Friday, September 16, 2016

Day-At-A-Glance

Time/Event/Location **All locations in the Georgia World Congress Center unless otherwise noted**

ASBMR CLINICAL BREAKFAST: HOW DISCOVERIES LEAD TO TREATMENT OF RARE BONE DISEASES

Supported by Educational Grants from Alexion Pharmaceuticals, Shire and Ultragenyx Pharmaceuticals, Inc.

6:00 am - 8:00 am **Georgia World Congress Center**
Room A302

Chair
Eileen Shore, Ph.D.
University of Pennsylvania, USA
Disclosures: Eileen Shore, None

6:00 am **Breakfast**

6:30 am **Hypoparathyroidism**
Dolores Shoback, M.D.
VA Medical Center, USA
Disclosures: Dolores Shoback, None

7:00 am **Hypophosphatasia**
Michael Whyte, M.D.
Shriners Hospital for Children, USA
Disclosures: Michael Whyte, None

7:30 am **XLH in Adults**
Karl Insogna, M.D.
Yale University School of Medicine, USA
Disclosures: Karl Insogna, Ultragenyx 13

ASBMR REGISTRATION OPEN

7:00 am - 7:00 pm **Georgia World Congress Center**
Registration Hall - Main Entrance

GERALD D. AURBACH LECTURE AND THE PRESENTATION OF THE WILLIAM F. NEUMAN AND LAWRENCE G. RAISZ AWARDS

8:00 am - 9:30 am **Georgia World Congress Center**
Thomas B. Murphy Ballroom - Building B Level 5

8:00 am **Personalized Medicine: Using omics Profiling and Big Data to Understand and Manage Health and Disease**
Michael Snyder, Ph.D.
Stanford University, USA
Disclosures: Michael Snyder, None

NETWORKING BREAK

9:30 am - 10:00 am **Georgia World Congress Center**
Murphy Ballroom Foyer - Building B

HIGHLIGHTS OF THE ASBMR 2016 ANNUAL MEETING

Dedicated to the memory of Betsy L. McClung

10:00 am - 11:30 am **Georgia World Congress Center**

Thomas B. Murphy Ballroom - Building B Level 5

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.

10:00 am Basic Science Meeting Overview
Roland Baron, DDS, PhD
Harvard Medical School and School of Dental Medicine, USA
Disclosures: Roland Baron, None

10:45 am Clinical Science Meeting Overview
John Bilezikian, M.D.
Columbia University College of Physicians and Surgeons, USA
Disclosures: John Bilezikian, Radius 14; Merck 14; Shire 14; Amgen 14

GRANT WRITING WORKSHOP: WHAT TO CHOOSE AND HOW TO FUND IT

Sponsored by the ASBMR Membership Engagement and Education Committee

10:00 am - 11:30 am **Georgia World Congress Center**

Room A302

Join your fellow researchers and colleagues in this interactive session to discuss potential obstacles to grant writing and strategic ways to overcome them. The following topics will be covered in this unique, 90 minute session: New NIH Requirements, International Funding, and Choosing the Appropriate Grant Mechanism and/or Funding Agency. As an attendee, you'll have the opportunity to participate in one or all of these discussions, as you choose. This is a can'tmiss opportunity for researchers at any career stage who want to gain valuable insight into getting their research funded.

Co-Chairs
Melissa Kacena, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Melissa Kacena, None

Stavroula Kousteni, Ph.D.
Columbia University Medical Center, USA
Disclosures: Stavroula Kousteni, None

MEET-THE-PROFESSOR SESSIONS

10:45 am - 11:45 am **Georgia World Congress Center**

Rooms A311-316

Meet the Professor: Using Medicare Claims Data to Study Fracture Epidemiology
Room A311
Sarah Berry, M.D.
Hebrew SeniorLife/Beth Israel Deaconess Medical Center, USA
Disclosures: Sarah Berry, None

Nicole Wright, Ph.D., MPH
University of Alabama at Birmingham, USA
Disclosures: Nicole Wright, Amgen 13

Meet the Professor: Advances in Osteoarthritis Imaging and Treatment
Room A312

Nancy Lane, M.D.
University of California, Davis Medical Center, USA
Disclosures: Nancy Lane, None

Sharmila Majumdar, Ph.D.
University of California, San Francisco, USA
Disclosures: Sharmila Majumdar, None

Meet the Professor: Genome Editing: From Patients to Mice with CRISPER/Cas
Room A313

Bart Williams, Ph.D.
Van Andel Research Institute, USA
Disclosures: Bart Williams, None

Robert Kesterson, Ph.D.
Disclosures: Robert Kesterson, None

Meet the Professor: Updates on Nutritional Influences on the Musculoskeletal System
Room A314

Bess Dawson-Hughes, M.D.
Tufts University, USA
Disclosures: Bess Dawson-Hughes, None

Meet the Professor: Finding Somatic Mutations
Room A316

Matthew Warman, M.D.
Boston Children's Hospital, USA
Disclosures: Matthew Warman, None

Meet the Professor: Utility and Limitations of TBS in Fracture Risk Assessment
Room A315

William Leslie, M.D., MSc, FRCPC
University of Manitoba, Canada
Disclosures: William Leslie, None

NETWORKING BREAK

11:30 am - 12:00 pm **Georgia World Congress Center**
Murphy Ballroom Foyer Building B and Sidney Marcus Foyer Building A

SYMPOSIUM-EPO IN BONE PHYSIOLOGY AND DISEASE

Supported by an Educational Grant from Lilly

12:00 pm - 1:15 pm **Georgia World Congress Center**
Thomas B. Murphy Ballroom - Building B Level 5

Co-Chairs
Russell Taichman, D.M.D.
University of Michigan, School of Dentistry, USA
Disclosures: Russell Taichman, None

Natalie Sims, Ph.D.
St. Vincent's Institute of Medical Research, Australia
Disclosures: Natalie Sims, None

12:00 pm Overview of the Field
Carl Walkley, Ph.D.
St. Vincent's Institute Medical Research, Australia
Disclosures: Carl Walkley, None

12:25 pm **EPO and Osteoclast Regulation**
Yankel Gabet, D.M.D., Ph.D.
Sackler Faculty of Medicine, Tel Aviv University, Israel
Disclosures: Yankel Gabet, None

12:50 pm **EPO and FGF23**
Kenneth White, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Kenneth White, None

SYMPOSIUM-THE IMPORTANCE OF CORTICAL BONE THROUGH THE LIFE SPAN

Supported by an Educational Grant from Merck & Co., Inc.

12:00 pm - 1:15 pm **Georgia World Congress Center**
Sidney Marcus Auditorium - Building A

Co-Chairs
Shreyasee Amin, M.D., MPH
Mayo Clinic, USA
Disclosures: Shreyasee Amin, None

Angela M. Cheung, M.D., Ph.D.
University Health Network-University of Toronto, Canada
Disclosures: Angela M. Cheung, None

12:00 pm **QCT Evaluation of Hip Bone Fragility**
Klaus Engelke, Ph.D.
University of Erlangen, Germany
Disclosures: Klaus Engelke, None

12:25 pm **Assessment and Role of Peripheral Cortical Porosity**
Steven Boyd, Ph.D.
University of Calgary, Canada
Disclosures: Steven Boyd, None

12:50 pm **Practical Clinical Relevance/Role of Cortical Bone in Growth**
Mary Leonard, M.D.
Stanford School of Medicine, USA
Disclosures: Mary Leonard, None

NETWORKING BREAK

1:15 pm - 1:45 pm **Georgia World Congress Center**
Murphy Ballroom Foyer Building B and Sidney Marcus Foyer Building A

CONCURRENT ORALS: MECHANISMS OF BONE AND JOINT DISEASE

1:45 pm - 2:45 pm **Georgia World Congress Center**
Room A404/405

Moderators:
Roland Chapurlat, M.D., Ph.D.
E. Herriot Hospital, France
Disclosures: Roland Chapurlat, None

1:45 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1001 **High serum levels of miRNA 550a-5p and low serum levels of miR-203a are risk factors for incident fractures in older postmenopausal women with Type 2 Diabetes**
Ursula Heilmeier*[1], Matthias Hackl[2], Sylvia Weilner[2], Susanna Skalicky[2], Fabian Schroeder[3], Iryna Lobach[4], Soheyla Torabi[1], Elisabeth Geiger[2], Klemens Vierlinger[5], Gudny Eiriksdottir[6], Elias Gudmundsson[6], Thor Aspelund[7], Johannes Grillari[8], Tamara Harris[9], Thomas M. Link[1], Vilmundur Gudnason[6], Ann Schwartz[4]. [1]University of California San Francisco, Department of Radiology & Biomedical Imaging, United states, [2]TamiRNA GmbH, Austria, [3]Austrian Institute of Technology (AIT), Department of Molecular Medicine, Austria, [4]University of California San Francisco, Department of Epidemiology & Biostatistics, United states, [5]Austrian Insttitue of Technology (AIT), Department of Molecular Medicine, Austria, [6]The Icelandic Heart Association, Iceland, [7]The University of Iceland, Faculty of Medicine, Iceland, [8]University of Natural Resources & Life Sciences, Department of Biotechnology, Austria, [9]National Institute on Aging, Laboratory of Epidemiology & Population Science, United states
Disclosures: Ursula Heilmeier, None

2:00 pm **Serum Activin A is Increased before iPTH and Associated with Bone Alterations in Chronic**
1002 **Kidney Disease Patients**
Florence Lima*, Marie-Claude Monier-Faugere, Hanna W. Mawad, Hartmut H. Malluche. University of Kentucky, United states
Disclosures: Florence Lima, None

2:15 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1003 **Autoimmune Hyperphosphatemic Tumoral Calcinosis**
Mary Scott Ramnitz*[1], Peter D. Burbelo[2], Christopher Romero[3], Shoji Ichikawa[4], Emily Farrow[5], Michael Econs[6], Lori Guthrie[1], Rachel Gafni[7], Michael Collins[7]. [1]Skeletal Clinical Studies Section, Craniofacial & Skeletal Diseases Branch (CSDB), National Institute of Dental & Craniofacial Research (NIDCR), National Institutes of Health (NIH), United states, [2]Dental Clinical Research Core, National Institute of Dental & Craniofacial Research (NIDCR), National Institutes of Health (NIH), United states, [3]Division of Pediatric Endocrinology & Diabetes, Icahn School of Medicine at Mount Sinai, United states, [4]Department of Medicine, Indiana University School of Medicine, United states, [5]Center for Pediatric Genomic Medicine, Children's Mercy, United states, [6]Department of Medicine & Department of Medical & Molecular Genetics, Indiana University School of Medicine, United states, [7]Skeletal Clinical Studies Unit, Craniofacial & Skeletal Diseases Branch (CSDB), National Institute of Dental & Craniofacial Research (NIDCR), National Institutes of Health (NIH), United states
Disclosures: Mary Scott Ramnitz, None

2:30 pm **Osteopontin Accumulation in the Osteocyte Lacuno-canalicular Network Contributes to the**
1004 **Defective Bone Mineralization of X-linked Hypophosphatemia**
Tchilalo Boukpessi[1], Betty Hoac[2], Benjamin R Coyac[3], Michael P Whyte[4], Francis H Glorieux[2], Thibaut Leger[5], Camille Garcia[5], Philippe Wicart[3], Agnes Linglart[6], Catherine Chaussain[3], Marc D McKee*[2]. [1]McGill University & University Paris Descartes, France, [2]McGill University, Canada, [3]University Paris Descartes, France, [4]Shriners Hospital for Children, United states, [5]Institut Jacques Monod, University Paris Diderot, CNRS, France, [6]Paris Sud University, France
Disclosures: Marc D McKee, None

CONCURRENT ORALS: OSTEOPOROSIS TREATMENT I

1:45 pm - 2:45 pm **Georgia World Congress Center**
Sidney Marcus Auditorium - Building A

Moderators:
Michael McClung, M.D.
Oregon Osteoporosis Center, USA
Disclosures: Michael McClung, None

1:45 pm 1005 **Effect of 10 Years of Denosumab Treatment on Bone Histology and Histomorphometry in the FREEDOM Extension Study**

David W Dempster*[1], Nadia Daizadeh[2], Astrid Fahrleitner-Pammer[3], Jens-Erik Beck Jensen[4], David Kendler[5], Ivo Valter[6], Rachel B Wagman[2], Susan Yue[2], Jacques P Brown[7]. [1]Columbia University, United states, [2]Amgen Inc., United states, [3]Medical University Graz, Austria, [4]Hvidovre Hospital, Denmark, [5]University of British Columbia, Canada, [6]Center for Clinical & Basic Research, Estonia, [7]Laval University & CHUL, Canada

Disclosures: David W Dempster, Amgen Inc., Eli Lilly & Co., 15; Amgen Inc., Eli Lilly & Co., Radius, Regeneron, Tarsa., 14; Amgen Inc., Eli Lilly & Co., 13

2:00 pm 1006 **Alendronate treatment is associated with reduced fracture risk and maintained safety in the oldest old**

Kristian Axelsson*[1], Dan Lundh[2], Mattias Lorentzon[3]. [1]Department of Orthopaedic Surgery, Skaraborg Hospital, Sweden, [2]School of Bioscience, University of Skovde, Sweden, [3]Geriatric Medicine, Department of Internal Medicine & Clinical Nutrition, Institute of Medicine, University of Gothenburg, Sweden

Disclosures: Kristian Axelsson, None

2:15 pm 1007 **The Effect of Bisphosphonates on All-Cause and Post-Fracture Mortality Risk in the Population-based Canadian Multicentre Osteoporosis Study (CaM*OS*)**

Dana Bliuc*[1], Thach Tran[1], Tineke van Geel[2], John A. Eisman[1], Tuan V Nguyen[1], Lisa Langsetmo[3], Jerilynn C Prior[4], Robert G Josse[5], Stephanie M Kaiser[6], Cristopher S Kovacs[7], Claudie Berger[8], David Goltzman[9], David A. Hanley[10], Jonathan Adachi[11], Piet Geusens[12], Joop van den Bergh[2], Jacqueline R Center[1]. [1]Osteoporosis & Bone Biology, Garvan Institute of Medical Research, Australia, [2]Maastricht University, Netherlands, [3]Department of Medicine, McGill University, Canada, [4]Department of Endocrinology, University of British Columbia, Canada, [5]Department of Medicine, University of Toronto, Canada, [6]Division of Endocrinology & Metabolism at Dalhousie University, Canada, [7]Department of Medicine (Endocrinology & Metabolism) at Memorial University, Canada, [8]McGill University Health Centre, Canada, [9]Departments of Medicine & Physiology of McGill University, Canada, [10]The University of Calgary, Canada, [11]Department of Medicine at McMaster University, Canada, [12]University of Maastricht, Netherlands

Disclosures: Dana Bliuc, None

2:30 pm 1008 **Calcium plus Vitamin D supplementation, fracture, and cardiovascular outcomes: A Bayesian meta-analysis**

Steven Frost[1], Kevin Phan[2], Thach Tran[2], John Eisman[2], Tuan Nguyen*[2]. [1]University of Western Sydney, Australia, [2]Garvan Institute of Medical Research, Australia

Disclosures: Tuan Nguyen, None

CONCURRENT ORALS: RARE BONE DISEASE (TRANSLATIONAL)

1:45 pm - 2:45 pm **Georgia World Congress Center Room A402/403**

1:45 pm 1009 **Multiorgan Disease in Clcn7G213R Osteopetrotic Mice**

Antonio Maurizi*[1], Mattia Capulli[1], Juliana Côrtes[2], Laura Di Rito[1], Nadia Rucci[1], Anna Teti[1]. [1]University of L'Aquila, Italy, [2]Associacao Fluminense De Educaco, Brazil

Disclosures: Antonio Maurizi, None

2:00 pm 1010 **Bone with Uncleavable Type I Collagen C-propeptide has Abnormal Development of Multiple Bone Cell Populations and Increased Bone Mineral Density with Age**

Aileen M. Barnes*[1], Joseph E. Perosky[2], Stephane Blouin[3], M. Helen Rajpar[1], Basma Khoury[2], Klaus Klaushofer[4], Paul Roschger[3], Nadja Fratzl-Zelman[3], Kenneth M. Kozloff[2], Joan C. Marini[1]. [1]NICHD/NIH, United states, [2]University of Michigan, United states, [3]Ludwig Boltzmann Institute of Osteology, Austria, [4]Ludwig Boltzmann Institute of Osteology, 1st Medical Department, Hanusch-Hospital, Austria

Disclosures: Aileen M. Barnes, None

2:15 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1011 **A Missense Mutation in the *ZIP14* Gene Results in Abnormal Skull Growth in Patients with Hyperostosis Cranialis Interna**
Gretl Hendrickx*[1], Vere M. Borra[1], Eveline Boudin[1], Jérôme J. Waterval[2], Robert J. Cousins[3], Johannes J. Manni[4], Wim Van Hul[1]. [1]Centre of Medical Genetics, University & University Hospital of Antwerp, Antwerp, Belgium, Belgium, [2]Department of Otorhinolaryngology, Radboud University Medical Center, Nijmegen, Netherlands, Netherlands, [3]Food Science & Human Nutrition Department & Center for Nutritional Sciences, College of Agricultural & Life Sciences, University of Florida, Gainesville, Florida, United States of America, United states, [4]Department of Otorhinolaryngology & Head & Neck Surgery, Maastricht University Medical Center, Maastricht, Netherlands, Netherlands
Disclosures: Gretl Hendrickx, None

2:30 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1012 **Pin1 Inhibitor, Juglone, Could Attenuate Phenotypes of Craniosynostosis Syndrome in $FGFR^{S252W/+}$ Mice Through the Reduction of Runx2 Activity**
Hye-Rim SHIN*, Han-Sol BAE, Rabia Islam, Bong-Su KIM, Young-Dan CHO, Won-Joon YOON, Kyung-Mi WOO, Jeong-Hwa Baek, Hyun-Mo Ryoo. Seoul National University, Korea, republic of
Disclosures: Hye-Rim SHIN, None

CONCURRENT ORALS: SCLEROSTIN REGULATION AND FUNCTION

1:45 pm - 2:45 pm **Georgia World Congress Center**
Room A411/412

Moderators:
Roy Morello, Ph.D.
University of Arkansas for Medical Sciences, USA
Disclosures: Roy Morello, None

1:45 pm **Osteocytic-Specific HIF-1α Activity Increases Bone Mass through Sirtuin 1-Dependent**
1013 **Decrease of Sclerostin**
Steve Stegen*[1], Ingrid Stockmans[1], Karen Moermans[1], Peter Carmeliet[2], Geert Carmeliet[1]. [1]Clinical & Experimental Endocrinology, KU Leuven, Belgium, [2]Angiogenesis & Vascular Metabolism, Vesalius Research Center, KU Leuven/VIB, Belgium
Disclosures: Steve Stegen, None

2:00 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1014 **Sclerostin: a Local Rather Than Systemic Regulator of Bone Mass**
Rishikesh N. Kulkarni*[1], Aaron Schindeler[2], Peter I. Croucher[1], David Little[2], Paul A. Baldock[1]. [1]Garvan Institute of Medical Research, Australia, [2]The Children's Hospital at Westmead, Australia
Disclosures: Rishikesh N. Kulkarni, None

