2], Wai Lim[3], Richard Prince[4]. [1]School of Medical and Health Sciences, Edith Cowan University, Australia, [2]University of Western Australia, Australia, [3]Sir Charles Gairdner Hospital, Australia, [4]Medical 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 Berger[2], Suzanne Morin[2], Christopher Kovacs[3], David Hanley[4], Tassos Anastassiades[5], Stephanie Kaiser[6], David Goltzman[2], Jerilynn Prior[1]. [1]University of British Columbia, Canada, [2]McGill University, Canada, [3]Memorial University of Newfoundland, Canada, [4]University of Calgary, Canada, [5]Queen's University, Canada, [6]Dalhousie 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 Berger[2], David A Hanley[3], Steven K Boyd[3], Jerilynn C Prior[4], Andy Ko Wong[5], Angela M Cheung[5], Alexandra Papaioannou[6], Elham Rahme[1], David Goltzman[1]. [1]McGill University, Canada, [2]Research Institute of the McGIll University Health Centre, Canada, [3]University of Calgary, Canada, [4]University of British Columbia, Canada, [5]University of Toronto, Canada, [6]McMaster 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 Rosen[2], Jeffrey N Katz[1], Bernard A Rosner[1], Catherine M Gordon[3], Gary C Curhan[1]. [1]Brigham and Women's Hospital, Harvard Medical School, United States, [2]Beth Israel Deaconess Medical Center, Harvard Medical School, United States, [3]Cincinnati 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-Giralt[1], Adolfo Diez-Perez[1], Ignasi Tusquets[2], Sonia Servitja[2], Joan Albanell[2,3], Daniel Prieto-Alhambra[4], Xavier Nogues[1]. [1]IMIM (Hospital del Mar Research Institute), Centro de Investigación Biomédica en Red de Fragilidad y Envejecimiento Saludable (CIBERFES), Spain, [2]Cancer Research Program, IMIM (Hospital del Mar Research Institute), Spain, [3]Medical Oncology Department of Hospital del Mar- CIBERONC, Spain, [4]Nuffield 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/AAE) 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 Magaziner[1], Michelle Shardell[2], Thomas Beck[3], Laura Yerges-Armstrong[4], Denise Orwig[1], Gregory Hicks[5], Shabnam Salimi[1], Alice Ryan[1], Marc Hochberg[1]. [1]University of Maryland School of Medicine, United States, [2]National Institute on Aging, United States, [3]Beck Radiological Innovations, United States, [4]GlaxoSmithKline, United States, [5]University 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 Driessen[2], Lisanne Vranken[3,4], Irma Ja De Bruin[3,4], Piet P Geusens[5], Robert Y Van Der Velde[3,4], Heinrich M Janzing[6], Sjoerd Kaarsemaker[7], Jacqueline Center[8,9], Dana Bliuc[8], John A Eisman[10], Joop Pw Van Den Bergh[3,4]. [1]Department of Internal Medicine, VieCuri Medical Center, Netherlands, [2]Maastricht UMC+, CAPHRI Care and Public Health Research Institute, NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Clinical Pharmacy and Toxicology, Netherlands, [3]VieCuri Medical Center, Department of Internal Medicine, Netherlands, [4]Maastricht UMC+, NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Internal Medicine, Netherlands, [5]Maastricht UMC+, CAPHRI Care and Public Health Research Institute, Department of Internal Medicine subdivision of Rheumatology; Hasselt University, Netherlands, [6]VieCuri Medical Center, Department of Surgery, Netherlands, [7]VieCuri Medical Center, Department of Orthopedic Surgery, Netherlands, [8]Osteoporosis and Bone Biology Program, Garvan Institute of Medical Research, Australia, [9]Clinical School St Vincent's Hospital, Faculty of Medicine, UNSW Australia, Australia, [10]Osteoporosis 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 Griffin[1], David Stephens[2], Tim Jones[3], Sonya Stephenson[3], Michael Stone[4], Clare Cockill[5], Alison Smith[6], Iona Price[6], Celia Gregson[7], Frances Dockery[8], Rachel Bradley[9], Neil Gittoes[10], Daniel Prieto-Alhambra[1], Cyrus Cooper[11], Catherine Gallagher[12], Naomi Vasilakis[12]. [1]NDORMS, University of Oxford, United Kingdom, [2]NHS West Kent CCG, United Kingdom, [3]National Osteoporosis Society, United Kingdom, [4]Bone Research Unit, University Hospital Llandough, United Kingdom, [5]Rheumatology Department, Yeovil Hospital, United Kingdom, [6]Patient representative, Royal College of Physicians, United Kingdom, [7]School of Clinical Sciences, University of Bristol, United Kingdom, [8]Ageing and Health Services, Guy's and St Thomas' NHS Foundation Trust, United Kingdom, [9]Geriatric Medicine, University Hospitals Bristol NHS Foundation Trust, United Kingdom, [10]Centre for Endocrinology, Diabetes and Metabolism, University of Birmingham, United Kingdom, [11]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [12]Royal 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 Jonsson[1], Nick Harvey[2], Lee Shepstone[3], Elizabeth Lenaghan[3], Shane Clarke[4], Neil Gittoes[5], Ian Harvey[6], Richard Holland[3], Alison Heawood[7], Niamh Redmond[8], Amanda Howe[3], Tanya Marshall[10], Tim Peters[7], David Torgerson[11], Terence O'Neill[9], Eugene Mccloskey[12], Cyrus Cooper[2], John Kanis[12]. [1]Quantify Research, Sweden, [2]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [3]University of East Anglia, School of Medicine, United Kingdom, [4]University