2:15 pm **Evidence for Autocrine Effects of Sclerostin on Osteocytes: Sclerostin Antibody Treatment**
1015 **Prevents Spaceflight-induced Osteocytic Osteolysis and Skeletal Bone Loss in Mice**
Yoshihito Ishihara*[1], Sutada Lotinun[1], Virginia L. Ferguson[2], Ted A. Bateman[3], Louis S. Stodieck[2], Chris Paszty[4], Mary L. Bouxsein[5], Roland Baron[6]. [1]Division of Bone & Mineral Research, Department of Oral Medicine, Infection & Immunity, Harvard School of Dental Medicine, United states, [2]Department of Mechanical Engineering, University of Colorado Boulder, United states, [3]Departments of Biomedical Engineering & Radiation Oncology, University of North Carolina, United states, [4]Department of Metabolic Diseases, Amgen, Inc., United states, [5]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center & Harvard Medical School, Endocrine Unit, Massachusetts General Hospital, United states, [6]Division of Bone & Mineral Research, Department of Oral Medicine, Infection & Immunity, Harvard School of Dental Medicine & Harvard Medical School, Endocrine Unit, Massachusetts General Hospital, United states
Disclosures: Yoshihito Ishihara, None

2:30 pm 1016 **The Bone Anabolic Effects of Intermittent Administration of PTH are Independent of Sost/Sclerostin Downregulation**

Jesus Delgado-Calle*, Rafael Pacheco-Costa, Xiaolin Tu, Kevin McAndrews, Lilian I Plotkin, Teresita Bellido. Department of Anatomy & Cell Biology, Indiana University School of Medicine, United states

Disclosures: Jesus Delgado-Calle, None

NETWORKING BREAK

2:45 pm - 3:00 pm

CONCURRENT ORALS: AGING

3:00 pm - 4:00 pm **Georgia World Congress Center**

Room A404/405

Moderators:

Anne Delany, Ph.D.
UConn Health, USA
Disclosures: Anne Delany, None

Karl Jepsen, Ph.D.
University of Michigan, USA
Disclosures: Karl Jepsen, None

3:00 pm 1017 **The effects of aging and sex steroid deficiency on the murine skeleton are independent and mechanistically distinct**

Serra Semahat Ucer*[1], Srividhya Iyer[1], Ha-Neui Kim[1], Li Han[1], Jeff Thostenson[2], Aaron Warren[1], Julie Crawford[1], Christine Rutlen[1], Kelly Allison[1], Robert Jilka[1], Charles O'Brien[1], Maria Almieda[1], Stavros Manolagas[1]. [1]Center for Osteoporosis & Metabolic Bone Diseases, Univ. Arkansas for Medical Sciences, & Central Arkansas Veterans Healthcare System, United states, [2]Department of Biostatistics, University of Arkansas for Medical Sciences, United states

Disclosures: Serra Semahat Ucer, None

3:15 pm 1018 **Role of β-catenin Signaling in Osteocytes on Bone and Muscle Properties Across Aging and between Sexes**

Mark Begonia[1], Julian Vallejo[2], An-Lin Cheng[3], Ganesh Thiagarajan[1], Mark Johnson[4], Nuria Lara*[2]. [1]UMKC/School of Computing & Engineer, United states, [2]UMKC/School of Dentistry, United states, [3]UMKC/School of Nursing, United states, [4]UMKC/ School of Dentistry, United states

Disclosures: Nuria Lara, None

3:30 pm 1019 **Blocking the Senescence-Associated Secretory Phenotype (SASP) Reduces Osteoclastogenesis and Prevents Age-related Bone Loss**

Ming Xu*, Megan Weivoda, Joshua Farr, Christine Hachfeld, Stephanie Youssef, Glenda Evans, Ming Ruan, David Monroe, Tamar Tchkonia, Sundeep Khosla, Merry Jo Oursler, James Kirkland. Mayo Clinic, United states

Disclosures: Ming Xu, None

3:45 pm 1020 **ASBMR 2016 Annual Meeting Young Investigator Award**
The Longevity-related SirT1 Enzyme Retards Inflamm-ageing In Vivo

Pradeep Kumar Sacitharan*[1], Tonia Vincent[1], James R Edwards[2]. [1]The Kennedy Institute of Rheumatology, University of Oxford, United Kingdom, [2]The Botnar Research Centre, University of Oxford, United Kingdom

Disclosures: Pradeep Kumar Sacitharan, None

Moderators:
Matthew Silva, Ph.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Matthew Silva, None

3:00 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1021 **Patient-specific Musculoskeletal Model of the Spine: Implication for Prediction of Incident Vertebral Fractures**
Hossein Mokhtarzadeh*[1], Katelyn Burkhart[2], Brett Allaire[3], Darlene Lu[4], Serkalem Demissie[4], David Kopperdahl[5], Tony M. Keaveny[6], Elizabeth J. Samelson[7], Douglas P. Kiel[8], Dennis E. Anderson[1], Mary L. Bouxsein[9]. [1]Department of Orthopedic Surgery, Harvard Medical School, MA, USA; Center for Advanced Orthopaedic Studies, Beth Israel Deaconess Medical Center, MA, USA, United states, [2]Harvard-MIT Division of Health Sciences & Technology, MA, USA; Department of Orthopedic Surgery, Harvard Medical School, MA, USA; Center for Advanced Orthopaedic Studies, Beth Israel Deaconess Medical Center, MA, USA, United states, [3]Center for Advanced Orthopaedic Studies, Beth Israel Deaconess Medical Center, MA, USA, United states, [4]Boston University School of Public Health, MA, USA, United states, [5]O.N. Diagnostics, Berkeley, CA, USA, United states, [6]Departments of Mechanical Engineering & Bioengineering, University of California, Berkeley, CA, USA; O.N. Diagnostics, Berkeley, CA, USA, United states, [7]Institute for Aging Research, Hebrew SeniorLife, Department of Medicine Beth Israel Deaconess Medical Center & Harvard Medical School, Boston, MA, USA., United states, [8]Institute for Aging Research, Hebrew SeniorLife, Department of Medicine Beth Israel Deaconess Medical Center & Harvard Medical School, Boston, MA, USA, United states, [9]Department of Orthopedic Surgery, Harvard Medical School, MA, USA; Center for Advanced Orthopaedic Studies, Beth Israel Deaconess Medical Center, MA, USA; Harvard-MIT Division of Health Sciences & Technology, MA, USA, United states
Disclosures: Hossein Mokhtarzadeh, None

3:15 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1022 **Bone Microdamage in Osteoporotic Patients Treated with Bisphosphonates for One to Sixteen Years**
Stefanie Pagano*[1], Connie Wood[2], David Pienkowski[1], Hartmut Malluche[3]. [1]Department of Biomedical Engineering, University of Kentucky, United states, [2]Department of Statistics, University of Kentucky, United states, [3]Division of Nephrology, Bone & Mineral Metabolism, University of Kentucky, United states
Disclosures: Stefanie Pagano, None

3:30 pm **Effects of Type 2 Diabetes on Nanoscale and Whole-Bone Biomechanical Properties**
1023 Claire Acevedo*[1], Meghan Sylvia[1], Eric Schaible[2], Bernd Gludovatz[2], Lionel N. Metz[1], James L. Graham[3], Robert O. Ritchie[4], Tamara N. Alliston[1], Peter J. Havel[3], Aaron J. Fields[1]. [1]UCSF, United states, [2]LBNL, United states, [3]UC Davis, United states, [4]LBNL, UC Berkeley, United states
Disclosures: Claire Acevedo, None

3:45 pm **Effects of Romosozumab on Remodeling and Bone Strength at the Distal Radius in**
1024 **Ovariectomized Cynomolgus Monkeys**
Michael Ominsky*[1], Steven Boyd[2], Aurore Varela[3], Jacquelin Jolette[3], Nancy Doyle[3], Susan Smith[3], Kathrin Locher[1], Sabina Buntich[1], Rogely Boyce[1]. [1]Amgen Inc., United states, [2]University of Calgary, Canada, [3]Charles River Laboratories Montreal, Canada
Disclosures: Michael Ominsky, Amgen Inc, 17

CONCURRENT ORALS: CHONDROCYTE BIOLOGY AND DEVELOPMENT

3:00 pm - 4:00 pm **Georgia World Congress Center**
Room A402/403

Moderators:
Matthew Hilton, Ph.D.
Duke University School of Medicine, USA
Disclosures: Matthew Hilton, None

April Craft, Ph.D.
Boston Children's Hospital, Harvard Medical School, USA
Disclosures: April Craft, Ph.D., None

3:00 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1025 **Regulatory Mechanisms Underlying *Ihh* Transcription in Chondrocytes**
Akira Yamakawa*[1], Ung-il Chung[2], Shinsuke Ohba[2]. [1]Division of Clinical Biotechnology, Center for Disease Biology & Integrative Medicine, Faculty of Medicine, The University of Tokyo, Japan, [2]Department of Bioengineering, School of Engineering, The University of Tokyo, Japan
Disclosures: Akira Yamakawa, None

3:15 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1026 **Histone Deacetylase 3 Supports Endochondral Bone Formation by Controlling Cytokine Signaling and Matrix Remodeling**
Lomeli Carpio*[1], Elizabeth Bradley[1], Meghan McGee-Lawrence[2], Megan Weivoda[1], Daniel Poston[3], Amel Dudakovic[1], Ming Xu[1], Tamar Tchkonia[1], James Kirkland[1], Andre van Wijnen[1], Merry Jo Oursler[1], Jennifer Westendorf[1]. [1]Mayo Clinic, United states, [2]Augusta University, United states, [3]Creighton University, United states
Disclosures: Lomeli Carpio, None

3:30 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1027 **Analysis of cellular dynamics revealed stem cell niche formation in the postnatal epiphyseal growth plate**
Phillip Newton*[1], Simon Suter[2], Xiaoyan Sun[2], Lei Li[2], Meng Xie[2], Igor Adameyko[2], Lars Sävendahl[3], Maria Kasper[2], Andrei Chagin[2]. [1]Karolinska Institute & Karolinska University Hospital, Sweden, [2]Karolinska Institute, Sweden, [3]Karolinska University Hospital, Sweden
Disclosures: Phillip Newton, None

3:45 pm **Conditional Deletion of the *Phd2* Gene in Chondrocytes Produces Defects in Articular**
1028 **Cartilage Development and an Osteoarthritis-like Phenotype in Mice**
Shaohong Cheng*, Patrick Agahjanian, Sheila Pourteymoor, Catrina Alarcon, Subburaman Mohan. VA Loma Linda Healthcare System, United states
Disclosures: Shaohong Cheng, None

Moderators:
John Eisman, MBBS, Ph.D.
Garvan Institute of Medical Research, Australia
Disclosures: John Eisman, None

David Karasik, Ph.D.
Hebrew SeniorLife; Bar Ilan University, USA
Disclosures: David Karasik, None

3:00 pm 1029 **Novel Genetic Variants are Associated with Increased Vertebral Volumetric BMD, Reduced Vertebral Fracture Risk, and Increased Expression of *SCL1A3* and *EPHB2***
Carrie Nielson*[1], Ching-Ti Liu[2], Albert Smith[3], Cheryl Ackert-Bicknell[4], Sjur Reppe[5], Johanna Jakobsdottir[3], Christina Wassel[6], Thomas Register[7], Ling Oei[8], Nerea Alonso Lopez[9], Edwin Oei[8], Neeta Parimi[10], Elizabeth Samelson[11], Mike Nalls[12], Joseph Zmuda[13], Thomas Lang[14], Mary Bouxsein[11], Jeanne Latourelle[15], Melina Claussnitzer[11], Kristin Siggeirsdottir[3], Priya Srikanth[1], Erik Lorentzen[16], Liesbeth Vandenput[16], Carl Langefeld[7], Laura Raffield[7], Greg Terry[7], Amanda Cox[7], Matthew Allison[17], Michael Criqui[17], Donald Bowden[7], M. Arfan Ikram[8], Dan Mellström[16], Magnus Karlsson[18], Jeffrey Carr[19], Matthew Budoff[20], Caroline Phillips[21], L. Adrienne Cupples[2], Wen-Chi Chou[22], Richard Myers[23], Stuart Ralston[9], Kaare Gautvik[5], Peggy Cawthon[10], Steve Cummings[10], David Karasik[11], Fernando Rivadeneira[8], Vilmundur Gudnason[3], Eric Orwoll[1], Tamara Harris[21], Claes Ohlsson[16], Douglas Kiel[11], Yi-Hsiang Hsu[11]. [1]Oregon Health & Science University, United states, [2]Boston University School of Public Health, United states, [3]Icelandic Heart Association, Iceland, [4]University of Rochester Medical Center, United states, [5]Lovisenberg Diakonale Hospital, Norway, [6]University of Vermont College of Medicine, United states, [7]Wake Forest School of Medicine, United states, [8]Erasmus MC, University Medical Center, Netherlands, [9]University of Edinburgh, United Kingdom, [10]California Pacific Medical Center Research Institute, United states, [11]Harvard Medical School, United states, [12]National Institutes of Health, United states, [13]University of Pittsburgh, United states, [14]University of California, San Francisco, United states, [15]Boston University School of Medicine, United states, [16]University of Gothenburg, Sweden, [17]University of California, San Diego, United states, [18]Lund University, Sweden, [19]Vanderbilt, United states, [20]Los Angeles Biomedical Research Institute, United states, [21]National Institute on Aging, United states, [22]BROAD Institute of MIT & Harvard, United states, [23]Boston University School of Medicine, United states
Disclosures: Carrie Nielson, None

3:15 pm 1030 **Menopausal Bone Loss Is Mainly Cortical, not Trabecular, and Does not Attenuate the Heritable Component of Variance in this Microarchitecture: a Prospective Study of Twins**
Åshild Bjørnerem[1], Xiao-Fang Wang[2], Minh Bui[3], Ali Ghasem-Zadeh[2], Roger Zebaze[2], John L Hopper[3], Ego Seeman*[2]. [1]Department of Health & Care Sciences, UiT – The Arctic University of Norway, Tromsø, Norway, Norway, [2]Departments of Endocrinology & Medicine, Austin Health, University of Melbourne, Australia, [3]Centre for Epidemiology & Biostatistics, School of Population & Global Health, University of Melbourne, Australia
Disclosures: Ego Seeman, None

3:30 pm 1031 **A Genome-wide Association Study in Adult Caucasians Identifies Novel Loci and Functional Coding Variants Associated with Bone Microarchitecture Assessed by HR-pQCT**
Yi-Hsiang Hsu*[1], Elizabeth J Atkinson[2], Frederick Kinyua Kamanu[3], Roby Joehanes[4], Kerry Broe[3], L. Adrienne Cupples[5], Ching-Ti Liu[6], Serkalem Demissie[5], David Karasik[3], Steve K. Boyd[7], Mary L Bouxsein[8], Shreyasee Amin[2], Sundeep Khosla[2], Douglas P. Kiel[4]. [1]Harvard Medical School & HSL Institute for Aging Research, United states, [2]Mayo Clinic, United states, [3]Hebrew SeniorLife Institute for Aging Research, United states, [4]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, United states, [5]Depart. Biostat., Sch. Publc Health, Boston Univ., United states, [6]Depart. Biostat., Sch. Publc Health, Boston Univ, United states, [7]University of Calgary, Canada, [8]Beth Israel Deaconess Medical Center & Harvard Medical School, United states
Disclosures: Yi-Hsiang Hsu, None

3:45 pm **Prediction of Fragility Fracture Risk by Genetic Profiling**
1032 Thao P. Ho-Le*[1], Jacqueline R. Center[2], John A. Eisman[3], Hung T. Nguyen[4], Tuan V. Nguyen[5]. [1]Centre for Health Technologies, University of Technology, Sydney, Australia, [2]Bone Biology Division, Garvan Institute of Medical Research; St Vincent Clinical School, UNSW Australia;, Australia, [3]Bone Biology Division, Garvan Institute of Medical Research; St Vincent Clinical School, UNSW Australia;Notre Dame University School of Medicine, Australia, Australia, [4]Centre for Health Technologies, University of Technology, Australia, [5]Centre for Health Technologies, University of Technology, Sydney; Bone Biology Division, Garvan Institute of Medical Research;School of Public Health & Community Medicine, UNSW Australia;, Australia
Disclosures: Thao P. Ho-Le, None

NETWORKING BREAK

4:00 pm - 4:30 pm **Murphy Ballroom Foyer Building B and Sidney Marcus Foyer Building A**

ASBMR/ECTS CLINICAL DEBATE
MICRODAMAGE IS GOOD FOR BONE

Supported by an Educational Grant from Lilly

4:30 pm - 5:30 pm **Georgia World Congress Center**
Thomas B. Murphy Ballroom - Building B Level 5

Co-Chairs
Claus-C Glueer, Ph.D.
Christian Albrechts Universitaet zu Kiel, Germany
Disclosures: Claus-C Glueer, None

David Burr, Ph.D.
Indiana University, USA
Disclosures: David Burr, None

For the Motion (ASBMR)
Mitchell Schaffler, Ph.D.
City College of New York, USA
Disclosures: Mitchell Schaffler, None

Against the Motion (ECTS)
Ralph Mueller, Ph.D.
ETH Zurich, Switzerland
Disclosures: Ralph Mueller, None

SYMPOSIUM-MATRICELLULAR PROTEINS

4:30 pm - 5:30 pm **Georgia World Congress Center**
Sidney Marcus Auditorium - Building A

Co-Chairs
Kurt Hankenson, D.V.M., Ph.D.
Michigan State University, USA
Disclosures: Kurt Hankenson, None

Anna Teti, Ph.D.
University of L'Aquila, Italy
Disclosures: Anna Teti, None

4:30 pm **Fibrillins and TGFbeta in the Bone and Bone Marrow Microenvironments**
Francesco Ramirez, Ph.D.
Icahn School of Medicine at Mount Sinai, USA
Disclosures: Francesco Ramirez, None

5:00 pm **Small Leucine-Rich Proteoglycans in Bone Pathophysiology**
Marian Young, Ph.D.
National Institutes of Health, USA
Disclosures: Marian Young, None

YOUNG INVESTIGATOR AND NEW MEMBER RECEPTION

Sponsored by the ASBMR Membership Engagement and Education Committee and Young Investigator Subcommittee

5:30 pm - 7:00 pm **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

The ASBMR Membership Engagement and Education Committee and Young Investigator Subcommittee members will be in attendance for this meet and greet networking event. The reception has been organized to promote interactions among young investigators and ASBMR leadership so that they may begin building a network of career-long contacts. The reception will be held concurrently with the Welcome Reception and the Plenary Poster Session within the Young Investigator Lounge in the ASBMR Networking Center located in the Discovery Hall.

WELCOME RECEPTION & PLENARY POSTER SESSION

5:30 pm - 7:00 pm **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

FR0001 **Serum 25-Hydroxyvitamin D Values and Risk of All-Cause Mortality: A Population-Based, Retrospective, Cohort Study**
Daniel Dudenkov*, Kristin Mara, Tanya Petterson, Julie Maxson, Tom Thacher. Mayo Clinic, United states
Disclosures: Daniel Dudenkov, None

FR0006 **ASBMR 2016 Annual Meeting Young Investigator Award**
Measles Virus Nucleocapsid Protein Expressing Osteoclasts Increase Expression of SPHK1/S1P/S1PR3 to Enhance Osteoblast Differentiation in Paget's Disease
Yuki Nagata*[1], Yasuhisa Ohata[1], Jolene Windle[2], David Roodman[3], Noriyoshi Kurihara[1]. [1]Medicine / Hematology-Oncology, Indiana University, United states, [2]Human & Molecular Genetics, Virginia Commonwealth University, United states, [3]Medicine / Hematology-Oncology, Indiana University; Roudebush VA Medical Center, United states
Disclosures: Yuki Nagata, None

FR0007 **2016 ASBMR Fund for Research and Education Young Investigator Award**
MVNP Modulation of NFAM1 Signaling Enhances Osteoclast Formation and Bone Resorption Activity in Paget's Disease of Bone
Yuvaraj Sambandam*[1], Kumaran Sundaram[1], Takamitsu Saigusa[2], Sudhaker Rao[3], William Ries[4], Sakamuri Reddy[1]. [1]Darby Children's Research Institute, Medical University of South Carolina, United states, [2]Division of Nephrology, Medical University of South Carolina, United states, [3]Henry Ford Hospital, United states, [4]College of Dental Medicine, Medical University of South Carolina, United states
Disclosures: Yuvaraj Sambandam, None

FR0011 **Long-Term rhPTH(1-84) Administration Persistently Affects Bone Remodeling Dynamics and Structure in Hypoparathyroidism**
Mishaela Rubin*, Natalie Cusano, Hua Zhou, Wen-Wei Fan, Diane Cozadd, Aline Costa, David Dempster, John Bilezikian. Columbia University, United states
Disclosures: Mishaela Rubin, Shire Pharma, 13

FR0012 **PTH(1-34) for the primary prevention of post-surgical hypocalcemia: an interventional prospective randomized trial (THYPOS trial)**
Andrea Palermo*[1], Nicola Napoli[1], Gaia Tabacco[2], Giuseppe Mangiameli[3], Filippo Longo[3], Daria Maggi[2], silvia Briganti[2], angelo Lauria Pantano[2], Anda Naciu[2], Silvia Angeletti[4], Fabio Vescini[5], Paolo Pozzilli[2], Pier Filippo Crucitti[3], Silvia Manfrini[2]. [1]University Campus Bio-Medico, Italy, [2]Department of endocrinology, University Campus Bio-Medico, Italy, [3]Department of Surgery, university Campus Bio-Medico, Italy, [4]laboratory, University Campus Bio-Medico, Italy, [5]Department of Endocirnology, Ospedaliero-Universitaria Santa Maria della Misericordia di Udine, Italy
Disclosures: Andrea Palermo, None

FR0014 **AFM & AFM-IR Studies of Collagen Microstructure and Chemical Composition for Estrogen Depleted and Drug Treated Cortical Bone and Lumbar Vertebrae**
Mark M Banaszak Holl*[1], Meagan Cauble[2], Matthew Muckle[3], Taeyong Ahn[4], Sriram Vaidyanathan[5], Rachel Merzel[6], Jeffrey A. Fessler[3], Bradford G. Orr[6], Le T. Duong[7]. [1]1Macromolecular Science & Engineering, 2Chemistry, 3Biomedical Engineering. University of Michigan, United states, [2]Chemistry. Univ of Michigan, United states, [3]Electrical Engineering. Univ of Michigan, United states, [4]Macromolecular Science & Engineering. Univ of Michigan, United states, [5]Biomedical Engineering. Univ of Michigan, United states, [6]Univ of Michigan, United states, [7]Merck & Co., United states
Disclosures: Mark M Banaszak Holl, None

FR0015 **Age and Gender Differences in Loading Induced Strain and Biomechanical Properties of C57Bl/6 Mice**
Mark T. Begonia, Hammad Mumtaz, Mark Dallas, An-Lin Cheng, Ganesh Thiagarajan*, Mark L. Johnson. University of Missouri-Kansas City, United states
Disclosures: Ganesh Thiagarajan, None

FR0016 **Alendronate treatment improves vertebral structural properties and maintains vertebral trabecular bone material properties in hound dogs**
Daniel J Brooks[1], Julia N Moulton[1], Caroline DiNapoli[2], Tessabella Magliochetti[2], Sephanie McCarthy[3], Robert M Urban[3], Deborah J Hall[3], Thomas M Turner[3], Mary L Bouxsein*[4]. [1]Center for Advanced Orthopaedic Studies, Beth Israel Deaconess Medical Center, United states, [2]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, United states, [3]Rush University Medical Center, United states, [4]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center & Department of Orthopedic Surgery, Harvard Medical School, United states
Disclosures: Mary L Bouxsein, Merck, 13

FR0017 **Feasibility of Quantitative *In Vivo* Assessment of Mineral and Matrix Properties by Solid-State Phosphorus-31 and Proton Magnetic Resonance**
Xia Zhao*[1], Hee Kwon Song[1], Cheng Li[1], Alan C Seifert[2], Felix W Wehrli[1]. [1]University of Pennsylvania, United states, [2]Icahn School of Medicine at Mount Sinai, United states
Disclosures: Xia Zhao, None

FR0018 **Glycated Osteocalcin Contributes to Loss of Bone Toughness**
Stacyann Morgan*[1], Caren Gundberg[2], Gerard Karsenty[3], Deepak Vashishth[1]. [1]Rensselaer Polytechnic Institute, United states, [2]Yale University, United states, [3]Columbia University, United states
Disclosures: Stacyann Morgan, None

FR0019 **Mapping of Trabecular Anisotropy Improves QCT-based Finite Element Estimation of Hip Strength in Pooled Stance and Side-Fall Load Configurations**
Jarunan Panyasantisuk*[1], Enrico Dall'Ara[2], Dieter Pahr[3], Philippe Zysset[1]. [1]Institute for Surgical Technology & Biomechanics, University of Bern, Switzerland, [2]Department of oncology & metabolism & INSIGNEO Institute for in silico medicine, University of Sheffield, United Kingdom, [3]Institute of Lightweight Design & Structural Biomechanics, Vienna University of Technology, Austria
Disclosures: Jarunan Panyasantisuk, None

FR0020 **Matrix-bound water concentration is lower in mice with brittle bones caused by osteogenesis imperfecta and separately ATF4 deficiency**
Mathilde Granke*[1], Sasidhar Uppuganti[1], Amy Creecy[1], Julie Schnur[2], Ben Greene[3], Mark Does[2], Jeffry Nyman[1]. [1]Vanderbilt university Medical Center, United states, [2]Vanderbilt University, United states, [3]Genzyme, United states
Disclosures: Mathilde Granke, None

FR0021 **Role of Advanced Glycation End-Products and Cortical Porosity in Type 2 Diabetes**
Lamya Karim*[1], Miranda Van Vliet[2], Kelsey Velie[2], Ayesha Abdeen[1], Douglas Ayres[1], Mary Bouxsein[1]. [1]Harvard Medical School, United states, [2]Beth Israel Deaconess Medical Center, United states
Disclosures: Lamya Karim, None

FR0022 **The Relationship Between Femoral Neck aBMD and the Underlying Morphological and Compositional Traits that are Coordinately Regulated to Establish Mechanical Homeostasis**
Andrew Kozminski[1], Erin Bigelow[1], Stephen Schlecht[1], Robert Goulet[1], Sioban Harlow[1], Carrie Karvonen-Gutierrez[1], Jane Cauley[2], Karl Jepsen*[1]. [1]University of Michigan, United states, [2]University of Pittsburgh, United states
Disclosures: Karl Jepsen, None

FR0023 **Bisphosphonate Pre-Treatments Enhance Trabecular Bone Architecture during Unloading and Reambulation Despite Lower Resorption and Formation**
Jeremy Black*[1], Jessica Brezicha[2], Corinne Metzger[3], Scott Lenfest[1], Jennifer Kosniewski[1], Susan Bloomfield[3], Matt Allen[4], Harry Hogan[5]. [1]TAMU Department of Mechanical Engineering, United states, [2]TAMU Department of Biomedical Engineering, United states, [3]TAMU Department of Health & Kinesiology, United states, [4]Department of Anatomy & Cell Biology, Indiana University School of Medicine, United states, [5]TAMU Department of Mechanical Engineering/ Department of Biomedical Engineering, United states
Disclosures: Jeremy Black, None

FR0025 **Withdrawn**

FR0031 **Novel Associations Between Reduced Serum Sclerostin and Adaptive Bone Changes Following Exercise Training**
Melissa Ramcharan*[1], Rachel Izard[2], Bonnie Nolan[1], Lauren Smith[1], Stephen Schlecht[1], William Fraser[3], Julie Greeves[4], Karl Jepsen[1]. [1]University of Michigan, United states, [2]HQ Army & Training Division, United Kingdom, [3]Norwich Medical School, University of East Anglia, United Kingdom, [4]HQ Army Recruiting & Training Division, United Kingdom
Disclosures: Melissa Ramcharan, None

FR0032 **Associations of Behavioral Characteristics of Young Adults and Bone Health: Iowa Bone Development Study (IBDS)**
Elena Letuchy, Julie Eichenberger*, Linda Snetselaar, Kathleen Janz, Trudy Burns, Punam Saha, James Torner, Steven Levy. University of Iowa, United states
Disclosures: Julie Eichenberger, None

FR0034 **Poor Glycemic Control is Associated with Greater Urinary Calcium Excretion in Adolescents with Type 1 Diabetes**
David Weber*[1], Kimberly O'Brien[2], Mary Leonard[3], Noya Rackovsky[4], George Schwartz[4]. [1]University or Rochester, United states, [2]Cornell University, United states, [3]Stanford University, United states, [4]University of Rochester, United states
Disclosures: David Weber, None

FR0038 **The Muscle-Dependent Link Between IGF-I and Cortical Bone is Suppressed in Children with Insulin Resistance**
Joseph Kindler*[1], Norman Pollock[2], Emma Laing[1], Carlos Isales[2], Mark Hamrick[2], Ke-Hong Ding[2], Dorothy Hausman[1], George McCabe[3], Berdine Martin[3], Kathleen Hill Gallant[3], Stuart Warden[4], Connie Weaver[3], Munro Peacock[4], Richard Lewis[1]. [1]The University of Georgia, United states, [2]Augusta University, United states, [3]Purdue University, United states, [4]Indiana University, United states
Disclosures: Joseph Kindler, None

FR0039 **Intestinal microbiome present in Crohn disease impairs the skeletal health and linear growth**
Anu Maharjan*, Young Huh, Maureen Bower, Hong Yuan, Young Truong, Ian Carroll, Francisco Sylvester. University of North Carolina, United states
Disclosures: Anu Maharjan, None

FR0040 **Aging bone marrow microenvironments impart age-associated changes to hematopoietic stem and progenitor cells**
Corey Hoffman, Frank Akwaa, Rachel Rubinova, John Ashton, Mark LaMere, Brandon Zaffuto, Michael Becker, Benjamin Frisch*, Laura Calvi. University of Rochester School of Medicine & Dentistry, United states
Disclosures: Benjamin Frisch, None

FR0041 **Erythropoietin signaling regulates bone homeostasis**
Luis Fernandez De Castro Diaz[1], Soumyadeep Dey[2], Pamela Robey[1], Constance Noguchi[2], Sukanya Suresh*[2]. [1]Skeletal Biology Section, Craniofacial & Skeletal Diseases Branch, National Institute of Dental & Craniofacial Research, NIH, United states, [2]Molecular Medicine Branch, National Institute of Diabetes & Digestive & Kidney Diseases, United states
Disclosures: Sukanya Suresh, None

FR0042 **Macrophage Progenitor RIP140 Knockdown Regulates Osteoclast Differentiation and Results in Osteopenia**
Bomi Lee*[1], Urszula T. Iwaniec[2], Russell T. Turner[2], Li-Na Wei[1], Anne Gingery[3]. [1]University of Minnesota, United states, [2]Oregon State University, United states, [3]Mayo Clinic, United states
Disclosures: Bomi Lee, None

FR0043 **Fat, Inflammation, and Aging**
Raysa Rosario*, Hongfang Yu, Mark Hamrick, Carlos Isales, Babak Baban, Xing-Ming Shi. Georgia Regents University, United states
Disclosures: Raysa Rosario, None

FR0044 **HDL is essential for normal bone formation in mice**
Harry Blair*[1], Elena Kalyvioti[2], Nicholaos Papachristou[2], Irina Tourkova[3], Spryros Syggelos[4], K.E. Kypteos[5], Dionysios Papachristou[2]. [1]Veteran's Affairs Medical Center & Departments of Pathology & Cell Biology, University of Pittsburgh, United states, [2]Department of Anatomy-Histology-Embryology, & the Unit of Bone & Soft Tissue Studies, University of Patras Medical School, Greece, [3]Pittsburgh VA Medical Center, & Departments of Pathology & Cell Biology, University of Pittsburgh, United states, [4]Dept. Of Pharmacology, School of Medicine, Univertsity of Patras, Greece, [5]Dept. Of Pharmacology, School of Medicine, Univertsity of Patras., Greece
Disclosures: Harry Blair, None

FR0045 **Bioactive PTHrP(12-48) modulates the bone marrow microenvironment independent of PTH1 receptor, is internalized into cells, and suppresses osteoclast differentiation and lifespan**
Charity Washam*, Diarra Williams, Archana Kamalakar, Nisreen Akel, Frances Swain, Dana Gaddy, Larry Suva. Texas A&M University, United states
Disclosures: Charity Washam, None

FR0046 **Leukemia inhibitory factor receptor (LIFR) signals via Stat3 to mediate tumor dormancy in bone**
Rachelle Johnson*, Rebecca Miao, Amato Giaccia. Stanford University, United states
Disclosures: Rachelle Johnson, None

FR0047 **Oncogenic and Osteolytic Function of Histone Demethylase NO66 in Prostate Cancer induced Bone Metastasis**
Krishna Sinha*[1], Rozita Bagheri-Yarmand[2], Nora Navone[2], Xinhai Wan[2], Christopher Logothetis[2], robert Gagel[2], Johnny Huard[1]. [1]UT Health Science Center at Houston, United states, [2]MD Anderson Cancer Center, United states
Disclosures: Krishna Sinha, None

FR0048 **PKC-Zeta downregulation associates with metabolic plasticity in breast cancer cells during bone metastasis**
Manish Tandon*, Jitesh Pratap. Rush University Medical Center, United states
Disclosures: Manish Tandon, None

FR0051 **Novel ERα positive breast cancer model with estrogen independent growth in the bone microenvironment**
Biancamaria Ricci*[1], Aude-Hélène Capietto[2], Szeman Ruby Chan[3], Debora V Novak[4], Robert D Schreiber[3], Roberta Faccio[2]. [1]Department of Orthopaedic Surgery - Washington University School of Medicine, United states, [2]Department of Orthopaedic Surgery - Washington University School of Medicine, United states, [3]Department of Pathology & Immunology - Washington University School of Medicine, United states, [4]Department of Pathology & Immunology- Washington University School of Medicine, United states
Disclosures: Biancamaria Ricci, None

FR0052 **Effects of cabozantinib alone and in combination with bortezomib in the 5TGM1 murine multiple myeloma model**
Mari I Suominen*[1], Katja M Fagerlund[1], Esa Alhoniemi[2], Jukka P Rissanen[1], Jussi M Halleen[1], Dana T Aftab[3]. [1]Pharmatest Services Ltd., Finland, [2]Avoltus Oy, Finland, [3]Exelixis Inc., United states
Disclosures: Mari I Suominen, Pharmatest Services Ltd, 17

FR0053 **A Novel Protective Role of GPNMB/Osteoactivin in Post-traumatic Osteoarthritis**
Asaad Al Adlaan*[1], Nazar Hussein[1], Fatima Jaber[1], Tariq Haqqi[2], Fayez Safadi[2]. [1]Kent State University, United states, [2]Northeast Ohio Medical University, United states
Disclosures: Asaad Al Adlaan, None

FR0054 **Articular Cartilage Preservation in Mice Lacking Cathepsin K**
Fabiana Soki*[1], Ryu Yoshida[1], David N. Paglia[1], Maureen Pickarski[2], Marc Hansen[1], Le Duong[2], Hicham Drissi[1]. [1]Uconn Health Center, United states, [2]Merck & Co., Inc., United states
Disclosures: Fabiana Soki, None

FR0055 **IKKβ Activation in Postnatal Chondrocytes Results in a Chronic Inflammatory Environment within the Knee Joint and Recapitulates an Age-Associated Osteoarthritis Phenotype**
Sarah Catheline*, Martin Chang, Michael Zuscik, Jennifer Jonason. University of Rochester, United states
Disclosures: Sarah Catheline, None

FR0056 **Repair of Focal Cartilage Defects in the Rat using Human Embryonic Stem Cell-Derived Articular Cartilage Tissues**
April Craft*[1], Subhash Juneja[2], Heather Whetstone[3], Christian Veillette[2], Gordon Keller[4]. [1]Boston Children's Hospital, Harvard Medical School, United states, [2]Arthritis Program, Toronto Western Hospital, Canada, [3]Hospital for Sick Children, Canada, [4]McEwen Centre for Regenerative Medicine, University Health Network, Canada
Disclosures: April Craft, None

FR0062 **Inhibition of Epigenetic Factor Dnmt3b within Articular Chondrocytes Coordinates Cellular Metabolic Response during the Development of Osteoarthritis**
Jie Shen*[1], Cuicui Wang[1], Daofeng Li[2], Jason Myers[3], John Ashton[3], Audrey McAlinden[1], Ting Wang[2], Regis O'Keefe[1]. [1]Department of Orthopaedic Surgery, School of Medicine, Washington University in St. Louis, United states, [2]Department of Genetics, School of Medicine, Washington University in St. Louis, United states, [3]University of Rochester Medical Center, United states
Disclosures: Jie Shen, None

FR0063 **Bone-Derived Lipocalin 2 is an Anorexigenic Hormone**
Steven Shikhel*, Stavroula Kousteni. Columbia University, United states
Disclosures: Steven Shikhel, None

FR0064 **Osteoblastic Hdac3 Expression Regulates Systemic Energy Metabolism**
Jessica Pierce*[1], Kanglun Yu[1], Ahmed Elsherbini[1], Elizabeth Bradley[2], Jennifer Westendorf[2], Meghan McGee-Lawrence[3]. [1]Augusta University, United states, [2]Mayo Clinic, United states, [3]Medical College of Georgia, Augusta University, United states
Disclosures: Jessica Pierce, None