Hospitals Bristol BS2 8HW, United Kingdom, [5]University Hospital Birmingham, Endocrinology, United Kingdom, [6]University of East Anglia, School of Medicine, Health Policy and Practice, United Kingdom, [7]Bristol Medical School, University of Bristol, United Kingdom, [8]University of Bristol, United Kingdom, [9]University of Manchester, United Kingdom, [10]Norfolk and Norwich University Hospital, Department of Rheumatology, United Kingdom, [11]York University, York Trials Unit, United Kingdom, [12]University 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 Munce[2], Susan B. Jaglal[3], Sonya Allin[1], Arlene Silverstein[4], Sandra Kim[5]. [1]University of Toronto, Canada, [2]Toronto Rehabilitation Institute, University Health Network, Canada, [3]University of Toronto, Department of Physical Therapy, Canada, [4]Women's College Hospital, Canada, [5]University 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 Ioannidis[1], Mary-Lou Van Der Horst[2], Caitlin Mcarthur[2], Loretta M. Hillier[2], Ravi Jain[3], Susan Jaglal[4], Jonathan D. Adachi[1], Lora Giangregorio[4]. [1]McMaster University, Canada, [2]Geriatric Education and Research In Aging Sciences (GERAS) Centre, Canada, [3]Osteoporosis Canada, Canada, [4]University 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 Walkup[2], Walter Ambrosius[2], Leon Lenchik[2], Sue Shapses[3], Barbara Nicklas[2], Anthony Marsh[1], Jack Rejeski[1]. [1]Wake Forest University, United States, [2]Wake Forest School of Medicine, United States, [3]Rutgers 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 Weis[2]. [1]Griffith University, Australia, [2]The 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 Walsh[1], Richard Jacques[1], Eastell Richard[1], Thomas Hill[2]. [1]University of Sheffield, United Kingdom, [2]Newcastle 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. Adachi[2], Maureen C. Ashe[3], Robert Bleakney[4], Angela M. Cheung[4], Keith D. Hill[5], David L. Kendler[3], Aliya Khan[2], Sandra Kim[6], Judi Laprade[4], Caitlin Mcarthur[7], Nicole Mittmann[8], Alexandra Papaioannou[2], Sadhana Prasad[2], Samuel C. Scherer[9], Lehana Thabane[2], John D. Wark[9], Lora M. Giangregorio[1]. [1]University of Waterloo, Canada, [2]McMaster University, Canada, [3]University of British Columbia, Canada, [4]University of Toronto, Canada, [5]Curtin University, Australia, [6]Women's College Hospital, Canada, [7]GERAS Centre for Aging Research, Canada, [8]Cancer Care Ontario, Canada, [9]University 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 Holden[2]. [1]Queen's University, Canada, [2]Kingston 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 Río[2], Antonia Lizarraga[3], Montserrat Bellver[4], Renaud Winzenrieth[1], Amineh Amani[2], Franchek Drobnic[3]. [1]Galgo Medical, Spain, [2]CETIR Centre Medic, Spain, [3]Football Club Barcelona, Spain, [4]Centro 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 Yamauchi[2], Masahiro Yamamoto[2], Toshitsugu Sugimoto[2]. [1]Health and Nutrition, The University of Shimane, Faculty of Nursing and Nutrition, Japan, [2]Internal 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 Zhang[2], Dirk Vanderschueren[3], Lei Fu[4], Teresita Pennestri[1], Roger Bouillon[3], David Cole[4], Thomas Carpenter[1]. [1]Yale University School of Medicine, United States, [2]VA Connecticut Healthcare System, United States, [3]Katholieke Universiteit Leuven, Belgium, [4]University 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 Weeks[1], Lisa Weis[2], Amy Harding[1], Sean Horan[1], Belinda Beck[1]. [1]School of Allied Health Sciences, Griffith University, Gold Coast, Australia, [2]The Bone Clinic, Brisbane, Queensland, Australia
Disclosures: Steven Watson, None

MON-0871 **Kynurenine Regulates Osteogenesis in Aging Through miRNAs 29b-1-5p and 141-3p**
Khaled Hussein*[1], Ahmed Elmansi[1], Sudharsan Periyasamy-Thandavan[2], Galina Kondrikova[1], Wendy Bollag[3], Sadanand Fulzele[4], Xingming Shi[5], Meghan Mcgee-Lawrence[1], Mark Hamrick[1], Carlos Isales[5], William Hill[2]. [1]Department of Cellular Biology and Anatomy, Augusta University, United States, [2]Department of Cellular Biology and Anatomy, Augusta University, Georgia, [3]Department of Physiology, Augusta University, United States, [4]Department of Orthopedic Surgery, Medical College of Georgia, United States, [5]Department 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 Formosa[2], Herma C Van Der Linde[3], Juriaan R Metz[4], Gert Flik[4], Deepak Kumar Khajuria[5], David Karasik[5], M Carola Zillikens[6], Rob Willemsen[3], Andre G Uitterlinden[6], Tjakko J Van Ham[3], Fernando Rivadeneira[6], Annemieke Jmh Verkerk[6], Angela Xuereb-Anastasi[1]. [1]Department of Applied Biomedical Science, Faculty of Health Sciences, University of Malta, Msida, Malta, [2]Department of Medicine, Faculty of Medicine and Surgery, University of Malta, Msida, Malta, [3]Department of Clinical Genetics, Erasmus University Medical Center, Rotterdam, Netherlands, [4]Department of Animal Physiology, Institute for Water and Wetland Research, Faculty of Science, Radboud University Nijmegen, Nijmegen, Netherlands, [5]The Musculoskeletal Genetics Laboratory, Azrieli Faculty of Medicine, Bar-Ilan