FR0067 **FSH Regulates Body Fat and Whole Body Metabolism**

Yaoting Ji[1], Peng Liu[1], Elizabeth Rendina-Ruedy[2], Victoria DeMambro[2], Tony Yuen*[1], Ping Lu[1], Bin Zhou[3], Ling-Ling Zhu[1], Samuel Robinson[3], Eric Yu[3], Christoph Buettner[1], Maria New[1], Marc Feldmann[4], Bian Zhuan[5], Jay Cao[6], Edward Guo[3], Jameel Iqbal[7], Li Sun[1], Clifford Rosen[2], Mone Zaidi[1]. [1]Icahn School of Medicine, United states, [2]Maine Medical Center Research Institute, United states, [3]Columbia University, United states, [4]Kennedy Institute of Rheumatology, United Kingdom, [5]Wuhan University, China, [6]USDA Department of Agriculture, United states, [7]Greater Los Angeles VA Medical Center, United states

Disclosures: Tony Yuen, None

FR0071 **Adipocyte- and Osteoblast-Specific Function of Protein Phosphatase 5 (PP5) in Modulation of PPARγ and Runx2 Activities and Regulation of Bone Mass and Energy Metabolism**

Lance A. Stechschulte*[1], Piotr J. Czernik[2], Edwin R. Sanchez[1], Renny Franceschi[3], Beata Lecka-Czernik[1]. [1]University of Toledo Health Science Campus, United states, [2]MicroTomografix Ltd, United states, [3]Periodontics & Oral Medicine University of Michigan School of Dentistry, United states

Disclosures: Lance A. Stechschulte, None

FR0073 **Cyclophilin D Knock-out Mice Show Enhanced Resistance to Osteoporosis and to Metabolic Changes Observed in Aging Bone**

Laura Shum*, Roman Eliseev. University of Rochester, United states

Disclosures: Laura Shum, None

FR0075 ***Fkbp10*** **is essential for normal bone quality and joint homeostasis in postnatal mice**

Joohyun Lim*[1], Caressa Lietman[1], Hamilton Wang[1], Ingo Grafe[1], Elda Munivez[1], Merry Ruan[1], Keren Machol[1], Brian Dawson[1], Terry Bertin[1], Yuqing Chen[1], Hao Ding[2], Dongsu Park[1], Xiahong Bi[2], Catherine Ambrose[3], Nadja Fratzl-Zelman[4], Paul Roschger[4], Klaus Klaushofer[4], Ingo Schmidt[5], Peter Fratzl[5], Jyoti Rai[6], MaryAnn Weis[6], David Eyre[6], Deborah Krakow[7], Brendan Lee[1]. [1]Department of Molecular & Human Genetics, Baylor College of Medicine, United states, [2]Department of Nanomedicine & Biomedical Engineering, University of Texas Health Science Center at Houston, United states, [3]Department of Orthopaedic Surgery, University of Texas Health Science Center at Houston, United states, [4]Ludwig Boltzmann Institute of Osteology, Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling 1st Med. Dept. Hanusch Hospital, Austria, [5]Department of Biomaterials, Max Planck Institute of Colloids & Interfaces, Research Campus Golm, Germany, [6]Department of Orthopaedics & Sports Medicine, University of Washington, United states, [7]Department of Orthopaedic Surgery, David Geffen School of Medicine at UCLA, United states

Disclosures: Joohyun Lim, None

FR0076 **Anti-Notch2 Antibodies Reverse the Severe Osteopenia of Hajdu Cheney Syndrome Mutants**

Ernesto Canalis*, Archana Sanjay, Jungeun Yu, David Bridgewater, Stefano Zanotti. UConn Health, United states

Disclosures: Ernesto Canalis, None

FR0077 **CRISPR/Cas9-generated Mouse Model of Autosomal-dominant Hypocalcemia Harboring the Activating G Protein Alpha 11 Mutation Arg60Cys and Use of Calcilytics and a Gαq/Gα11-specific Inhibitor**

Kelly Lauter Roszko*[1], Ruiye Bi[1], Sarah Howles[2], Hans Brauner-Osborne[3], Xiaofeng Xiong[3], Fadil Hannan[4], M Andrew Nesbit[5], Rajesh Thakker[6], Kristian Stromgaard[3], Thomas Gardella[1], Michael Mannstadt[1]. [1]Endocrine Unit, Massachusetts General Hospital, United states, [2]University of Oxford, United Kingdom, [3]Department of Drug Design & Pharmacology, University of Copenhagen, Denmark, [4]University of Liverpool, United Kingdom, [5]Ulster University, United Kingdom, [6]Nuffield Department of Clinical Medicine, University of Oxford, United Kingdom

Disclosures: Kelly Lauter Roszko, None

FR0078 **Generation and Phenotypic Characterization of a *Lrp4* R1170Q Knock-In Mouse Model**
Eveline Boudin*[1], Igor Fijalkowski[1], Stephan Sonntag[2], Gretl Hendrickx[1], Timur A Yorgan[3], Thorsten Schinke[3], Geert Mortier[1], Wim Van Hul[1]. [1]Centre of Medical Genetics, University & University Hospital of Antwerp, Belgium, Belgium, [2]PolyGene AG, Rümlang, Switzerland, Switzerland, [3]Department of Osteology & Biomechanics, University Medical Center Hamburg, Germany, Germany
Disclosures: Eveline Boudin, None

FR0080 **Increased Trabecular Bone, Altered Glucose Homeostasis and Improved Biomechanics in an Osteocalcin Null Rat Model Created by CRISPR/Cas9 Technology**
Laura Lambert*[1], Anil Challa[1], Aidi Niu[1], Lihua Zhou[1], Janusz Tucholski[1], Maria Johnson[1], Tim Nagy[1], Alan Eberhardt[1], Patrick Estep[1], Robert Kesterson[1], Jayleen Grams[2]. [1]UAB, United states, [2]UAB/Birmingham VA Medical Center, United states
Disclosures: Laura Lambert, None

FR0081 **Multi-Trait Mapping Reveals Novel Loci Controlling Relationships between Calcium Absorption, Bone Density, and Serum 1,25 Dihydroxyvitamin D in BXD Mice**
James Fleet*, Krittikan Chanpaisaeng, Perla Reyes-Fernandez, Rebecca Replogle. Department of Nutrition Science, Purdue University, United states
Disclosures: James Fleet, None

FR0083 **The Effects of Soluble Activin Receptor Type IIB (ActRIIB-mFc) Treatment on Muscle and Bone Properties of Two Distinct Osteogenesis Imperfecta Mouse Models**
Youngjae Jeong*[1], Marybeth Brown[2], Ferris Pfeiffer[3], Mark Dallas[4], Yixia Xie[5], R. Scott Pearsall[6], Sarah Dallas[4], Charlotte Phillips[7]. [1]Department of Biochemistry, University of Missouri, United states, [2]Department of Biomedical Sciences & Physical Therapy Program, University of Missouri, United states, [3]Department of Bioengineering, University of Missouri, United states, [4]Department of Oral & Craniofacial Biology, University of Missouri at Kansas City, United states, [5]Department of Oral & Craniofacial Sciences, University of Missouri at Kansas City, United states, [6]Acceleron Pharma Inc., United states, [7]Departments of Biochemistry & Child Health, University of Missouri, United states
Disclosures: Youngjae Jeong, None

FR0084 **Osteoprotegerin is Critical for the Formation of Heterotopic Ossification**
Song Xue*[1], Roberto Fajardo[2], Kevin McHugh[1]. [1]University of Florida, United states, [2]University of Texas Helath Science Center San Antonio, United states
Disclosures: Song Xue, None

FR0085 **Epigenomic Signature of Bisphosphonate use**
Roby Joehanes*, Yi-Hsiang Hsu, David Karasik, Douglas Kiel. Institutes for Aging Research; Hebrew SeniorLife; Harvard Medical School, United states
Disclosures: Roby Joehanes, None

FR0086 **Comprehensive genome characterization of alcohol-induced osteonecrosis of femoral head**
Dewei Zhao*, Yan Ding. The Affiliated Zhongshan Hospital of Dalian University, China
Disclosures: Dewei Zhao, None

FR0090 **Several novel susceptibility loci identified in trans-ethnic genome-wide association for trabecular volumetric bone mineral density**
Xiaoying Fu*, Hong-Wen Deng. Center for Bioinformatics & Genomics, Tulane University, New Orleans, LA, USA Department of Biostatistics & Bioinformatics, School of Public Health & Tropical Medicine, Tulane University, New Orleans, LA, United states
Disclosures: Xiaoying Fu, None

FR0092 **ASBMR 2016 Annual Meeting Young Investigator Award**
Genetic Ablation of *Fgf23* Does not Modulate Experimental Heart Hypertrophy Induced by Pressure Overload
Svetlana Slavic*, Kristopher Ford, Ute Zeitz, Reinhold Erben, Olena Andrukhova. University of Veterinary Medicine, Vienna, Austria
Disclosures: Svetlana Slavic, None

FR0094 **ASBMR 2016 Annual Meeting Young Investigator Award**
TNFα triggers renal FGF23 expression and elevates systemic FGF23 levels in mouse models of chronic kidney disease
Daniela Egli-Spichtig*[1], Pedro Imenez Silva[2], Bob Glaudemans[3], Gehring Nicole[2], Carla Bettoni[4], Martin Zhang[5], Desiree Schoenenberger[2], Michal Rajski[2], David Hoogewijis[2], Felix Knauf[6], Isabelle Frey-Wagner[7], Gerhard Rogler[7], Farzana Perwad[5], Foeller Michael[8], Florian Lang[9], Roland H. Wenger[2], Ian Frew[2], Carsten A. Wagner[2]. [1]Institute of Physiology, University of Zurich; Division of Pediatric Nephrology, University of California San Francisco, United states, [2]Institute of Physiology, University of Zurich, Switzerland, [3]University of Zurich, Switzerland, [4]Intsitute of Physiology, University of Zurich, Switzerland, [5]Division of Pediatric Nephrology, University of California San Francisco, United states, [6]Universitätsklinikum Erlangen, Nephrologie und Hypertensiologie, Germany, [7]Division of Gastroenterology & Hepatology, University Hospital Zurich, Switzerland, [8]Ernaehrungsphysiologie, Martin-Luther-University Halle-Wittenberg, Germany, [9]Institute of Physiology, University of Tuebingen, Germany
Disclosures: Daniela Egli-Spichtig, None

FR0097 ***Lrp6* is a Novel Target of the PTH-activated αNAC Transcriptional Coregulator**
Martin Pellicelli*, Hadla Hariri, Julie Miller, René St-Arnaud. Shriners Hospitals for Children - Canada, Canada
Disclosures: Martin Pellicelli, None

FR0099 **The Deacetylase, Sirtuin 1, is Necessary for Parathyroid Hormone's Actions on Murine Bone**
Nicola Partridge*[1], Teruyo Nakatani[1], Jennifer Westendorf[2], David Sinclair[3], Yurong Fei[4]. [1]New York University, United states, [2]Mayo Clinic, United states, [3]Harvard Medical School, United states, [4]North Shore LIJ Health System, United states
Disclosures: Nicola Partridge, None

FR0100 **A role for TIEG and estrogen-regulated miRNAs in mediating SOST expression in bone**
Malayannan Subramaniam*, Kevin Pitel, Elizabeth Bruinsma, John Hawse. Mayo Clinic, United states
Disclosures: Malayannan Subramaniam, None

FR0110 **Mechanoresponsive miR-138-5p targets MACF1 to inhibit bone formation**
Airong Qian*[1], Zhihao Chen[1], Fan Zhao[1], Chao Liang[2], Lifang Hu[1], Chong Yin[1], Peng Shang[1], Ge Zhang[3]. [1]Key Laboratory for Space Biosciences & Biotechnology, Institute of Special Environmental Biophysics, School of Life Sciences, Northwestern Polytechnical University, China, [2]Institute for Advancing Translational Medicine in Bone & Joint Diseases, School of Chinese Medicine, Hong Kong Baptist University, China, [3]Institute for Advancing Translational Medicine in Bone & Joint Diseases, School of Chinese Medicine, Hong Kong Baptist University, China
Disclosures: Airong Qian, None

FR0111 **Osteoblast-Derived Paracrine Factors Regulate Angiogenesis in Response to Mechanical Stimulation**
Chao Liu*, Xin Cui, Thomas Ackermann, Vittoria Flamini, Weiqiang Chen, Alesha Castillo. New York University, United states
Disclosures: Chao Liu, None

FR0113 **Osteocyte distribution does not influence locations of mechanically induced bone formation in cancellous bone**
Erin Cresswell*[1], Thu Nguyen[1], Michael Horsfield[1], Thomas Metzger[2], Glen Niebur[2], Christopher Hernandez[1]. [1]Cornell University, United states, [2]University of Notre Dame, United states
Disclosures: Erin Cresswell, None

FR0114 **Radiation-induced bone loss is attenuated by mechanical loading**
Peter Govey[1], Yue Zhang[2], Henry Donahue*[2]. [1]Penn State, United states, [2]Virginia Commonwealth University, United states
Disclosures: Henry Donahue, None

FR0115 **A Metabolite of Contracted Muscle, β-aminoisobutyric Acid, BAIBA, Inhibits Trabecular Bone Loss by Hindlimb Unloading Potentially through Maintenance of Osteocyte Viability**
Yukiko Kitase*[1], Jianxun Yi[1], Julian Vallejo[1], Harika Vemula[2], William Gutheil[2], Marco Brotto[3], Lynda Bonewald[1]. [1]University of Missouri-Kansas City, Department of Oral & Craniofacial Sciences, School of Dentistry, United states, [2]University of Missouri-Kansas City, School of Pharmacy, United states, [3]University of Texas at Arlington, United states
Disclosures: Yukiko Kitase, None

FR0116 **Osteocytic gene expression is not rapidly altered following muscle paralysis**
Dylan Mogk, Leah Worton, Dewayne Threet, Brandon Ausk, Edith Gardiner, Steven Bain, Ted Gross*. University of Washington, United states
Disclosures: Ted Gross, None

FR0117 **Transgenic Expression of FNDC5 Impacts Skeletal Turnover by Targeting Osteoblasts, Osteoclasts and Adipocytes**
clifford rosen*[1], christiane wrann[2], bruce spiegelman[2], mary bouxsein[3], roland baron[4], kneichi nagano[4], phuong le[1], michaela reagan[1], lynda bonewald[5]. [1]maine medical center research institute, United states, [2]dana farber cancer institute, United states, [3]Harvard Medical School, United states, [4]harvard dental school, United states, [5]university of missouri kansas city, United states
Disclosures: clifford rosen, None

FR0118 **Hindlimb Immobilisation, but Not Castration, Induces Reduction of Undercarboxylated Osteocalcin Associated with Muscle Atrophy in Rats**
Xuzhu Lin*[1], Erik Hanson[1], Andrew Betik[1], Tara Brennan-Speranza[2], Alan Hayes[1], Itamar Levinger[3]. [1]Institute of Sport, Exercise & Active Living (ISEAL), Victoria University, Australia, [2]Department of Physiology & Bosch Institute for Medical Research, University of Sydney, Australia, [3]Exercise & Active Living (ISEAL), Victoria University, Australia
Disclosures: Xuzhu Lin, None

FR0123 **Treatment of Aged Mice With PDGF-bb and Bortezomib (a Proteasome Inhibitor) Enhances Fracture Repair**
Hengwei Zhang*, Mengmeng Wang, Brendan Boyce, Lianping Xing. University of Rochester, United states
Disclosures: Hengwei Zhang, None

FR0125 **Patterns of estrogen use and kyphosis in older women 15 years later**
Gina Woods*[1], Mei-Hua Huang[2], Howard Fink[3], Corinne McDaniels-Davidson[1], Peggy Cawthon[4], Deborah Kado[1]. [1]University of California, San Diego, United states, [2]University of California, Los Angeles, United states, [3]VA Healthcare System, United states, [4]California Pacific Medical Center Research Institute, United states
Disclosures: Gina Woods, None

FR0126 **No effect of vitamin D on Physical Performance and balance in Elderly Women**
J Christopher Gallagher*[1], Shervin Yousefian[1], Lynette Smith[2]. [1]Creighton University Medical School, United states, [2]University Nebraska Medical Center, United states
Disclosures: J Christopher Gallagher, None

FR0129 **Intranuclear Actin Polymerization Controls MSC Differentiation**
Buer Sen[1], Gunes Uzer[1], Zhihui Xie[1], Cody McGrath[1], Amel Dudakovic[2], Maya Styner[1], Andre Van Wijnen[2], Janet Rubin*[1]. [1]UNC School of Medicine, United states, [2]Mayo Clinic, United states
Disclosures: Janet Rubin, None

FR0130 **Chondrocyte (CC) to Osteoblast (OB) Transdifferentiation Represents a Major Mechanism for Promotion of Trabecular (Tb) Bone Formation (BF) in Mice**
Patrick Aghajanian*, Shaohong Cheng, Chandrasekhar Kesavan, Weirong Xing, Jon Wergedal, Subburaman Mohan. VA Loma Linda Healthcare System, United states
Disclosures: Patrick Aghajanian, None

FR0133 **Mature Chondrocytes Are Able to Develop into Bone Marrow Osteo/Mesenchymal Progenitor Cells and Canonical Wnt Signaling Is Required for These Progenitor Cells to Commit to Osteogenic Fate in Endochondral Bones**
Xin Zhou*[1], Ailing Hunag[1], Klaus von der Mark[2], Benoit de Crombrugghe[1]. [1]UT MD Anderson Cancer Center, United states, [2]University Erlangen-Nuremberg, Germany
Disclosures: Xin Zhou, None

FR0134 **Notch Activation Enhances Mesenchymal Stem Cell Sheet Osteogenic Potential by Inhibition of Cellular Senescence**
Bo Tian*, Sheila Rogers, Dollie Smith, Todd Jaeblon, Massimo Max Morandi, John Marymont, Yufeng Dong. LSU Health Sciences Center, United states
Disclosures: Bo Tian, None

FR0135 **Transcriptional Control of CaSR by P300 in MSCs is mediated by HIF-1α**
Fengjie Zhang[1], Wing Pui Tsang[1], Qiling He[2], Chao Wan*[1]. [1]School of Biomedical Sciences, The Chinese University of Hong Kong, Hong kong, [2]Department of Microbiology, University of Alabama at Birmingham, United states
Disclosures: Chao Wan, None

FR0137 **Alterations in hip Shape may Explain the Increased Risk of hip Osteoarthritis in Individuals with High Bone Mass**
Celia Gregson*[1], Anjali Patel[1], Denis Baird[1], Sarah Hardcastle[1], Ben Faber[1], George Davey Smith[2], Jenny Gregory[3], Richard Aspden[3], Jon Tobias[1]. [1]Musculoskeletal Research Unit, School of Clinical Sciences, University of Bristol, Bristol, UK, United Kingdom, [2]MRC Integrative Epidemiology Unit, University of Bristol, Bristol, UK, United Kingdom, [3]Arthritis & Musculoskeletal Medicine, Institute of Medical Sciences, University of Aberdeen, UK, United Kingdom
Disclosures: Celia Gregson, None

FR0138 **Genome-wide association study of knee bone marrow lesions and association with previously reported bone mineral density loci**
Michelle S. Yau*[1], Braxton D. Mitchell[2], Rebecca D. Jackson[3], Marc C. Hochberg[2], Douglas P. Kiel[1], David T. Felson[4]. [1]Hebrew SeniorLife, BIDMC/Harvard, United states, [2]University of Maryland School of Medicine, United states, [3]The Ohio State University, United states, [4]Boston University School of Medicine, United states
Disclosures: Michelle S. Yau, None

FR0139 **Odanacatib Prevents Cartilage Damage and Osteophyte Development in the Anterior Cruciate Ligament Transection Rabbit Model of Osteoarthritis**
Ya Zhuo*[1], Maureen Pickarski[2], Gregg Wesolowski[3], Jacques Yves Gauthier[4], Le Duong[2]. [1]Merck & Co.Inc, United states, [2]Merck & Co. Inc., United states, [3]Formerly Merck & Co., Inc., United states, [4]Formerly Merck & Co., Inc., Canada
Disclosures: Ya Zhuo, Merck. Co. Inc., 17

FR0140 **Proteasome Inhibition Is a Potential Treatment for Osteoarthritis by Attenuating Inflammation and Improving Lymphatic Function**
Xi Lin*, Wensheng Wang, Wen Sun, Michael Zuscik, Lianping Xing. University of Rochester Medical Center, United states
Disclosures: Xi Lin, None

FR0142 **ASBMR 2016 Annual Meeting Young Investigator Award**
Superficial cells disappear during early stages of osteoarthritis via accelerated differentiation into chondrocytes
Lei Li*[1], Thibault Bouderlique[2], Phillip Newton[2], Elena Kozhemyakina[3], Andrew Lassar[3], Matthew Warman[4], Björn Barenius[5], Igor Adameyko[2], Andrei Chagin[2]. [1]Department of Physiology & Pharmacology, Karolinska Institutet, Sweden, [2]Department Physiology & Pharmacology, Karolinska Institute, Sweden, [3]Harvard Medical School, Boston, Massachusetts, United states, [4]Orthopaedic Research Labs, Boston Children's Hospital, Boston, Massachusetts, United states, [5]Södersjukhuset, Stockholm, Sweden
Disclosures: Lei Li, None

FR0143 **Changes in Membrane Potential Regulates RANKL Intracellular Transport via Voltage-gated Calcium Channels in Osteoblasts**
Takuya Notomi*[1], Miyuki Kuno[2], Akiko Hiyama[1], Yoichi Ezura[3], Kiyoshi Ohura[1], Masaki Noda[3]. [1]Osaka Dental University, Japan, [2]Osaka City University, Japan, [3]Tokyo Medical & Dental University, Japan
Disclosures: Takuya Notomi, None

FR0144 **ASBMR 2016 Annual Meeting Young Investigator Award**
Osteoblasts Inhibit Osteoclast Formation by Targeting Prdm1 via the Mechanism Underlying Matrix Vesicle-Mediated Transfer of miR-125b
Yasumasa Irie*[1], Tomoko Minamizaki[2], Faisal Ahmed[2], Yuko Nakao[3], Hirotaka Yoshioka[2], Kotaro Tanimoto[4], Katsuyuki Kozai[5], Yuji Yoshiko[2]. [1]Department of Calcified Tissue Biology, Department of Pediatric dentistry, Hiroshima University Institute of Biomedical & Health Sciences, Hiroshima, JAPAN., Japan, [2]Department of Calcified Tissue Biology, Hiroshima University Institute of Biomedical & Health Sciences, Hiroshima, JAPAN., Japan, [3]Department of Calcified Tissue Biology & Department of Orthodontics & Craniofacial Developmental Biology, Hiroshima University Institute of Biomedical & Health Sciences, Hiroshima, JAPAN., Japan, [4]Orthodontics & Craniofacial Developmental Biology, Hiroshima University Institute of Biomedical & Health Sciences, Hiroshima, JAPAN., Japan, [5]Pediatric dentistry, Hiroshima University Institute of Biomedical & Health Sciences, Hiroshima, JAPAN., Japan
Disclosures: Yasumasa Irie, None

FR0145 **Truncation of the Cx43 C-terminal domain disrupts multiple signaling pathways and recapitulates the skeletal phenotype of full length Cx43 conditional deletion in the osteoblast lineage**
Megan C. Moorer*[1], Carla Hebert[2], Ryan E. Tomlinson[3], Shuo Liu[2], Max Chason[4], Joseph P Stains[2]. [1]University of Maryland, Baltimore, Graduate School, United states, [2]University of Maryland, Baltimore, United states, [3]Johns Hopkins University, United states, [4]University of Maryland, United states
Disclosures: Megan C. Moorer, None

FR0147 **CRISPR/Cas9 Editing of *IFITM5* Introduces BRIL p.Ser40Leu Substitution, Connecting Types V and VI OI, and Suppresses PEDF-mediated Induction of PPARγ**
Heeseog Kang*[1], Joan C. Marini[1], Susan Crawford[2]. [1]NIH, United states, [2]Northwestern University, United states
Disclosures: Heeseog Kang, None

FR0148 **Deletion of Axin1 in Osteoblast Progenitor Cells Leads to Delayed Endochondral Bone Formation through Inhibition of Osteoclast Formation**
Bing Shu*[1], Yongjian Zhao[1], Chunchun Xue[1], Rong Xie[2], Yongjun Wang[3], Di Chen[2]. [1]Longhua Hospital, Shanghai University of Traditional Chinese Medicine; Spine Research Institute, Shanghai University of Traditional Chinese Medicine, China, [2]Rush University Medical Center, United states, [3]School of Rehabilitation Science, Shanghai University of Traditional Chinese Medicine; Spine Research Institute, Shanghai University of Traditional Chinese Medicine, China
Disclosures: Bing Shu, None

FR0149 **Engineering a hyper-anabolic, super-secreting osteoblast**
Sara Young, Yu Shao, Paul Childress, Ronald Wek, Joseph Bidwell*. Indiana University School of Medicine, United states
Disclosures: Joseph Bidwell, Eli Lilly, 13

FR0150 **Glutaminase acts in osteoblasts to regulate bone formation**
Yilin Yu[1], Everett Knudsen[1], Fanxin Long[2], Courtney Karner*[1]. [1]Duke University School of Medicine, United states, [2]Washington University School of Medicine, United states
Disclosures: Courtney Karner, None

FR0151 **Kindlin-2 Plays A Pivotal Role in Skeletal Development and Homeostasis through Its Expression in Osteoblastic Cells and Osteocytes**
Huiling Cao*, Guozhi Xiao. Department of Biology & Shenzhen Key Laboratory of Cell Microenvironment, Southern University of Science & Technology, China
Disclosures: Huiling Cao, None

FR0152 **Legumain is a Novel Regulator of Bone Formation and Deregulated in Postmenopausal Osteoporosis**

Abbas Jafari*[1], Diyako Qanie[2], Thomas L. Andersen[3], Li Chen[2], Nicholas Ditzel[4], Sundeep Khosla[5], Harald T. Johansen[6], Per Kjærsgaard-Andersen[7], Jean-Marie Delaisse[8], Basem M. Abdallah[9], Daniel Hesselson[10], Rigmor Solberg[6], Moustapha Kassem[2]. [1]Department of Cellular & Molecular Medicine, University of Copenhagen, Denmark, [2]Endocrine Research Laboratory (KMEB), Odense University Hospital & University of Southern Denmark, Denmark, [3]Department of Clinical Cell Biology (KCB) Institute of Regional Health Science University of Southern Denmark, Denmark, [4]Endocrine Research Laboratory (KMEB), Odense University Hospital & University of Southern Denmark., Denmark, [5]Endocrine Research Unit, Mayo Clinic College of Medicine., United states, [6]Department of Pharmaceutical Biosciences, School of Pharmacy, University of Oslo, Norway, [7]Department of Orthopaedic Surgery, Vejle/Lillebaelt Hospital, Denmark, [8]Department of Clinical Cell Biology, Vejle/ Lillebaelt Hospital, Institute of Regional Health Research, University of Southern Denmark, Denmark, [9]Department of Endocrinology & Metabolism, Endocrine Research Laboratory (KMEB), Odense University Hospital & University of Southern Denmark, Denmark, [10]St Vincent's Clinical School, UNSW, Australia

Disclosures: Abbas Jafari, None

FR0153 **TUT7/ZCCHC6 is a novel regulator of matrix mineralization and osterix activity in osteoblasts**

Gregory Sondag*[1], Mohammad Khan[1], Mohammad Ansari[2], Nazar Hussein[3], Sara Haynie[1], Fayez Safadi[1], Tariq Haqqi[1]. [1]Northeast Ohio Medical University, United states, [2]Northeast Ohio Medical, United states, [3]Kent State University, United states

Disclosures: Gregory Sondag, None

FR0154 **Pyk2-Deletion Potentiates Osteoblast Differentiation and Mineralization By Estrogen and Raloxifene**

Sumana Posritong*[1], Pierre P. Eleniste[1], Evan R. Himes[2], Melissa A. Kacena[2], Angela Bruzzaniti[1]. [1]Indiana University School of Dentistry, United states, [2]Indiana University School of Medicine, United states

Disclosures: Sumana Posritong, None

FR0155 **A novel Osteoblast Differentiation inhibiting lncRNA, AK138929**

Chong Yin*[1], Yan Zhang[1], Kun Yan[1], Zhihao Chen[1], Dijie Li[1], Fan Zhao[1], Lifang Hu[1], Yonghua Wang[2], Ge Zhang[3], Peng Shang[1], Airong Qian[1]. [1]School of Life Sciences, Northwestern Polytechnical University, China, [2]School of Life Sciences, Northwest A&F University, China, [3]School of Chinese Medicine, Hong Kong Baptist University, Hong kong

Disclosures: Chong Yin, None

FR0157 **Epigenetic Regulation of Osteoblast Differentiation by Vitamin C Involving Prolyl Hydroxylase Domain-containing Protein 2 (PHD2)**

Richard Lindsey*[1], Shaohong Cheng[2], Sheila Pourteymoor[2], Catrina Alarcon[2], Subburaman Mohan[1]. [1]VA Loma Linda Healthcare System; Loma Linda University, United states, [2]VA Loma Linda Healthcare System, United states

Disclosures: Richard Lindsey, None

FR0158 **miR-1254 inhibits expression of sclerostin in human osteoblastic cell lines**

Osman M Azuraidi*, Peter Wilson, Kasia Goljanek-Whysall., Jane P Dillon, Nick Rhodes, James A Gallagher. University of Liverpool, United Kingdom

Disclosures: Osman M Azuraidi, None

FR0159 **Modulation of the histone H3K27 methyltransferase EZH2 stimulates WNT, PTH and BMP2-related paracrine signaling to promote osteogenesis**

Christopher Paradise*, Amel Dudakovic, Martina Gluscevic, Farah Ahmed, Eric Lewallen, Roman Thaler, Andre van Wijnen. Mayo Clinic, United states

Disclosures: Christopher Paradise, None

FR0160 **Protein Kinase D1 Plays an Important Role in Osteogenesis**
Wendy Bollag*[1], Vivek Choudhary[1], Qing Zhong[1], Kehong Ding[1], Jianrui Xu[1], Lakiea Bailey[1], Maribeth Johnson[1], Yun Su[1], Mohammed Elsalanty[2], Meghan McGee-Lawrence[1], Xingming Shi[1], Carlos Isales[1]. [1]Medical College of Georgia at Augusta University, United states, [2]Augusta University, United states
Disclosures: Wendy Bollag, None

FR0165 **ICOS-Ligand Triggering Impairs Osteoclast Differentiation and Function**
CASIMIRO L GIGLIOTTI[1], ELENA BOGGIO[1], NAUSICAA CLEMENTE[1], Chiara Dianzani[2], Annalisa Chiocchetti[1], Renzo Boldorini[1], Michela Bosetti[3], Giancarlo Isaia[4], Patrizia D'Amelio*[4], Umberto Dianzani[1]. [1]Interdisciplinary Research Center of Autoimmune Diseases (IRCAD) & Department of Health Sciences, University of Piemonte Orientale (UPO), Italy, [2]Department of Drug Science & Technology, University of Torino, Italy, [3]Departamento de Medicina Celular y Molecular, Centro de Investigaciones Biologicas, Consejo Superior de Investigaciones Cientıficas, Spain, [4]Dept of Medical Science University of Torino, Italy
Disclosures: Patrizia D'Amelio, None

FR0166 **Osteoclast Vitamin D Receptor Increases Bone Resorption and Regulates Osteoblast Activity in vivo**
Na-Rae Park*[1], Da-In Yeo[2], Gyeong-Hwa Kim[2], Xiangguo Che[1], Yu-ra Choi[2], Clara Yongjoo Park[2], Shigeaki Kato[3], Je-Yong Choi[2]. [1]Department of Biochemistry & Cell Biology, Kyungpook National University School of Medicine, Daegu, South Korea, Korea, republic of, [2]Department of Biochemistry & Cell Biology, BK21 PLUS KNU Biomedical Convergence Program, Kyungpook National University , School of Medicine, Daegu, South Korea, Korea, republic of, [3]Soma Central Hospital, Fukushima, Japan, Japan
Disclosures: Na-Rae Park, None

FR0167 **ASBMR 2016 Felix Bronner Young Investigator Award**
Osteoclast-Secreted Slit3 as a Novel Regulator Linking Bone Resorption and Formation
Beom-Jun Kim*[1], Young-Sun Lee[2], Sun-Young Lee[2], Seung Hun Lee[1], Jung-Eun Kim[3], Eun-Ju Chang[4], Seung-Whan Kim[5], Sung Ho Ryu[6], Sun-Kyeong Lee[7], Joseph A Lorenzo[8], Seong Hee Ahn[9], Hyeonmok Kim[1], Jung-Min Koh[1]. [1]Division of Endocrinology & Metabolism, Asan Medical Center, University of Ulsan College of Medicine, Korea, republic of, [2]Asan Institute for Life Sciences, Korea, republic of, [3]Department of Molecular Medicine, Cell & Matrix Research Institute, Kyungpook National University School of Medicine, Korea, republic of, [4]Department of Anatomy & Cell Biology, Cellular Dysfunction Research Center & BMIT, University of Ulsan College of Medicine, Korea, republic of, [5]Department of Pharmacology, University of Ulsan College of Medicine, Korea, republic of, [6]Department of Life Science & Division of Molecular & Life Sciences, Pohang University of Science & Technology, Korea, republic of, [7]UConn Center on Aging, University of Connecticut Health Center, United states, [8]Division of Endocrinology, Department of Medicine, University of Connecticut Health Center, United states, [9]Department of Internal Medicine, Inha University School of Medicine, Korea, republic of
Disclosures: Beom-Jun Kim, None

FR0170 **Osteoclasts as an intracellular growth niche for *Staphylococcus aureus***
Jennifer Krauss*[1], Emily Goering[2], Deborah Novack[1]. [1]Washington University School of Medicine, United states, [2]Washington University, United states
Disclosures: Jennifer Krauss, None

FR0172 **The Lipid Phosphatase Inpp4b Modulates Bone Homeostasis Through the PKCβ/GSK-3β Signaling Pathway**
Lina Saad*, Monica Pata, Jean Vacher. IRCM, Canada
Disclosures: Lina Saad, None

FR0173 **Towards a gene regulatory network in the feedback inhibition of osteoclasts by CD8 T cells**
Elena Shashkova*[1], Anna Cline-Smith[1], Jahnavi Trivedi[1], Chloe Ferris[1], Zachary Buchwald[2], Jesse Gibbs[3], Deborah Novack[3], Rajeev Aurora[1]. [1]Saint Louis University, United states, [2]Emory University School of Medicine, United states, [3]Washington University School of Medicine, United states
Disclosures: Elena Shashkova, None

FR0174 **Novel critical role for EZH2-increased H3K27 trimethylation and C/EBPβ-LAP to LIP switch at the MafB promoter during the early phase of osteoclastogenesis**
Juraj Adamik*, Peng Zhang, Quanhong Sun, Deborah L. Galson. University of Pittsburgh, United states
Disclosures: Juraj Adamik, None

FR0175 **Comparative roles of c-Fos and C/EBPα in osteoclast differentiation through regulation by the RANK cytoplasmic IVVY538-538 motif in a RBP-J downregulation manner**
Joel Jules*, Wei Chen, Yi-Ping Li. University of Alabama at Birmingham, United states
Disclosures: Joel Jules, None

FR0176 **Notch2 Expression is Required for Spleen B Cell Allocation and Osteoclastogenesis**
Archana Sanjay*, Bhavita Walia, Jungeun Yu, Stefano Zanotti, Ernesto Canalis. UConn Health, United states
Disclosures: Archana Sanjay, None

FR0177 **Similarities between IL8 and RANKL Stimulation of Osteoclast Formation Suggests a Highly Conserved Signaling Cascade that Facilitates Bone Resorption in Breast Cancer**
Diarra Williams*[1], Archana Kamalakar Kamalakar[1], Nisreen Akel[1], Frances Swain[2], Dana Gaddy[1], Larry Suva[1]. [1]Texas A&M University, United states, [2]Texas A&M University, United Kingdom
Disclosures: Diarra Williams, None

FR0178 **Deletion of Mitofusin-2 in Osteocytes Causes a Profound Skeletal Phenotype Characterized by Reduced Bone Turnover**
Meiling Zhu*, Ben-hua Sun, Christine Simpson, Steven Tommasini, Karl Insogna. Yale University School of Medicine, United states
Disclosures: Meiling Zhu, None

FR0179 **Deletion of YAP and TAZ in Osteoblasts and Osteocytes Suppresses Bone Formation and Reduces Bone Mass**
Jinhu Xiong*, Marilina Piemontese, Yu Liu, Yuko Fujiwara, Priscilla Baltz, Charles O'Brien. University of Arkansas for Medical Sciences, United states
Disclosures: Jinhu Xiong, None

FR0180 **HDAC5 is required for loading-induced sclerostin down-regulation**
Marc Wein*[1], Elizabeth Williams[1], Maureen O'Meara[1], Belinda Beqo[1], Leah Worton[2], Edith Gardiner[2], Paola Divieti-Pajevic[3], Ted Gross[2], Henry Kronenberg[1]. [1]Massachusetts General Hospital, United states, [2]University of Washington, United states, [3]Boston University, United states
Disclosures: Marc Wein, None

FR0181 **Increased Wnt/β-catenin Signaling and Decreased Osteoclastogenic Potential of Osteocytic Cells Lacking Cx37**
Rafael Pacheco-Costa*, Iraj Hassan, Lilian Plotkin. Indiana University School of Medicine, United states
Disclosures: Rafael Pacheco-Costa, None

FR0182 **Osteocyte-Driven Perilacunar Remodeling is Impaired in Glucocorticoid Induced Osteonecrosis**
Tristan Fowler*[1], Claire Acevedo[1], Courtney Mazur[1], Faith Hall-Glenn[1], Aaron Fields[1], Hrishkesh Bale[2], Robert Ritchie[2], Jeffrey Lotz[1], Thomas Vail[1], Tamara Alliston[1]. [1]University of California San Francisco, United states, [2]Lawrence Berkeley National Laboratory, United states
Disclosures: Tristan Fowler, None