University, Safed 1311502, Israel, [6]Department 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 Tower[1], Abhishek Chandra[2], Yejia Zhang[1], Xiaowei Liu[1], Joel Boerckel[1], Xiaodong Guo[3], Jaimo Ahn[4], Ling Qin[1]. [1]Department of Orthopaedic Surgery, Perelman School of Medicine, University of Pennsylvania, United States, [2]Department of Physiology and Biomedical Engineering, Division of Geriatric Medicine & Gerontology, Mayo Clinic, United States, [3]Department of Orthopaedics, Union Hospital, Tongji Medical college, Huazhong University of science and Technology, China, [4]Orthopaedic 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 Sherwood[2], Richard Laughlin[3], Dana Duren[2]. [1]Wright State University, United States, [2]University of Missouri, United States, [3]University 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 Würgler Hansen[2], Eva Ebbehoej[1], Torquil Watt[3], Lars Rejnmark[1]. [1]Aarhus University Hospital, Denmark, [2]Regionshospitalet Silkeborg, Denmark, [3]Rigshospitalet, 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 Lobos[1], Narina Simonian[2], Thomas Schnitzer[2], W Brent Edwards[1]. [1]University of Calgary, Canada, [2]Northwestern 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 Cheung[2], Robert Inman[2]. [1]NOSM, Canada, [2]University 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 Radmer[2], Julian Ramin Andresen[3], Mathias Wollny[4], Urs Nissen[5], Hans-Christof Schober[6]. [1]Institute of Diagnostic and Interventional Radiology/ Neuroradiology, Westkuestenklinikum Heide, Academic Teaching Hospital of the Universities of Kiel, Luebeck and Hamburg, Heide, Germany, [2]Centre of Orthopaedics, Germany, [3]Sigmund Freud University, Medical School, Austria, [4]Medimbursement, Germany, [5]Department of Neurosurgery and Spine Surgery, Westkuestenklinikum Heide, Academic Teaching Hospital of the Universities of Kiel, Luebeck and Hamburg, Heide, Germany, [6]Department 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 Brooks[2], Kenichi Nagano[3], Dorothy Hu[3], Mary Bouxsein[2], Roland Baron[3], Gary Hattersley[1], Beate Lanske[1]. [1]Radius Health Inc, United States, [2]Beth Israel Hospital, Harvard Medical School, United States, [3]Harvard 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. Majeska[1], Jelena Basta-Pljakic[1], Mark W. Lundy[2], Frank H. Ebetino[3], Mitchell B. Schaffler[1]. [1]City College of New York, United States, [2]Indiana University School of Medicine, United States, [3]University 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 Nagai[1], Yusuke Oshita[2], Msayuki Miyagi[3], Gen Inoue[3], Takeshi Eguro[4], Kazuaki Handa[1], Tomoaki Toyone[1], Katsunori Inagaki[1]. [1]Department of Orthopaedic Surgery, Showa University School of Medicine, Japan, [2]Department of Orthopaedic SurgerShowa University Northern Yokohama Hospital, Japan, [3]Department of Orthopedic Surgery, Kitasato University, School of Medicine, Japan, [4]Department 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 Neugebauer [1], Bruce Ettinger[1], Rita Hui[2], Malini Chandra[1], Annette Adams[3], Fang Niu[2], Susan Ott[4], Joan Lo[1]. [1]Division of Research, Kaiser Permanente Northern California, United States, [2]Pharmacy Outcomes Research Group, Kaiser Permanente California, United States, [3]Department of Research & Evaluation, Kaiser Permanente Southern California, United States, [4]Department 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 Khan[1], Madiha Tauqir [1], Paul Zalzal[1], Sacha Dubois[2], Rafik El Werfalli[1], Simona Abid [1], Bradley Weening[1], Mark Ginty [1], Hajar Abu Alrob[1], Aliya Khan[1]. [1]McMaster University, Canada, [2]Lakehead 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 P[2], Yong-Chan Ha[3]. [1]Kyung Hee University Hospital, Republic of Korea, [2]Grace Women's Hospital, Republic of Korea, [3]Chung-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 Stroncek[2], James Howe[2], Bryan Huber[3], Ronald Hill[2], Didier Hans[4]. [1]Medimaps Group Plan-les-Ouates, Switzerland, [2]AgNovos Healthcare, United States, [3]Copley Hospital, United States, [4]Lausanne 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], Rachelle Rochelle[2], Matthew F. Bouchonville Ii[2], Avery Jackson[3], Anne Lake[4], John Carey[5], Zhanna Belaya[6], Varta Babalyan[7], Diana Wiluzanski[8]. [1]New Mexico Clinical Research & Osteoporosis Center, United States, [2]UNM Health Sciences Center, United States, [3]Michigan Neurosurgical Institute, United States, [4]Wake Forest University, United States, [5]NUI Galway, Ireland, [6]National Centre for Endocrinology, Russian Federation, [7]Armenian Osteoporosis Association, Armenia, [8]Centroseo - 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 Goh[2], Angelo Karunaratne[3], Crispin Wiles[4], Yong Wu[4], Oliver Boughton[5], Tabitha Tay[4], John Churchwell[6], Rajarshi Bhattacharya[7], Nick Terrill[8], Justin Cobb[9], Ulrich Hansen[8], Richard Abel[8]. [1]MEng, United Kingdom, [2]BSc, United Kingdom, [3]PhD, MEng, Sri Lanka, [4]MSc, United Kingdom, [5]MBBS, MRCS, BSc, United Kingdom, [6]PhD, MSc, United Kingdom, [7]MBBS, MRCSEd, MRCSGlas, MSc, FRCS, United Kingdom, [8]PhD, United Kingdom, [9]MBBS, 