FR0183 **Osteocytes Utilize Lacunar Acidification to Remove Calcium from Their Perilacunar Matrix During Lactation**
Katharina Jähn*[1], Shilpa Kelkar[2], Hong Zhao[2], Yixia Xie[2], LeAnn M Tiede-Lewis[2], Vladimir Dusevich[2], Sarah L Dallas[2], Lynda F Bonewald[2]. [1]University Medical Center Hamburg-Eppendorf, Germany, [2]University of Missouri-Kansas City, United states
Disclosures: Katharina Jähn, None

FR0185 **Acute in vivo osteocyte responses to mechanical load in mice bearing a genetic intracellular calcium sensor: recruitment of responding cells depends on both strain magnitude and loading frequency**
Karl J Lewis*[1], Joyce Louie[1], Samuel Stephen[1], Zeynep Seref-Ferlengez[2], David C Spray[2], Mia M Thi[2], Robert J Majeksa[1], Sheldon Weinbaum[1], Mitchell B Schaffler[1]. [1]Dept. of Biomedical Engineering, City College of New York, United states, [2]Dept. of Neuroscience, Albert Einstein College of Medicine, United states
Disclosures: Karl J Lewis, None

FR0187 **Vitamin D regulates perilacunar remodeling and osteocyte survival in human and murine bone**
Tim Rolvien*[1], Björn Busse[2], Klaus Püschel[3], Matthias Krause[4], Marie B. Demay[5], Michael Amling[2]. [1]Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Hamburg, Germany, Germany, [2]Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, [3]Department of Legal Medicine, University Medical Center Hamburg-Eppendorf, Hamburg, Germany, Germany, [4]Department of Trauma & Reconstructive Surgery, Asklepios Clinic St. Georg, Hamburg, Germany, Germany, [5]Endocrine Unit, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts 02114, United states
Disclosures: Tim Rolvien, None

FR0196 **Trabecular bone score (TBS) reference values from all combination of lumbar vertebrae in dual-energy absorptiometry (DXA) from NHANES 2005-2008 multiethnic Survey**
Bo Fan*, John Shepherd. University of California San Francisco, United states
Disclosures: Bo Fan, None

FR0204 **ASBMR 2016 Annual Meeting Young Investigator Award**
Accuracy of MRI-Based Measures of Bone Strength Compared to Direct Mechanical Testing
Elizabeth A. Kobe*, Olivia M. Teter, Michelle Slinger, Karyll Davis, Abigail Hong, Chamith S. Rajapakse, Felix W. Wehrli. University of Pennsylvania Perelman School of Medicine (Radiology), United states
Disclosures: Elizabeth A. Kobe, None

FR0205 **ASBMR 2016 Annual Meeting Young Investigator Award**
Assessment of bone strength and cortical porosity in a group of premenopausal women with celiac disease after 3-years on gluten-free diet
María Belen Zanchetta[1], Vanesa Carla Longobardi*[1], Fernando Silveira[2], Florencia Costa[1], Cesar Bogado[3], Julio Cesar Bai[1], Jose R Zanchetta[1]. [1]MD, Argentina, [2]PH, Argentina, [3]PHD, Argentina
Disclosures: Vanesa Carla Longobardi, None

FR0216 **Weight Change in Men in Late Life and Bone Microarchitecture at the Distal Tibia**
Kristine Ensrud*[1], Tien Vo[2], Lisa Langsetmo[2], Andrew Burghardt[3], John Schousboe[2], Jane Cauley[4], Sharmila Majumdar[3], Brent Taylor[1], Andrew Hoffman[5], Eric Orwoll[6]. [1]University of Minnesota / VA Health Care System, United states, [2]University of Minnesota, United states, [3]University of California, United states, [4]University of Pittsburgh, United states, [5]Stanford University, United states, [6]Oregon Health & Science University, United states
Disclosures: Kristine Ensrud, None

FR0218 **Accelerated Bone Loss at the Hip: Association with Increased Risk of Subsequent Mortality in Older Men**
Peggy Cawthon[1], Eric Orwoll*[2], Sheena Patel[1], Susan Ewing[3], Kristine Ensrud[4], Jane Cauley[5], Jennifer Lyons[6], Lisa Fredman[6], Deborah Kado[7], Andrew Hoffman[8]. [1]California Pacific Medical Center Research Institute, United states, [2]Bone & Mineral Unit, Oregon Health & Science University, United states, [3]University of California San Francisco, United states, [4]University of Minnesota & Minneapolis VA Health Care System, United states, [5]University of Pittsburgh, United states, [6]Boston University School of Public Health, United states, [7]University of California San Diego, United states, [8]Stanford University & VA Palo Alto Health Care System, United states
Disclosures: Eric Orwoll, None

FR0220 **Genome-Wide Association Study of DNA Methylation Identifies a Novel Locus Associated with Bone Mineral Density**

John Morris*[1], Pei-Chien Tsai[2], Yi-Hsiang Hsu[3], Roby Joehanes[3], Jie Zheng[4], Katerina Trajanoska[5], Mette Soerensen[6], Vincenzo Forgetta[7], Kaare Christensen[6], Lene Christiansen[6], Tim Spector[2], Fernando Rivadeneira[5], Jonathan Tobias[4], David Evans[4], Douglas Kiel[3], Brent Richards[1], Jordana Bell[2]. [1]Department of Human Genetics, McGill University, Canada, [2]Department of Twin Research & Genetic Epidemiology, King's College London, United Kingdom, [3]Department of Medicine, Institute for Aging Research, Hebrew SeniorLife, BIDMC, & Harvard Medical School, United states, [4]MRC Integrative Epidemiology Unit, University of Bristol, United Kingdom, [5]Department of Epidemiology, Erasmus Medical Center, Netherlands, [6]The Danish Twin Registry, Epidemiology, Institute of Public Health, University of Southern Denmark, Denmark, [7]Centre for Clinical Epidemiology, Lady Davis Institute, Jewish General Hospital, McGill University, Canada

Disclosures: John Morris, None

FR0223 **Biochemical Markers of Inflammation Associated with Increased Mortality in Hip Fracture Patients**

Debbie Norring-Agerskov*[1], Lise Bathum[1], Ole Vesterager Pedersen[2], Jes Bruun Lauritzen[3], Henrik Jørgensen[4], Niklas Rye Jørgensen[5]. [1]Department of Clinical Biochemistry, Hvidovre Hospital, University of Copenhagen, Denmark, [2]Department of Clinical Immunology, Næstved Sygehus, Denmark, [3]Department of Orthopaedic Surgery, Bispebjerg Hospital, University of Copenhagen, Denmark, [4]Department of Clinical Biochemistry, Bispebjerg Hospital, University of Copenhagen, Denmark, [5]Department of Clinical Biochemistry, Rigshospitalet Glostrup, University of Copenhagen, Denmark

Disclosures: Debbie Norring-Agerskov, None

FR0224 **Fracture Risk After Bariatric Surgery: Roux-en-Y Gastric Bypass Versus Adjustable Gastric Banding**

Elaine Yu*[1], Moa Park[2], Joan Landon[2], Seoyoung Kim[2]. [1]Endocrine Unit, Massachusetts General Hospital, United states, [2]Division of Pharmacoepidemiology & Pharmacoeconomics, Brigham & Women's Hospital, United states

Disclosures: Elaine Yu, None

FR0225 **Fracture Risk Assessment In Long term care: FRAIL**

Sarah Berry*[1], Yoojin Lee[2], Andrew Zullo[2], Vincent Mor[2], Kevin McConeghy[2], Geetanjoli Banerjee[2], Ralph D'Agostino[3], Douglas Kiel[1]. [1]Hebrew SeniorLife & BIDMC, United states, [2]Brown University, United states, [3]Boston University, United states

Disclosures: Sarah Berry, Amgen, 13

FR0227 **Vertebral Fractures have Similar Impact as hip Fractures on the Progression of Frailty**

Olga Gajic-Veljanoski*[1], Jonathan D. Adachi[2], Courtney Kennedy[3], George Ioannidis[4], Claudie Berger[5], Andy Kin On Wong[6], Kenneth Rockwood[7], Susan Kirkland[7], Parminder Raina[8], Lehana Thabane[8], Alexandra Papaioannou[1], The CaMos Research Group[5]. [1]McMaster University & Hamilton Health Sciences/St. Peter's Hospital – GERAS Centre, Canada, [2]McMaster University & St. Joseph's Healthcare Hamilton, Canada, [3]Hamilton McMaster UniversiMcMaster University & Health Sciences/St. Peter's Hospital - GERAS Centre, Canada, [4]McMaster University &Hamilton Health Sciences/St. Peter's Hospital – GERAS Centre, Canada, [5]Camos – McGill University, Canada, [6]University Health Network, Canada, [7]Dalhousie University, Canada, [8]McMaster University, Canada

Disclosures: Olga Gajic-Veljanoski, None

FR0228 **Estrogen-Containing Contraceptives are Associated with Reduced Risk of Stress Fracture in Female Soldiers**

Kristin L. Popp*[1], Julie M. Hughes[2], Craig J. McKinnon[2], Kathryn E. Ackerman[3], Joseph R. Kardouni[2], Katelyn I. Guerriere[2], Ronald W. Matheny, Jr.[2], Mary L. Bouxsein[4]. [1]Endocrine Unit, Massachusetts General Hospital & Harvard Medical School, United states, [2]Military Performance Division, United States Army Research Institute of Environmental Medicine, United states, [3]Divisions of Sports Medicine & Endocrinology, Boston Children's Hospital, Endocrine Unit, Massachusetts General Hospital, & Harvard Medical School, United states, [4]Endocrine Unit, Massachusetts General Hospital, Harvard Medical School & Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, Department of Orthopaedic Surgery, United states

Disclosures: Kristin L. Popp, None

FR0229 **Pubertal timing predicts adult non-vertebral fracture risk in men – the BEST cohort**
Claes Ohlsson*[1], Maria Bygdell[1], Liesbeth Vandenput[1], Dan Mellström[1], Arvid Sonden[2], Jenny Kindblom[1]. [1]Center for Bone & Arthritis Research, Institute of Medicine, the Sahlgrenska Academy at Gothenburg University, Sweden, [2]Bioinformatics Core Facility, Sahlgrenska Academy at University of Gothenburg, Sweden
Disclosures: Claes Ohlsson, None

FR0230 **2016 ASBMR Fund for Research and Education Young Investigator Award**
The Effects of Cross-sex Hormonal Treatment in Transgender Persons on their Bone Mineral Density: a 1 year Prospective Observational Study
Chantal Wiepjes*, Mariska Vlot, Maartje Klaver, Paul Lips, Renate de Jongh, Annemieke Heijboer, Martin den Heijer. VU Medisch Centrum, Netherlands
Disclosures: Chantal Wiepjes, None

FR0231 **CHANGE IN BONE STRUCTURE WITH AGE AS ASSESSED BY PERIPHERAL QUANTITATIVE COMPUTED TOMOGRAPHY AND RELATIONSHIPS WITH MUSCLE IN OLDER MEN AND WOMEN**
Elaine Dennison*, Kate Ward, Karen Jameson, Mark Edwards, Cyrus Cooper. MRC Lifecourse Epidemiology Unit, United Kingdom
Disclosures: Elaine Dennison, None

FR0232 **Gender differences in proximal femur shape: findings from a population based study in adolescents**
Monika Frysz*[1], Denis Baird[2], Jennifer S Gregory[3], Rebecca J Barr[3], Richard M Aspden[3], Lavinia Paternoster[1], Jon H Tobias[2]. [1]School of Social & Community Medicine, University of Bristol, UK; MRC Integrative Epidemiology Unit at the University of Bristol, UK, United Kingdom, [2]Musculoskeletal Research Unit, School of Clinical Sciences, University of Bristol, UK, United Kingdom, [3]Arthritis & Musculoskeletal Medicine, Institute of Medical Sciences, University of Aberdeen, UK, United Kingdom
Disclosures: Monika Frysz, None

FR0233 **High Risk of Second Fracture within 1, 2, 5 years after Prior Fracture among Women 65 years or Older**
Akhila Balasubramanian[1], Jie Zhang[2], Lang Chen[2], Deborah Wenkert[1], Shanette G Daigle[2], Andreas Grauer[1], Jeffrey R Curtis*[2]. [1]Amgen, United states, [2]University of Alabama at Birmingham, United states
Disclosures: Jeffrey R Curtis, Janssen, 13; Amgen, 14; Crescendo, 13; Janssen, 14; Pfizer, 14; BMS, 14; Corrona, 13; BMS, 13; Roche/Genentech, 14; Coronna, 14; Crescendo, 14; Pfizer, 13; Roche/Genentech, 13; AbbVie, 13; Amgen, 13; UCB, 13; AbbVie, 14; UCB, 14

FR0234 **Imminent Risk of Clinical Vertebral Fracture After Fracture (Reykjavik Study)**
Helena Johansson*[1], Kristín Siggeirsdóttir[2], Nicholas C Harvey[3], Anders Odén[1], Vilmundur Gudnason[2], Eugene McCloskey[1], Gunnar Sigurdsson[2], John Kanis[1]. [1]Centre for Metabolic Bone Diseases, University of Sheffield, United Kingdom, [2]Icelandic Heart Association, Kopavogur, Iceland, [3]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom
Disclosures: Helena Johansson, None

FR0235 **Kidney Function and Fracture Risk among Older Male Veterans**
Rasheeda Hall[1], Rick Sloane[1], Robert Adler[2], Kenneth Lyles[1], Joanne LaFleur[3], Cathleen Colon-Emeric*[1]. [1]Duke University, United states, [2]Richmond VAMC, United states, [3]University of Utah, United states
Disclosures: Cathleen Colon-Emeric, None

FR0236 **Lower TBS Score is a Risk Factor for Atypical Femur Fractures but not Independent of Duration of Antiresorptive Therapy**
Andy Kin On Wong*[1], K. Shawn Davison[2], William D. Leslie[3], Jonathan D. Adachi[4], Jacques P. Brown[5], Robert G. Josse[6], Aliya Khan[4], Angela M. Cheung[1]. [1]University Health Network, Canada, [2]University of Victoria, Canada, [3]University of Manitoba, Canada, [4]McMaster University, Canada, [5]Laval University, Canada, [6]St. Michael's Hospital, Canada
Disclosures: Andy Kin On Wong, None

FR0237 **Prediction of two-year risk of fracture among older US women**
Annette Adams*[1], Eric Johnson[2], Hui Zhou[1], Robert Platt[3], Deborah Wenkert[4], Steven Jacobsen[1], Akhila Balasubramanian[4]. [1]Kaiser Permanente Southern California, United states, [2]The Center for Health Research, United states, [3]McGill University Health Center Research Institute, Canada, [4]Amgen Inc, United states
Disclosures: Annette Adams, Amgen Inc, 13; Otsuka, 13; Merck, 13

FR0240 **Impact of Frailty on Health Care Services Use among Non-institutionalized Quebec Seniors with Non-hip Fracture: a Population-based Study using Administrative Databases**
Vanessa Fillion[1], Marie-Josée Sirois[1], Suzanne N Morin[2], Philippe Gamache[3], Sonia Jean*[3]. [1]Laval University, Canada, [2]McGill University, Canada, [3]INSPQ, Canada
Disclosures: Sonia Jean, None

FR0245 **The Activating Patients at Risk for OsteoPOroSis (APROPOS) Study: a Randomized Trial within the GLOW Cohort**
Maria Danila*[1], Ryan Outman[1], Elizabeth Rahn[1], Amy Mudano[1], David Redden[1], Peng Li[1], Fred Anderson[2], Jeffrey Curtis[1], Susan Greenspan[3], Andrea LaCroix[4], Michael Miller[5], Jeri Nieves[6], Stuart Silverman[7], Amy Warriner[1], Nelson Watts[8], Nicole Wright[1], Kenneth Saag[1]. [1]The University of Alabama at Birmingham, United states, [2]University of Massachusetts Medical School, United states, [3]University of PIttsburgh, United states, [4]University of California San Diego, United states, [5]University of Oklahoma, United states, [6]Helen Hayes Hospital, United states, [7]Cedars Sinai Hospital, United states, [8]Mercy Health, United states
Disclosures: Maria Danila, None

FR0247 **Calcium and Vitamin D Supplementation Leads to Greater Improvements in Trabecular Bone Microarchitecture in Young Adults undergoing Initial Military Training**
Erin Gaffney-Stomberg*[1], Katelyn Guerriere[1], Sonya Cable[2], Mary Bouxsein[3], Julie Hughes[1], James McClung[1]. [1]USARIEM, United states, [2]WAMC, United states, [3]Harvard Medical School, United states
Disclosures: Erin Gaffney-Stomberg, None

FR0250 **Effects of Low-fat Dairy Foods on Bone and Body Composition, Lipid Profile and Pro-inflammatory Markers in Overweight/Obese Women During the Weight Loss Regimen**
Ashley Carter*[1], Pei-Yang Liu[2], Hyehyung Shin[3], Youjin Kim[4], Jasminka Ilich[1]. [1]Florida State University, United states, [2]University of Akron, United states, [3]Samsung Life Insurance, Korea, democratic people's republic of, [4]The State University of New Jersey, United states
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FR0251 **High Impact Mechanical Loading Increases Bone Material Strength – Results from a 3-Month Intervention Study**
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Disclosures: Daniel Sundh, None

FR0252 **High Intensity Progressive Resistance Training for 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 & Menzies Health Institue Queensland, Griffith University, Gold Coast, Australia, Australia, [2]The Bone Clinic, Brisbane, Australia, Australia
Disclosures: Steven Watson, None

FR0258 **LGG and VSL#3 Probiotics Prevent Ovariectomy Induced Bone Loss and Induce Bone Anabolism in Normal Mice by Decreasing Gut Permeability and Inducing Wnt10b Production**
Jau-Yi Li*[1], Abdul Malik Tyagi[1], Emory Hsu[1], Marcelo Steiner[1], Jonathan Adams[1], Rheinallt Jones[2], Roberto Pacifici[1]. [1]Emory University, School of Medicine, United states, [2]Department of Pediatrics, Emory University, United states
Disclosures: Jau-Yi Li, None

FR0259 **The Gut Microbiome Influences Bone Strength and Regulates Differences in Bone Biomechanical Phenotype Among Inbred Mouse Strains**
Jason Guss*[1], Michael Horsfield[1], Fernanda Fontenele[1], Taylor Sandoval[1], Marysol Luna[1], Fnu Apoorva[1], Svetlana Lima[1], Rodrigo Bicalho[1], Marjolein van der Meulen[1], Ankur Singh[1], Ruth Ley[1], Steven Goldring[2], Christopher Hernandez[1]. [1]Cornell University, United states, [2]Hospital for Special Surgery, United states
Disclosures: Jason Guss, None

FR0260 **Delayed bone healing in type 1 diabetic rats is ameliorated by insulin treatment**
Ariane Zamarioli*[1], Francisco de Paula[1], Maysa Campos[1], Raquel Silva[2], José Volpon[1]. [1]School of Medicine of Ribeirão Preto, Brazil, [2]School of Dentistry of Ribeirão Preto, Brazil
Disclosures: Ariane Zamarioli, None

FR0261 **Different Effects of Absence of Complement Component 3 and Anaphylatoxin Receptors on Tissue-Level Properties of Bone**
Danielle MacKay*[1], Thomas Kean[1], Kristina Bernardi[2], Heather Haeberle[3], Catherine Ambrose[4], Feng Lin[5], James Dennis[1]. [1]Baylor College of Medicine, United states, [2]Seattle Children's Hospital, United states, [3]University of Texas, United states, [4]University of Texas Health Science Center at Houston, United states, [5]Cleveland Clinic Lerner Research Institute, United states
Disclosures: Danielle MacKay, None

FR0263 **S-Allylmercapro-N-Acetylcysteine Modulates Stromal Bone Marrow Cells and Bone Structure in Adult Healthy and Diabetic Mice**
Naphtali Savion*, Reem Abu-Kheit, Shlomo Kotev-Emeth, Yankel Gabet. Sackler Faculty of Medicine, Tel Aviv University, Israel
Disclosures: Naphtali Savion, None

FR0265 **Bone Loss After Roux-en-Y Gastric Bypass in Mice is Independent of Weight Loss**
Elaine Yu*[1], Joseph Brancale[2], Matthew Scott[1], Daniel Brooks[1], Scott Lajoie[2], Lee Kaplan[2], Mary Bouxsein[1]. [1]Endocrine Unit, Massachusetts General Hospital, United states, [2]Obesity, Metabolism & Nutrition Institute, Massachusetts General Hospital, United states
Disclosures: Elaine Yu, None

FR0266 **Irreversible Deterioration of Cortical and Trabecular Microstructure Associated with Breastfeeding**
Ashild Bjornerem*[1], Ali Ghasem-Zadeh[2], Xiaofang Wang[2], Minh Bui[2], Susan P Walker[2], Roger Zebaze[2], Ego Seeman[2]. [1]UiT The Arctic University of Norway, Australia, [2]University of Melbourne, Australia
Disclosures: Ashild Bjornerem, None

FR0268 **A unique peptide containing the heparin binding domain of IGFBP-2 increases bone mass in ovariectomized (OVX) rats**
Gang Xi*[1], Christine Wai[1], Thierry Abribat[2], Thomas Delale[2], Victoria DeMambro[3], Clifford Rosen[3], David Clemmons[1]. [1]University of North Carolina at Chapel Hill, United states, [2]Alize Pharma III, France, [3]Maine Medical Center Research Institute, United states
Disclosures: Gang Xi, Alize Pharma III, 13

FR0272 **Biopsy-based bone remodeling characteristics of premenopausal women with idiopathic osteoporosis on selective serotonin reuptake inhibitors (SSRIs)**
Adi Cohen*[1], Mafo Kamanda-Kosseh[1], Donald McMahon[1], David Dempster[2], Hua Zhou[2], Joan Lappe[3], Robert Recker[3], Julie Stubby[3], Mariana Bucovsky[1], Elizabeth Shane[1]. [1]Columbia University, United states, [2]Helen Hayes Hospital, United states, [3]Creighton University, United states
Disclosures: Adi Cohen, None

FR0275 **Bone Loss Countermeasures for Long Duration Spaceflight**

Elisabeth Spector*[1], Toshio Matsumoto[2], Jeffrey Jones[3], Jay Shapiro[4], Thomas Lang[5], Linda Shackelford[6], Scott M. Smith[6], Harlan Evans[1], Robert Ploutz-Snyder[7], Jean Sibonga[6], Joyce Keyak[8], Toshi Nakamura[9], Kenjiro Kohri[10], Hiroshi Ohshima[11], Gilbert Moralez[12], Adrian LeBlanc[13]. [1]Wyle Science, Technology & Engineering Group, United states, [2]U of Tokushima Graduate School of Medicine, Japan, [3]Baylor College of Medicine, United states, [4]Kennedy Krieger Institute, United states, [5]UCSF, United states, [6]NASA Johnson Space Center, United states, [7]Universities Space Research Association, United states, [8]U of California at Irvine, United states, [9]U of Occupational & Environmental Health, Japan, [10]Nagoya City U, Japan, [11]JAXA, Japan, [12]U of N Texas Health Science Center, United states, [13]Baylor College of Medicine & Universities Space Research Association, United states

Disclosures: Elisabeth Spector, None

FR0284 **Effect of Teriparatide or Risedronate in BMD and Fracture Recovery in Elderly Patients with a Recent Pertrochanteric Hip Fracture: Final Results of a 78-week Randomized Clinical Trial**

Jorge Malouf*[1], Umberto Tarantino[2], Per Aspenberg[3], Søren Overgaard[4], Costantino Corradini[5], Jan Stepan[6], Lars Borris[7], Pedro García-Hernández[8], Eric Lespessailles[9], Frede Frihagen[10], Kyriakos Papavasiliou[11], Helmut Petto[12], José Ramón Caeiro[13], Fernando Marin[14]. [1]Internal Medicine; Hospital San Pablo, Spain, [2]Orthopaedic Surgery; University Tor Vergata, Italy, [3]Department of Clinical & Experimental Medicine, Linköping University, Sweden, [4]Orthopaedic Surgery, University of Southern Denmark, Denmark, [5]Orthopaedic Institute Gaetano Pini, Italy, [6]Institute of Rheumatology, Charles University, Czech republic, [7]Orthopaedic Surgery, University Hospital, Denmark, [8]Osteoporosis Center, University Hospital, Mexico, [9]IPROS Unit, Hôpital Porte Madeleine, France, [10]Orthopaedic Surgery, University Hospital, Norway, [11]Orthopaedic Surgery, Aristotle University, Greece, [12]Eli Lilly Austria GmbH, Austria, [13]Orthopaedic Surgery, University Hospital, Spain, [14]Eli Lilly Research Centre Ltd, Erl Wood Manor, United Kingdom

Disclosures: Jorge Malouf, None

FR0286 **Relative Efficacy of Prompt Follow-up Therapy in Postmenopausal Women Completing the Denosumab and Teriparatide Administration (DATA) Study**

Benjamin Leder*, Linda Jiang, Joy Tsai. Massachusetts General Hospital, United states

Disclosures: Benjamin Leder, Amgen, 13; Amgen, 14; Lilly, 13; Merck, 14; Lilly, 14

FR0288 **The Risk of Subsequent Osteoporotic Fractures Is Decreased in Patients Experiencing Fracture While on Denosumab: Results From the FREEDOM and FREEDOM Extension Studies**

DL Kendler*[1], A Chines[2], ML Brandi[3], S Papapoulos[4], EM Lewiecki[5], J-Y Reginster[6], C Roux[7], M Munoz Torres[8], A Wang[2], HG Bone[9]. [1]University of British Columbia, Canada, [2]Amgen Inc., United states, [3]University of Florence, Italy, [4]Leiden University Medical Center, Netherlands, [5]New Mexico Clinical Research & Osteoporosis Center, United states, [6]University of Liège, Belgium, [7]Paris Descartes University, France, [8]Hospital Universitario San Cecilio, Spain, [9]Michigan Bone & Mineral Clinic, United states

Disclosures: DL Kendler, Amgen, Eli Lilly, Astra Zeneca, Astalis, 13; Amgen, Eli Lilly, 15; Amgen, Eli Lilly, 14

FR0289 **Denosumab Treatment for 10 Years in Postmenopausal Women with Osteoporosis was Associated with Substantially Lower Fracture Incidence Relative to Their Baseline FRAX-predicted Probability**

E Siris*[1], N Pannacciulli[2], Pd Miller[3], Em Lewiecki[4], R Chapurlat[5], E Jódar Gimeno[6], Ns Daizadeh[2], Rb Wagman[2], Ja Kanis[7]. [1]Columbia University Medical Center, United states, [2]Amgen Inc., United states, [3]Colorado Center for Bone Research, United states, [4]New Mexico Clinical Research & Osteoporosis Center, United states, [5]Hôpital Edouard Herriot, France, [6]Hospital Universitario Quirónsalud Madrid, Spain, [7]University of Sheffield, United Kingdom

Disclosures: E Siris, Amgen, Merck, Radius, 14

FR0291 **Effect of Risedronate on Bone Loss due to Anastrozole Given to Prevent Breast Cancer: 5-year Results from the IBIS-II Prevention Trial**
Ivana Sestak*[1], Jack Cuzick[1], Glen Blake[2], Raj Patel[3], Robert Coleman[4], Richard Eastell[5]. [1]Centre for Cancer Prevention, Queen Mary University, United Kingdom, [2]Division of Imaging Sciences, King's College London, United Kingdom, [3]Charing Cross Hospital, United Kingdom, [4]Yorkshire Cancer Research Professor of Medical Oncology, Department of Oncology & Metabolism, Weston Park Hospital, University of Sheffield, United Kingdom, [5]Metabolic Bone Centre, Northern General Hospital, United Kingdom
Disclosures: Ivana Sestak, None

FR0294 **Fracture risk after discontinuation of denosumab**
Akeem Yusuf*[1], Haifeng Guo[1], Akhila Balasubramanian[2], Nicola Pannacciulli[2], Rachel Wagman[2], J. Michael Sprafka[2]. [1]Chronic Disease Research Group, United states, [2]Amgen Inc., United states
Disclosures: Akeem Yusuf, None

FR0296 **Pathogenesis of Atypical Femur Fractures: Analysis at Midpoint of Recruitment**
Pooja Kulkarni*[1], Mahalakshmi Honasoge[1], Elizabeth Warner[1], Arti Bhan[1], Shiri Levy[1], Heather Remtema[1], George Divine[2], Sudhaker Rao[1]. [1]Henry Ford Division of Endocrinology, Diabetes & Bone & Mineral Disorders, United states, [2]Henry Ford Public Health Services, United states
Disclosures: Pooja Kulkarni, None

FR0297 **Surgically Treated Osteonecrosis and Osteomyelitis of the jaw and Oral Cavity in Patients Highly Adherent to Alendronate Treatment. User-only National Cohort Study**
Bo Abrahamsen*[1], Pia A Eiken[2], Daniel Prieto-Alhambra[3], Richard Eastell[4]. [1]Holbæk Hospital & University of Southern Denmark, Denmark, [2]Hillerød Hospital, Denmark, [3]NIHR Musculoskeletal Biomedical Research Unit, University of Oxford, United Kingdom, [4]Metabolic Bone Centre, Northern General Hospital, United Kingdom
Disclosures: Bo Abrahamsen, Novartis, 13; UCB, 13

FR0299 **Differential Effects of Odanacatib Therapy on Markers of Bone Resorption and Formation in Postmenopausal Women with Osteoporosis: A Subgroup Study of the 5-Year Data from the Extension of the Phase 3 Long-Term Odanacatib Fracture Trial (LOFT)**
Le T. Duong*[1], Maureen Pickarski[1], Seth Clark[1], Hilde Giezek[2], Dosinda Cohn[1], Rachid Massaad[2], S. Aubrey Stoch[1]. [1]Merck & Co., Inc., United states, [2]MSD Europe Inc., Belgium
Disclosures: Le T. Duong, Merck & Co (employment), 17

FR0304 **Soluble Interleukin-6 receptor released by osteocytes promotes bone formation and maintains trabecular bone mass by *trans*-signaling**
Melissa Murat, Emma C Walker, Patricia Ho, Brett Tonkin, Narelle McGregor, T J Martin, Natalie A Sims*. St. Vincent's Institute of Medical Research, Australia
Disclosures: Natalie A Sims, None

FR0306 **$1,25(OH)_2D_3$ Prevents Bone Aging by Inhibiting Oxidative Stress And Inactivating p16-Rb And p53-p21 Signaling**
Renlei Yang*[1], Lulu Chen[1], Wei Zhang[1], David Goltzman[2], Dengshun Miao[1]. [1]Nanjing Medical University, China, [2]McGill University, Canada
Disclosures: Renlei Yang, None

FR0307 **A Maternal Low Protein Diet During Pregnancy and Weaning Negatively Impacts Offspring Bone Mineral Density**
Ke-Hong Ding*[1], Kunglun Yu[1], Qing Zhong[1], William Hill[1], Xingming Shi[1], Jianrui Xu[1], Wendy Bollag[1], Monte Hunter[1], Meghan McGee-Lawrence[1], Mona El Refaey[2], Maribeth Johnson[1], Mohammed Elsalanty[1], Ying Han[3], Mark Hamrick[1], Carlos Isales[1]. [1]Medical College of Georgia, United states, [2]Ohio University, United states, [3]Stomatology Hospital of Xi'an Jiaotong University, China
Disclosures: Ke-Hong Ding, None

FR0308 **Free Fatty Acid Receptor 4 (GPR120) Stimulates Bone Formation and Suppresses Bone Resorption in the Presence of Elevated *n*-3 Fatty Acid Levels**

Seong Hee Ahn*[1], Sook-Young Park[2], Ji-Eun Baek[2], Su-Youn Lee[2], Wook-Young Baek[2], Sun-Young Lee[2], Young-Sun Lee[2], Hyun Ju Yoo[3], Hyeonmok Kim[4], Seung Hun Lee[4], Dong-Soon Im[5], Sun-Kyeong Lee[6], Beom-Jun Kim[4], Jung-Min Koh[4]. [1]Department of Endocrinology & Metabolism, Inha University Hospital, Inha University School of Medicine, Korea, republic of, [2]Asan Institute for Life Sciences, Korea, republic of, [3]Biomedical Research Center, Asan Medical Center, University of Ulsan College of Medicine, Korea, republic of, [4]Division of Endocrinology & Metabolism, Asan Medical Center, University of Ulsan College of Medicine, Korea, republic of, [5]Molecular Inflammation Research Center for Aging Intervention (MRCA) & College of Pharmacy, Pusan National University, Korea, republic of, [6]UConn Center on Aging, University of Connecticut Health Center, Korea, republic of

Disclosures: Seong Hee Ahn, None

FR0310 **Competitive equilibrium-based displacement of bisphosphonates for the prevention of BRONJ**

Akishige Hokugo*[1], Shuting Sun[2], Mark Lundy[2], Charles E. McKenna[3], Frank H. Ebetino[2], Ichiro Nishimura[4]. [1]Regenerative Bioengineering & Repair (REBAR) Lab. Division of Plastic & Reconstructive Surgery Department of Surgery, David Geffen School of Medicine at UCLA, United states, [2]BioVinc LLC, United states, [3]Department of Chemistry, USC Dornsife College of Letters, Arts & Sciences, United states, [4]Weintraub Center for Reconstructive Biotechnology, UCLA School of Dentistry, United states

Disclosures: Akishige Hokugo, None

FR0311 **Maxillary Periodontitis and Osteonecrosis of the Jaw-Like Lesions in Rice Rats (*Oryzomys palustris*) Fed a Standard Diet and Treated with Zoledronic Acid**

J.Ignacio Aguirre*[1], Jonathan Messer[1], Jessica Jiron[1], Hung-Yuan Chen[1], Evelyn Castillo[1], Jorge Mendieta Calle[1], Catherine Van Poznak[2], Donald Kimmel[1]. [1]Department of Physiological Sciences, University of Florida, United states, [2]Internal Medicine Oncology, University of Michigan, United states

Disclosures: J.Ignacio Aguirre, None

FR0312 **Bone-Targeted Bortezomib Prevents OVX- and Myeloma-Induced Bone Loss with Less Systemic Adverse Effects more Effectively than Bortezomib**

Hua Wang*[1], L Xiao[1], Hengwei Zhang[1], Wen Sun[1], Frank Hal Ebetino[1], Robert K. Boeckman, Jr[1], Babatunde Oyajobi[2], Brendan Boyce[1], Lianping Xing[1]. [1]University of Rochester Medical Center, United states, [2]University of Texas Health Science Center at San Antonio, United states

Disclosures: Hua Wang, None

FR0313 **Co-deletion of Lrp5 and Lrp6 in bone severely diminishes bone gain from sclerostin antibody administration**

Kyung-Eun Lim*[1], Bart Williams[2], Chris Paszty[3], Matthew Warman[4], Alexander Robling[1]. [1]Indiana University School of Medicine, United states, [2]Van Andel Research Institute, United states, [3]Amgen, Inc., United states, [4]Boston Children's Hospital, United states

Disclosures: Kyung-Eun Lim, None

FR0314 **Forces Associated with SpaceX Launch do not Impact Bone Healing but Unloading Inhibits Bone Regeneration**

Paul Childress*[1], Cynthia-May S. Gong[2], Evan Himes[1], Sungshin Choi[2], Yasaman Shirazi-Fard[2], Todd McKinley[1], Tien-min Chu[3], Nabarun Chakraborty[4], Rasha Hammamieh[4], Melissa Kacena[1]. [1]Department of Orthopaedic Surgery, Indiana University School of Medicine, United states, [2]WYLE Labs, United states, [3]Department of Biomedical & Applied Sciences, Indiana University School of Dentistry, United states, [4]US Army Center for Environmental Health Research, United states

Disclosures: Paul Childress, None

FR0315 **Single Bisphosphonate Dosing Enhances Effects of Sclerostin Antibody On Stiffness of the Vertebral Body During Growth in an Osteogenesis Imperfecta Mouse Model**

Diana Olvera*[1], Basma Khoury[1], Joan C. Marini[2], Michelle S. Caird[1], Kenneth M. Kozloff[1]. [1]Orthopaedic Research Laboratories, Department of Orthopaedic Surgery. University of Michigan, United states, [2]Bone & Extracellular Matrix Branch, National Institute of Child Health & Human Development, NIH, United states

Disclosures: Diana Olvera, None

FR0316 **Alleviating Osteonecrosis of the Femoral Head by Suppressing the ER Stress**
Daquan Liu[1], Xinle Li[1], Jie Li[1], Shuang Yang[1], Hiroki Yokota[2], Ping Zhang*[2]. [1]Department of Anatomy & Histology, School of Basic Medical Sciences, Tianjin Medical University, China, [2]Department of Biomedical Engineering, Indiana University-Purdue University, United states
Disclosures: Ping Zhang, None

FR0319 **In Vivo Hypobaric Hypoxia, Hypodynamia and Bone Healing in Mice**
Marjorie DURAND*, Xavier Holy. Institut de Recherche Biomédicale des Armées, France
Disclosures: Marjorie DURAND, None

FR0320 **Role of matrix-bound Bisphosphonates in the development of osteonecrosis of the jaw**
Ranya Elsayed[1], R. Nicole Howie[2], Sudha Ananth[1], Pheba Abraham[1], Mohamed Awad[1], Zachary Patterson[1], Mohammed Elsalanty*[3]. [1]Augusta University, United states, [2]Medical University of South Carolina, United states, [3]Dental College of Georgia, Augusta University, United states
Disclosures: Mohammed Elsalanty, None

FR0323 **Dental Findings from the National Institutes of Health Fibrous Dysplasia/McCune-Albright Syndrome Cohort**
Andrea Burke*, Alison Boyce, Michael Collins. NIDCR, United states
Disclosures: Andrea Burke, None