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 Ikeda[2], Hidehiro Matsumoto[3], Nobukazu Okimoto[4], Kunitaka Menuki[1], Tomohiro Kobayashi[5], Toru Yoshioka[5], Toru Ishikura[6], Saeko Fujiwara[7]. [1]Department of Orthopedic surgery, School of Medicine, University of Occupational and Environmental Health, Fukuoka, Japan, [2]Department of Orthopedic Surgery, Ken-Ai Memorial Hospital, Japan, [3]Department of Orthopedic Surgery, Sanzai Hospital, Japan, [4]Okimoto Clinic, Japan, [5]Department of Orthopedic surgery, Shimura Hospital, Japan, [6]Department of Orthopedics, Youmeikai Obase Hospital, Japan, [7]Faculty 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 Sakai[2], Satoshi Ikeda [3], Yasuo Imanishi[4], Hiroshi Tsurukami[5], Satoru Nakajo [6], Naohisa Miyakoshi [7]. [1]Tottori University, Japan, [2]University of Occupational and Environmental Health, Japan, [3]Ken-Ai Memorial Hospital, Japan, [4]Osaka City University Graduate School of Medicine, Japan, [5]Tsurukami Clinic of Orthopedics and Rheumatology, Japan, [6]Nakajou Orthopaedic Clinic, Japan, [7]Akita 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. Sagebein[2], Dorene O' Hara[2]. [1]University Orthopaedic Associates, LLC, United States, [2]UOA, 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 Borromeo[2], John Seymour[3], Peter Ebeling[4]. [1]Melbourne Medical School, University of Melbourne, Australia, [2]Eastern Health Clinical School, Monash University, Australia, [3]Department of Haematology, Peter MacCallum Cancer Centre, Australia, [4]Department 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 Colaianni[2], Sara Bortolotti[2], Giuseppina Storlino[2], Adriana Di Benedetto[3], Maria Felicia Faienza[4], Carl Ware[5], Silvia Colucci[1], Maria Grano[2]. [1]Department of Basic and Medical Sciences, Neurosciences and Sense Organs, Section of Human Anatomy and Histology, University of Bari, Italy, [2]Department of Emergency and Organ Transplantation, Section of Human Anatomy and Histology, University of Bari, Italy, [3]Department of Clinical and Experimental Medicine, University of Foggia, Foggia, Italy, [4]Department of Biomedical Sciences and Human Oncology, Section of Pediatrics University of Bari, Bari, Italy, [5]Infectious 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 Chang[1], Sung-Yen Lin[1], Lin Kang[2], Yi-Shan Lin[1], Shun-Cheng Wu[1], Je-Ken Chang[1], Mei-Ling Ho[1], Shih-Tse Chen[3]. [1]Kaohsiung Medical University, Taiwan, [2]National Cheng Kung University, Taiwan, [3]National 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 Matthys, 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 Laverty[1], Cynthia Pruss[1], Mandy Turner[1], Rachel Holden[2], Michael Adams[1]. [1]Queen's University Department of Biomedical and Molecular Sciences, Canada, [2]Queen'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 Guo[1], Jianrui Xu[1], Qing Zhong[1], Wendy Bollag[1,2], Meghan Mcgee-Lawrence[1], William Hill[1,2], Xing-Ming Shi[1], Mohammed Elsalanty[3], Sadanand Fulzele[1], Beom-Jun Kim[4], Mark Hamrick[1], Carlos Isales[1]. [1]Medical College of Georgia, United States, [2]Charlie Norwood VA Medical Center, United States, [3]School of Dental Medicine, United States, [4]University 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 17β-hydroxysteroid dehydrogenase type 2 (17β-HSD2) selective inhibition on ovariectomy induced bone loss in Wistar rats**
Sebastian T. Müller*[1], Sophie Pählig[1], Ahmed Merabet[2], Chris Van Koppen[3], Sandrine Marchais-Oberwinkler[2], Rolf W. Hartmann[3], Oliver Zierau[1], Günter Vollmer[1]. [1]Technische Universität Dresden, Molecular Cell Physiology and Endocrinology, Institute for Zoology, Dresden, Germany, [2]Institute for Pharmaceutical Chemistry, Philipps University Marburg, 35032 Marburg, Germany, [3]Pharmaceutical 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 Haruna[1], Pritpal Malhi[1], Simon Authier[1], Yannick Trudel[2], Raluca Kubaszky[1], Michel Assad[2]. [1]Citoxlab North America, Canada, [2]AccelLAB 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 Purdue[1], Gang Ji[1], Ugur Ayturk[1], Matthew Greenblatt[2], Xu Yang[1], Mathias Bostrom[1]. [1]Hospital for Special Surgery, United States, [2]Weill 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 Li[1], Ethan Yang [2], Pierre Chaurand [2], Richard Kremer[1]. [1]RI MUHC, Canada, [2]University 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], Ml Pita Martin De Portela [3], C Bergamini [2], I Wolf [2], Mc Perotti [2], Sn Zeni[1]. [1]Laboratorio de Enfermedades Metabólicas Óseas, Instituto de Inmunología, Genética y Metabolismo (INIGEM). Facultad de Farmacia y Bioquimica. Hospital de Clínicas, CONICET- UBA, Argentina, [2]Instituto de Lactología Industrial (INLAIN) –Universidad Nacional del Litoral/CONICET, Facultad de Ingeniería Química, Santa Fe. Argentina, Argentina, [3]Cátedra 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 αvβ3 Integrin As Anti Resorptive Compounds**
Yuval Zur*[1], Lior Rosenfeld[1], Gali Guterman - Ram[2], Niv Papo[1], Noam Levaot[2]. [1]Department of Biotechnology Engineering and the National Institute of Biotechnology in the Negev, Ben-Gurion University of the Negev, Beer-Sheva, Israel, [2]Department 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 Costantini[1], Helena Valta[2], Nissan Vida Baratang[3], Patrick Yap[4], Débora Bertola[5], Guilherme Yamamoto[5], Chong A. Kim[5], Jiani Chen[6], Klaas J. Wierenga[6], Elizabeth A Fanning[6], Luis Escobar [7], Kirsty Mcwalter[8], Heather Mclaughlin[8], Rebecca Willaert [8], Amber Begtrup [8], Dieter P. Reinhardt[9], Outi Mäkitie[1,10], Philippe M Campeau[3,11]. [1]Clinical Genetics, Center for Molecular Medicine, Karolinska Institutet, Sweden, [2]Children's Hospital, University of Helsinki and Helsinki University Hospital, Finland, [3]CHU Sainte Justine Research Centre, University of Montr, Canada, [4]Genetic Health Service New Zealand (Northern Hub), New Zealand, [5]Clinical Genetics Unit, Instituto da Criança HC-FMUSP and Instituto de Biociências- Universidade de São Paulo, Brazil, [6]University of Oklahoma Health Sciences Center, United States, [7]Medical Genetics and Neurodevelopmental Pediatrics, St Vincent Children's Hospital, Indianapolis, United States, [8]GeneDx, United States, [9]Department of Anatomy and Cell Biology, McGill University, Montreal, Canada, [10]Children's Hospital, University of Helsinki and Helsinki University Hospital, Finland, [11]Department 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 Lassalle[2], Valérie Merzoug[3], Alessia Usardi [4], Anya Rothenbuhler[4], Peter Kamenicky[5], Christian Roux [6], Agnès Linglart [7], Karine Briot [6]. [1]French Reference Center for Genetic Bone Diseases, Cochin Hospital, AssistancePublique- Hôpitaux de Paris, Paris, France, [2]Department of Radiology, Cochin Hospital, AssistancePublique- Hôpitaux de Paris, France, [3]Kremlin Bicêtre, France, [4]Department of Pediatric Endocrinology, Reference Center for Rare Disorders of Calcium and Phosphate, Kremlin Bicêtre Hospital Assistance, France, [5]Department of Endocrinology, Kremlin Bicetre Hospital, Assistance, France, [6]Department of Rheumatology, French Reference Center for Genetic Bone Diseases, Cochin Hospital, AssistancePublique- Hôpitaux de Paris, France, [7]Department 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. Cavaco[2], Alexis Nolin-Lapalme[1], Margarida Vieira[2], Tiago Silva[2], Ana Saramago[2], Rita Domingues[2], Valeriano Leite[2], Geoffrey N. Hendy[1]. [1]Metabolic Disorders and Complications, McGill University Health Centre Research Institute, Canada, [2]Instituto 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 Carter[1], Robert Sandhaus[2], Cathleen Raggio[1]. [1]Hospital for Special Surgery, United States, [2]National 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, Md[1], Allen E. Bale, Md[2], Cemre Robinson, Md[1]. [1]Yale University School of Medicine, Department of Pediatrics, Section of Endocrinology, United States, [2]Department 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 Rossing[2], Anne Pernille Hermann[3], Charlotte Ejersted[4], Morten Frost[5]. [1]Dept.of Cinical Genetics, Odense University Hospital, Denmark, [2]Center of Genomic Medicin, Copenhagen University Hospital, Denmark, [3]Dept. of Endocrinology M, Odense University Hospital, Denmark, [4]Department of Endocrinology M, Odense University Hospital, Denmark, [5]Steno Diabetes Centre, Odense, Dept. of Endocrinology M and KMEB, Odense University Hospital, Denmark

Disclosures: Anja Lisbeth Frederiksen, None

MON-1065 **WITHDRAWN**

MON-1066 **Palovarotene Reduces New Heterotopic Ossification in Fibrodysplasia Ossificans Progressiva (FOP)**

Frederick S. Kaplan*[1], Edward C. Hsiao[2], Geneviève Baujat[3], Richard Keen[4], Carmen De Cunto[5], Maja Di Rocco[6], Matthew A. Brown[7], Mona M. Al Mukaddam[8], Donna R. Grogan[9], Robert J. Pignolo[10]. [1]Perelman School of Medicine, The University of Pennsylvania, United States, [2]Division of Endocrinology and Metabolism, University of California, San Francisco, United States, [3]Groupe Hospitalier Necker Enfants Malades, France, [4]Royal National Orthopaedic Hospital, Brockely Hill, United Kingdom, [5]Affiliation Department of Pediatrics/Hospital Italiano de Buenos Aires, Argentina, [6]Unit of Rare Diseases, Department of Pediatrics, Gaslini Institue, Italy, [7]Institute of Health and Biomedical Innovation, Queensland University of Technology, Australia, [8]The University of Pennsylvania, Center for Research in FOP and Related Disorders, United States, [9]Clementia Pharmaceuticals Inc., United States, [10]Mayo 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 Clarke[1], Jane Matsumoto[2]. [1]Division of Endocrinology, Diabetes, Metabolism, and Nutrition, Mayo Clinic, United States, [2]Department 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. Gottesman[2], William H. Mcalister[3], Steven Mumm[1], Michael P. Whyte[2]. [1]Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine, United States, [2]Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States, [3]Mallinckrodt 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 Gonzalez[2], Paula Rozenfeld[3], Camilo Lis[4], Omar Riemersma[4], Martin Kot[4]. [1]Laboratorio de Osteoporosis y Enfermedades Metabólicas Óseas. Instituto de inmunología, Genética y Metabolismo (INIGEM) CONICET-UBA Hospital de Clínicas., Argentina, [2]Mautalen, Salud e Investigación, Argentina, [3]IIFP, Universidad Nacional de La Plata, CONICET, Facultad de Ciencias Exactas, Departamento de Ciencias Biológicas, Argentina, [4]Shire, 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 Sikjaer[1], Lars Rejnmark[2]. [1]MD, PhD, Denmark, [2]Professor, 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 Nakamura[1], Tatsuya Kobayashi[2], Hiroyuki Kato[1]. [1]Shinshu University School of Medicine, Japan, [2]Endocrine Unit, Massachusetts General Hospital and Harvard Medical Schoo, 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 Palomo[2], Francis Glorieux[2], Frank Rauch[2]. [1]Clinica Alemana Santiago, Chile, [2]Shriners 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. Ma[2], Gary S. Gottesman[1], Pamela S. Smith[3], Vinieth N. Bijanki[1], Steven Mumm[4], Per Magnusson[5]. [1]Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States, [2]Division of Endocrinology, Boston Children's Hospital, United States, [3]Division of Pediatric Endocrinology and Diabetes, Washington University School of Medicine, United States, [4]Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine at Barnes-Jewish Hospital, United States, [5]Department 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 Abraham[1], Jessica Jiron[1], Jonathan Messer[1], Joshua Yarrow[2], Donald Kimmel[1], Jose Aguirre[1]. [1]University of Florida, United States, [2]Malcom 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], Atsuhiro Nagasaki[1], Michael Chavez[2], Daniel Leigh[1], Tammy Vo[1], Alyssa Coulter[1], Vivek Thumbigere-Math[3], Demetrios Braddock[4], Martha Somerman[1], Brian Foster[2]. [1]NIAMS/NIH, United States, [2]College of Dentistry, The Ohio State University, United States, [3]University of Maryland School of Dentistry, United States, [4]Yale 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 Scott[1], Robert Desborough[2], Ioannis Tomazos[3], Richard Eastell[2]. [1]Global Epidemiology and Medical Statistics, Pharmatelligence, United Kingdom, [2]University of Sheffield, United Kingdom, [3]Alexion 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 Burke[1], Howard Wang[1], Pablo Florenzano[1], Jeffrey Tsai[2], Kristen Pan[1], Bhattacharyya Nisan[1], Alison M Boyce[1], Rachel I Gafni[1], Alfredo Molinolo[3], Pamela G Robey[2], Michael Collins[2]. [1]Section on Skeletal Disorders and Mineral Homeostasis, National Institute of Dental and Craniofacial Research, National Institutes of Health, United States, [2]National Institutes of Health, United States, [3]University 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 sydrome caused by PLOD2 mutations.**

Charlotte Gistelinck*, Maryann Weis, Jyoti Rai, Peter H. Byers , David R. Eyre. University of Washington, United States

Disclosures: Charlotte Gistelinck, 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 Anderson[2], Andrew Zannettino[3], Stan Gronthos[1]. [1]Mesenchymal Stem Cell Laboratory, Adelaide Medical School, Faculty of Health and Medical Sciences, The University of Adelaide, Australia, [2]Australian Craniofacial Unit Women's & Children's Hospital, Australia, [3]Myeloma 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 Zimmerman[2], Dillon Kavanagh[2], Mark Horowitz[2], Thomas Carpenter[2], Demetrios Braddock[2]. [1]Yale University, United States, [2]Yale, 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 Noda[1], Ernestina Schipani[2], Jun Guo[1], Thomas Gardella[1], Harald Jueppner[1]. [1]Massachusetts General Hospital, United States, [2]University 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. Gottesman[2], Fan Zhang[2], William H. Mcalister[3], Fiona Cook[4], Valerie Wollberg[2], Margaret Huskey[5], Steven Mumm[5], Michael P. Whyte[2]. [1]Division of Pediatric Endocrinology and Diabetes, Washington University School of Medicine, United States, [2]Center for Metabolic Bone Disease and Molecular Research, Shriners Hospital for Children, United States, [3]Mallinckrodt Institute of Radiology, Washington University School of Medicine at St. Louis Children's Hospital, United States, [4]Division of Endocrinology, Brody School of Medicine, United States, [5]Division 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 Wang[1], Yeqi Yao[1], Morris Manolson[1], Joerg Krueger[2], Roberto Mendoza-Londono[2], Irina Voronov[1]. [1]University of Toronto, Canada, [2]Hospital 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 Huggins[1], Alexis Mitchell[1], Alyssa Falck[1], Jane Pryor[1], Cassandra Skenandore[1], Grant Read[1], Hays Boyd[1], Sierra Long[1], Brian Foster[2], Mark Westhusin[1], Charles Long[1], Larry Suva[1], Dana Gaddy[1]. [1]Texas A&M University, United States, [2]Ohio 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 Scott[2], Stephen Graves[3], Michelle Lorimer[4], Flavia Cicuttini[5], Graeme Jones[1], Dawn Aitken[1]. [1]Menzies Institute for Medical Research, University of Tasmania, Australia, [2]Department 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, [3]Australian Orthopaedic Association, University of Melbourne, Parkville, Australia, [4]South Australian Health and Medical Research Institute (SAHMRI), Australia, [5]Department 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 Museyko[2], Daniel Günzel [1], Andreas Meier[3], Jean-Denis Laredo[4]. [1]Inst. of Medical Physics, University of Erlangen-Nuremberg, Germany, [2]Inst. of Medical Physics, Univ. of Erlangen, Germany, [3]Inst. of Informatics, University of Erlangen-Nuremberg, Germany, [4]Radiologie 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 Hans[1], Georgios Papadakis[3], Peter Vollenweider[4], Martin Preisig[5], Gerard Waeber[4], Pedro-Manuel Marques-Vidal[4], Olivier Lamy[1,6]. [1]Center of Bone Diseases, Rheumatology Unit, Bone and Joint Department, CHUV, Switzerland, [2]Endocrinology, Diabetology and Metabolism Unit, Internal Medicine Department, CHUV, Switzerland, [3]Endocrinology, Diabetology and Metabolism Unit, Internal Medicine Department, CHUV, Switzerland, [4]Internal Medicine Unit, Internal Medicine Department, CHUV, Switzerland, [5]Epidemiology and Psychopathology Research Unit, Psychiatric Department, CHUV, Switzerland, [6]Internal 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 Kim[2], So Jeong Park[3], Seong Hee Ahn[4], Hyeonmok Kim[5], Yoon Young Cho[6], Sunghwan Suh[7], Beom-Jun Kim[8], Kee-Ho Song[9], Seung Hun Lee[8], Jung-Min Koh[8]. [1]Division of Endocrinology and Metabolism, Asan Medical Center, University of Ulsan College of Medicine, Republic of Korea, [2]Division of Endocrinology and Metabolism, Department of Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine, Republic of Korea, [3]Asan Institute for Life Sciences, Republic of Korea, [4]Department of Endocrinology, Inha University School of Medicine, Republic of Korea, [5]Division of Endocrinology and Metabolism, Department of Internal Medicine, Seoul Medical Center, Republic of Korea, [6]Division of Endocrinology and Metabolism, Department of Medicine, Gyeongsang National University School of Medicine, Republic of Korea, [7]Division of Endocrinology and Metabolism, Department of Medicine, Dong-A University Medical Center, Dong-A University School of Medicine, Republic of Korea, [8]Division of Endocrinology and Metabolism, Department of Medicine, Asan Medical Center, University of Ulsan College of Medicine, Republic of Korea, [9]Division 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 Orces[2]. [1]Laredo Medical Center, United States, [2]Southwestern 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 Murphy[2], Joanne Kotsopoulos[3], Gabrielle E. V. Ene[1], Marcus Q. Bernardini[1], Queenie Wong[1], Diana Yau[1], Paula Harvey[3], Steven Narod[3], Barry Rosen[1], Amy Finch[4], Angela M. Cheung[1]. [1]University Health Network, Canada, [2]Trillium Health Partners, Canada, [3]Women's College Hospital, Canada, [4]Sunnybrook 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 clinicl 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 Janzing[4], Sjoerd Kaarsemaker[5], Piet Pm Geusens[3,4], Joop Pw Van Den Bergh[1,2,3]. [1]VieCuri Medical Center, Department of Internal Medicine, Netherlands, [2]Maastricht UMC+, NUTRIM School for Nutrition and Translational Research in Metabolism, Department of Internal Medicine, Netherlands, [3]Hasselt University, Netherlands, [4]VieCuri Medical Center, Department of Surgery, Netherlands, [5]VieCuri 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 Astolpho[1], Vitor Correlo[2], Rui Reis[2], João Paulo Ximenez[1], João Paulo Issa[1], Raquel Assed Silva[1], Antonio Carlos Shimano[1], José Batista Volpon[1], Ariane Zamarioli[1]. [1]University of Sao Paulo, Brazil, [2]University 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 Miller[2], Christopher Modlesky[1]. [1]University of Georgia, United States, [2]AI 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 Marcadet[1], Louis-Benedict Landry[2], Antoine Boulanger-Piette[1], Francoise Morin[3], Anteneh Agraw[4], Jérôme Frenette[5]. [1]PhD student, Canada, [2]Trainee, Canada, [3]Professional Research, Canada, [4]PhD, Canada, [5]Professor, 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 Divisato[1], Deborah J Veis[2,3], Yasmine Abbes[1], Federica Scotto Di Carlo[1], Teresa Esposito[1,4], Michael P Whyte[5,6]. [1]Institute of Genetics and Biophysics, National Research Council of Italy, Italy, [2]Division of Bone and Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine at Barnes-Jewish Hospital, United States, [3]Department of Pathology, Washington University School of Medicine at Barnes-Jewish Hospital, United States, [4]IRCCS INM Neuromed, Italy, [5]Department of Internal Medicine, and Department of Pathology, Washington University School of Medicine at Barnes-Jewish Hospital, United States, [6]Center 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 Rosen[2]. [1]Boston Children's Hospital, United States, [2]Harvard 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 (XLαs)**

Julia Matthias*[1], Lauren Shumate[1], Antonius Plagge[2], Harald Jüppner[1], Qing He[1], Murat Bastepe[1]. [1]Endocrine Unit, Massachusetts General Hospital, Harvard Medical School, United States, [2]Institute 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 Parimi[2], Peggy M. Cawthon[2], Jennifer S. Lee[3,4], Joy Y. Wu[3], Andrew R Hoffman[3,4], Marcia L. Stefanick[5]. [1]Division of Endocrinology, University of Miami Miller School of Medicine, Miami, FL, United States, [2]California Pacific Medical Center, San Francisco, CA and Department Epidemiology and Biostatistics, UCSF, SF, United States, [3]Division of Endocrinology, Stanford University School of Medicine, Stanford, CA, United States, [4]Palo Alto Veteran Affairs Health Care System, Palo Alto, CA, United States, [5]Stanford 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 Calabrese[1], Larry Mesner[1], Kevin Nguyen[1], Mary Bouxsein[3], Daniel Brooks[3], Mark Horowitz[4], Clifford Rosen[5], Steve Tommasini[6], Petr Simecek[7], Gary Churchill[7], Cheryl Ackert-Bicknell[8], Daniel Pomp[9], Charles Farber[1,10]. [1]Center for Public Health Genomics, University of Virginia, Charlottesville, VA 22911, United States, [2]Department of Biochemistry and Molecular Genetics, University of Virginia, Charlottesville, VA 22911, United States, [3]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, Department of Orthopedic Surgery, Harvard Medical School, Boston, MA 02215, United States, [4]Department of Orthopaedics and Rehabilitation, Yale School of Medicine, New Haven, CT 06520, United States, [5]Maine Medical Center Research Institute, 81 Research Drive, Scarborough, ME 04074, United States, [6]Department of Orthopaedics and Rehabilitation, Yale School of Medicine, New Haven, CT 06520, United States, [7]The Jackson Laboratory, Bar Harbor, Maine 06409, United States, [8]Center for Musculoskeletal Research and Department of Orthopaedics & Rehabilitation, University of Rochester Medical Center, Rochester, NY, 14627, United States, [9]Department of Genetics, University of North Carolina Medical School, Chapel Hill, NC 27599, United States, [10]Departments of Pubic 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 α2δ1 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 Mumtaz[2], Marijke Schreuders-Koedam[1], Marion Koopmans[2], Barry Rockx[2], Johannes Van Leeuwen[1]. [1]Erasmus MC, Internal Medicine, Netherlands, [2]Erasmus 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 Jalali[1], Andy Chen[1], Bai-Yan Li[2], Ping Zhang[3], Hiroki Yokota[1]. [1]Indiana University, United States, [2]Harbin Medical University, United States, [3]Tianjin 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 Brown[2], Reimer Andresen[3]. [1]Mindways Software, Inc., Kiel, Germany, [2]Mindways Software, Inc., Austin, TX, United States, [3]Institute of Diagnostic and Interventional Radiology/Neuroradiology, Westkuestenklinikum 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 Swart[1], Coen Netelenbos[2], Petra Elders[1]. [1]Department of General Practice and Elderly Care Medicine, VU University Medical Center, Netherlands, [2]Department 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*[1], Jiasheng Zhang[2], Eric Huang[2], Robert Nissenson[1]. [1]San Francisco VA Medical Center, United States, [2]University 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*[1], Hillel Galitzer[1], Ariel Rothner[1], Phillip Schwartz[1], Eric Lang[2], Roger Garceau[2], Jonathan C.Y. Tang[3], William D. Fraser[3], Yoseph Caraco[4]. [1]Entera Bio Ltd., Israel, [2]Entera Bio Ltd., United States, [3]University of East Anglia, United Kingdom, [4]Hadassah 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*[1], Marija Djekic-Ivankovic[2], Rachel Chepesiuk[1], Lora Giangregorio[3], Isabel Braganca Rodrigues[3], Rowena Ridout[4], Sidney Feldman[4], Sandra Kim[4], Heather Mcdonald-Blumer[4], Gregory Kline[5], Wendy E Ward[6], Nancy Santesso[7], William D Leslie[8], Suzanne N Morin[9]. [1]Osteoporosis Canada, Canada, [2]Research Institute of the McGill University Health Center, Canada, [3]University of Waterloo, Canada, [4]University of Toronto, Canada, [5]University of Calgary, Canada, [6]Brock University, Canada, [7]McMaster University, Canada, [8]University of Manitoba, Canada, [9]McGill University, Canada
Disclosures: Larry Funnel, None

LB MON - 1231 **Osteoporosis Treatment In Patients With Atypical Femur Fractures**
Denise Van De Laarschot*[1], Malachi Mckenna[2], M Carola Zillikens[1]. [1]Erasmus Medical Centre, Netherlands, [2]St. 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*[1], Xin Wei[1], Rongguo Ren[1], Zhifeng Zhao[1], Yuanyuan Sun[1], Ningrong Chen[1], Dexuan Kong[2], Dong Wang[1]. [1]University of Nebraska Medical Center, United States, [2]China Pharmaceutical University, China
Disclosures: Gang Zhao, None

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 Shafiee[2], Zhaleh Shadman[1], Afshin Ostovar[3], Ramin Heshmat[2], Ehsaneh Taheri[3], Farshad Sharifi[4], Iraj Nabipour[5]. [1]Endocrinology and Metabolism Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, [2]Chronic Diseases Research Center, Endocrinology and Metabolism Population Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, [3]Osteoporosis Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran., Islamic Republic of Iran, [4]Elderly Health Research Center, Endocrinology and Metabolism Population Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of Iran, [5]The Persian Gulf Tropical Medicine Research Center, Bushehr University of Medical Sciences, Bushehr, Iran, Islamic Republic of Iran

Disclosures: Bagher Larijani, None