FR0324 **Increased Risk of Breast Cancer in Polyostotic Fibrous Dysplasia and McCune-Albright Syndrome**
Bas Majoor*, Olaf Dekkers, Sander Dijkstra, Judith Bovee, Vincent Smit, Neveen Hamdy, Natasha Appelman-Dijkstra. Leiden University Medical Center, Netherlands
Disclosures: Bas Majoor, None

FR0325 **Inhibition of Activin A Stops the Regrowth of Surgically Resected Heterotopic Bone in a Mouse Model of Fibrodysplasia Ossificans Progressiva and Indicates a New Potential Path to Therapy**
Lily Huang, Liqin Xie, Nanditha Das, Xialing Wen, Lili Wang, Andrew Murphy, Vincent Idone, Aris Economides, Sarah Hatsell*. Regeneron Pharmaceuticals, United states
Disclosures: Sarah Hatsell, None

FR0326 **Ambulatory Performance in Adolescents and Adults with Hypophosphatasia Treated with Asfotase Alfa: Data from a Phase II, Randomized, Dose-ranging, Open-label, Multi-center Study**
Priya S. Kishnani*[1], Cheryl Rockman-Greenberg[2], Katherine L. Madson[3], Marisa Gayron[4], Uchenna Iloeje[4], Michael P. Whyte[5]. [1]Duke University Medical Center, United states, [2]University of Manitoba, Canada, [3]Shriners Hospital for Children, United states, [4]Alexion Pharmaceuticals, United states, [5]Shriners Hospital for Children & Washington University School of Medicine, United states
Disclosures: Priya S. Kishnani, Alexion Pharmaceuticals, Inc, 17; Alexion Pharmaceuticals, Inc, 13

FR0327 **Skeletal, growth, and functional improvements in infants and young children with life-threatening hypophosphatasia treated with asfotase alfa for 5 years**
Jill H. Simmons*[1], Nick Bishop[2], Richard Lutz[3], Hui Zhang[4], Kenji P. Fujita[4], Michael P. Whyte[5]. [1]Vanderbilt University School of Medicine, United states, [2]University of Sheffield, United Kingdom, [3]University of Nebraska Medical Center, United states, [4]Alexion Pharmaceuticals, Inc, United states, [5]Shriners Hospital for Children & Washington University School of Medicine, United states
Disclosures: Jill H. Simmons, Alexion Pharmaceuticals, Inc, 104

FR0328 **Subtrochanteric, diaphyseal femoral fractures in Hypophosphatasia**
Franca Genest*, Lothar Seefried. Wuerzburg University, Germany
Disclosures: Franca Genest, None

FR0329 **Utilization of an algorithm to identify individuals at risk for hypophosphatasia (HPP) within an electronic health record (EHR) database**
Joseph Biskupiak*[1], Amy Sainski[1], Minkyoung Yoo[1], Diana Brixner[1], Uchenna Iloeje[2]. [1]Pharmacotherapy Outcomes Research Center, Department of Pharmacotherapy, University of Utah, United states, [2]Alexion Pharmaceuticals, Inc., United states
Disclosures: Joseph Biskupiak, None

FR0330 ***SLC34A1/NPT2a* Mutations cause Hereditary Hypophosphatemic Rickets with Hypercalciuria**

Alyssa Chen*[1], Avram Traum[2], Amita Sharma[2], Henry Fehrenbach[3], Anne Schafer[4], Dolores Shoback[4], Magged Hussein[5], Bernd Hoppe[6], Harald Jüppner[2], Clemens Bergwitz[1]. [1]Yale School of Medicine, United states, [2]Massachusetts General Hospital, United states, [3]Klinikum Memmingen, Germany, [4]University of California San Francisco, United states, [5]King Faisal Specialist Hospital & Research Center, Saudi arabia, [6]Universität Bonn, Germany

Disclosures: Alyssa Chen, None

FR0331 **Evaluating the Effects of KRN23, a Fully Human Anti-FGF23 Monoclonal Antibody, on Functional Outcomes in Children with X-linked Hypophosphatemia (XLH): 40-week Interim Results from a Randomized, Open-label Phase 2 Study**

Erik Imel*[1], Thomas Carpenter[2], Agnès Linglart[3], Annemieke Boot[4], Wolfgang Högler[5], Raja Padidela[6], William van't Hoff[7], Anthony Portale[8], Sunil Agarwal[9], Chao-Yin Chen[9], Alison Skrinar[9], Javier San Martin[9], Michael Whyte[10]. [1]Indiana University School of Medicine, United states, [2]Yale University School of Medicine, United states, [3]Hôpital Bicêtre, France, [4]University of Groningen, Netherlands, [5]Birmingham Children's Hospital, United Kingdom, [6]Royal Manchester Children's Hospital, United Kingdom, [7]Great Ormond Street Hospital, United Kingdom, [8]University of California, United states, [9]Ultragenyx Pharmaceutical Inc., United states, [10]Shriners Hospital for Children, United states

Disclosures: Erik Imel, Ultragenyx Pharmaceuticals Inc., 13; Ultragenyx Pharmaceuticals Inc., 17

FR0332 **Factors Associated with Serum Intact FGF23 Levels in Patients with X-linked Hypophosphatemic Rickets**

Keiko Yamamoto*, Takuo Kubota, Kei Miyata, Shinji Takeyari, Kenichi Yamamoto, Hirofumi Nakayama, Makoto Fujiwara, Taichi Kitaoka, Satoshi Takakuwa, Keiichi Ozono. Department of Pediatrics, Osaka University Graduate School of Medicine, Japan

Disclosures: Keiko Yamamoto, None

FR0333 **Non-lethal Type VIII Osteogenesis Imperfecta has Elevated Bone Matrix Mineralization**

Nadja Fratzl-Zelman*[1], Aileen M. Barnes[2], MaryAnn Weis[3], Erin Carter[4], Theresa E. Hefferan[5], Giorgio Perino[4], Weizhong Chang[2], Peter A. Smith[6], Paul Roschger[1], Klaus Klaushofer[1], Francis H. Glorieux[7], David R. Eyre[3], Cathleen Raggio[8], Frank Rauch[7], Joan C. Marini[2]. [1]Ludwig Boltzmann Institute of Osteology at Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling, 1st Med. Dept. Hanusch Hospital, Vienna, Austria, [2]Section on Heritable Disorders of Bone, NICHD, NIH, Bethesda, United states, [3]The Orthopaedic Research Laboratories, University of Washington, Seattle, United states, [4]Hospital for Special Surgery, New York, United states, [5]Department of Orthopedics, Mayo Clinic College of Medicine, Rochester, United states, [6]Shriners' Hospital for Children, Chicago, United states, [7]Shriners' Hospital for Children & McGill University, Montreal, Canada, [8]Department of Orthopedics, Mayo Clinic College of Medicine, Seattle, United states

Disclosures: Nadja Fratzl-Zelman, None

FR0335 **Intra-Tibial Injection of Lymphatic Endothelial Cells Leads to Aggressive Osteolysis, a Mouse Model of Gorham-Stout Disease**

Hua Wang*, Wensheng Wang, Xing Li, Wen Sun, Brendan Boyce, Lianping Xing. University of Rochester Medical Center, United states

Disclosures: Hua Wang, None

FR0336 **Meckel's and condylar cartilages anomalies in achondroplasia result in defective development and growth of the mandible**

Martin Biosse Duplan[1], Davide Komla-Ebri[2], Yann Heuzé[3], Valentin Estibals[2], Emilie Gaudas[2], Nabil Kaci[2], Catherine Benoist-Lasselin[2], Michel Zerah[4], Ina Kramer[5], Michaela Kneissel[6], Diana Graus Porta[6], federico Di Rocco[7], Laurence Legeai-Mallet*[2]. [1]Institut Imagine, France, [2]Institut Imagine-INSERM U1163, France, [3]UMR5199 PACEA, Université de Bordeaux, France, [4]Hôpital Necker, France, [5]Novartis, Switzerland, [6]Novartis, France, [7]Neurochirurgie Pédiatrique, Hopital Femme Mère Enfant CHU de Lyon, France

Disclosures: Laurence Legeai-Mallet, None

FR0338 **Rescue of Short-lived Progressive Ankylosis Protein in Craniometaphyseal Dysplasia**
Jitendra Kanaujiya*, Edward Bastow, Zhifang Hao, Ernst J Reichenberger, I-Ping Chen. University of Connecticut Health, United states
Disclosures: Jitendra Kanaujiya, None

FR0339 **Small molecule Alk inhibitors with improved selectivity and pharmacokinetics inhibit heterotopic ossification without toxicity in a mouse model of fibrodysplasia ossificans progressiva**
Daniel Perrien*, Corey Hopkins, Craig Lindsley, Audrey Frist, Heather Durai, Nicole Fleming, Sabrina Booton, Charles Hong. Vanderbilt University Medical Center, United states
Disclosures: Daniel Perrien, La Jolla Pharmaceutical Company, 13

FR0344 **Thoracic muscle density and size are associated with kyphosis severity: Framingham Study**
Amanda Lorbergs*[1], Dennis Anderson[2], Brett Allaire[2], Douglas Kiel[3], Michelle Yau[1], Mary Bouxsein[4], L. Adrienne Cupples[5], Tom Travison[1], Elizabeth Samelson[1]. [1]Institute for Aging Research, Hebrew Senior Life & Harvard Medical School, United states, [2]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, United states, [3]Institute for Aging Research, Department of Medicine BIDMC, & Hebrew Senior Life & Harvard Medical School, United states, [4]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center & Harvard Medical School, United states, [5]Department of Biostatistics, Boston University School of Public Health & Framingham Heart Study, United states
Disclosures: Amanda Lorbergs, None

FR0345 **Targeted Spine Strengthening Exercise Program to Reduce Hyperkyphosis in Older Adults: Preliminary Results from the SHEAF Study**
Wendy B. Katzman*[1], Deborah M. Kado[2], Eric Vittinghoff[1], Anne Schafer[1], Roger K. Long[1], Shirley Wong[1], Amy Gladin[3], Nancy E. Lane[4], Feng Lin[1]. [1]UCSF, United states, [2]UCSD, United states, [3]Kaiser Permanente Northern CA, United states, [4]UCDavis, United states
Disclosures: Wendy B. Katzman, None

FR0348 **A Sumo peptidase, SENP6, promotes KAP1-mediated p53 suppression to maintain osteochondroprogenitor dynamics**
Jianshuang Li*[1], Di Lu[1], Hong Dou[2], Huadie Liu[1], Kevin Weaver[1], Wenjun Wang[3], Jiada Li[4], Edward Yeh[2], Bart Williams[1], Ling Zheng[3], Tao Yang[1]. [1]Van Andel institute, United states, [2]MD Anderson Cancer Center, United states, [3]College of Life Sciences, Wuhan University, China, [4]State Key Laboratory of Medical Genetics & School of Life Sciences, Central South University, China
Disclosures: Jianshuang Li, None

FR0349 **Ablation of IGF-1R Signaling in Osteochondroprogenitor Cells Induces a Substantial and Persistent Attenuation of Skeletal Development**
Alessandra Esposito*, Joseph Temple, Tieshi Li, Lai Wang, Anna Spagnoli. Rush University Medical Center, United states
Disclosures: Alessandra Esposito, None

FR0350 **Actin Filament Associated Protein 1 (AFAP1) is a Novel Regulator of Bone Formation**
Holly Corkill*[1], Albena Gesheva[2], Kier Blevins[1], Broc Wenrich[1], Evan Frigoletto[1], Jess Cunnick[1], John Arnott[1], Youngjin Cho[1]. [1]The Commonwealth Medical College, United states, [2]University of Scranton, United states
Disclosures: Holly Corkill, None

FR0351 **Dysregulated murine bone osteogenesis and adipogenesis upon loss of chemokine Cxcl12/Sdf1 in the osteoprogenitor cells**
Yi-Shiuan Tzeng*[1], Ni-Chun Chung[2], Hsiang-Ru Huang[2], Yu-Ren Chen[1], Dar-Ming Lai[2]. [1]Graduate Institute of Oncology, National Taiwan University College of Medicine, Taiwan, province of china, [2]Department of Surgery, National Taiwan University Hospital, Taiwan, province of china
Disclosures: Yi-Shiuan Tzeng, None

FR0352 **GATA4 Regulates RUNX2 expression in osteoblasts**
Susan Miranda, Aysha Khalid*, Gustavo Miranda-Carboni. University of Tennessee, United states
Disclosures: Aysha Khalid, None

FR0353 **Gut Microbiota Induce IGF-1 and Promote Bone Formation and Growth**
Jing Yan*[1], Jeremy Herzog[2], Kelly Tsang[1], Maureen Bower[2], Balfour Sartor[2], Antonios Aliprantis[2], Julia Charles[1]. [1]Brigham & Women's Hospital & Harvard Medical School, United states, [2]University of North Carolina at Chapel Hill, United states
Disclosures: Jing Yan, None

FR0354 **Impact of Maternal Myostatin and the Uterine Environment on Offspring Bone Strength in Wildtype and Osteogenesis Imperfecta Model (oim) Mice**
Arin Oestreich*[1], William Kamp[2], Marcus McCray[2], Stephanie Carleton[2], Natalia Karasseva[3], Kristin Lenz[2], Youngjae Jeong[2], Salah Daghlas[2], Xiaomei Yao[4], Yong Wang[5], Ferris Pfeiffer[6], Laura Schulz[1], Charlotte Phillips[7]. [1]Department of Ob, Gyn & Women's Health, University of Missouri School of Medicine, United states, [2]Department of Biochemistry, University of Missouri, United states, [3]Transgenic Research Core, University of Missouri, United states, [4]Department of Restorative Clinical Sciences, Univerisity of Missouri- Kansas City, United states, [5]Department of Oral & Craniofacial Sciences, University of Missouri - Kansas City, United states, [6]Department of Orthopaedic Surgery, University of Missouri, United states, [7]Departments of Biochemistry & Child Health, University of Missouri School of Medicine, United states
Disclosures: Arin Oestreich, None

FR0355 **The RhoGAP Myo9b is Essential for Normal Bone Growth and Osteoblast Responsiveness to IGF-1**
Brooke McMichael[1], Yong-Hoon Jeong[2], Justin Auerbach[1], Cheol-Min Han[2], Ryan Sedlar[2], Martin Baehler[3], Sudha Agarwal[2], Do-Gyoon Kim[2], Beth Lee*[1]. [1]The Ohio State University College of Medicine, United states, [2]The Ohio State University College of Dentistry, United states, [3]Institut fur Molekulare Zellbiologie, Universitat Muenster, Germany
Disclosures: Beth Lee, None

YOUNG INVESTIGATOR AND DIVERSE MEMBER NETWORKING HOUR

Sponsored by the ASBMR Membership Engagement and Education Committee, Diversity in Bone and Mineral Research Subcommittee and Young Investigator Subcommittee

7:15 pm - 8:00 pm **Omni Atlanta Hotel at CNN Center**
International Ballroom A

Young Investigators and diverse members who wish to continue building connections with peers in a fun and informal setting are invited to attend this event.

MUSCLE AND BONE WORKING GROUP

Supported by Stratec Medizintechnik and Novotec Medical GmbH

7:15 pm - 9:45 pm **Georgia World Congress Center**
Room A302

7:30 pm **Opening Remarks and Dinner**

8:00 pm **Sarcopenia and falls related neuromuscular assessment of muscle function**
Dieter Felsenberg, Prof.
Zentrum für Muskel und Knochen (ZMK), Charité Berlin, Germany

8:20 pm **The lower muscle strength strongly predicts osteoporotic fractures more than muscle mass itself in healthy elderly Korean women**
Yumie Rhee, Prof.
Internal Medicine, Yonsei University College of Medicine, Seoul, Korea

8:40 pm **Comparison of traditional physical functions tests with novel computerized methods**
Björn Bühring, Ass. Prof.
Assistant Professor of Medicin, Division of Geriatrics and Gerontology / Osteoporosis Clinical Research Program University of Wisconsin – Madison, USA

9:00 pm **FORMOsA Project: Study Background and Preliminary Leonardo Mechanography Data**
Lothar Seefried, MD.
Head, Clinical Trial Unit, Orthopedic Department, University of Wuerzburg, Germany

9:00 pm **Concluding Remarks**

NUTRITION AND BONE WORKING GROUP

Supported by an educational grant from the National Dairy Council

7:15 pm - 9:00 pm **Georgia World Congress Center**
Room A303

7:15 pm **Introduction**
Sue Shapes, M.D., Rutgers University (USA)

7:20 pm **Dietary Intakes and Sources of P and Its Metabolism**
Kathleen Hil Gallant, M.D., Purdue University (USA)

7:50 pm **The Importance of Diet in the Treatment of CKD-Mineral Bone Disorder**
Sharon Moe, M.D., Indiana University (USA)

8:20 pm **Making Sense of Things that Don't Make Sense: A Phosphate Mystery**
Linda Casey, M.D., University of British Columbia (Canada)

8:50 pm **Concluding Remarks**
Connie Weaver, M.D., Purdue University (USA)
Rick Lewis, M.D., University of Georgia (USA)

RARE BONE DISEASE WORKING GROUP

Supported by educational grants from Alexion Pharmaceuticals, Clementia Pharmaceuticals, Regeneron Pharmaceuticals and Ultragenyx Pharmaceutical Inc.

7:15 pm - 9:45 pm **Georgia World Congress Center**
Room A311

7:15 pm – 7:30 pm **Dinner**

7:30 pm – 8:15 pm **Basic and Translational Research in Fibrodysplasia Ossificans Progressiva (FOP) A Tale of Convergence**
Eileen Shore, Ph.D., University of Pennsylvania (USA)
Aris Economides, Ph.D., Regeneron Pharmaceuticals (USA)
Edward Hsiao, M.D., Ph.D., University of California (USA)

8:15 pm – 9:15 pm **Discussion of Several Rare Bone Diseases: What We Know and Don't Know; How Do We Move Forward?**

Osteogenesis Imperfecta
Jay Shapiro, M.D., Uniform Services University of the Health Services (USA)
XLH Disorders
Suzanne Jan De Beur, M.D., Johns Hopkins University Medical Center (USA)
Hypophophatasia and Osteopetrosis
Michael Whyte, M.D., Shriners Hospital (USA)
Fibrous Dysplasia and Gorham's Disease
Michael Collins, M.D., NIDCR/NIH (USA)
Melorheostosis and Multiple Hereditary Exostoses
Bart Clarke, M.D., Mayo Clinic (USA)

9:15 pm – 9:45 pm **Panel Discussion**
Michael Collins, M.D., NIDCR/NIH (USA)
Bart Clarke, M.D., Mayo Clinic (USA)
Faye Chen, Ph.D., NIAMS/NIH (USA)
Aris Economides, Ph.D., Regeneron Pharmaceuticals (USA)
Edward Hsiao, M.D., Ph.D., University of California (USA)
Suzanne Jan De Beur, M.D., Johns Hopkins University Medical Center (USA)
Joan McGowan, Ph.D., NIAMS/NIH (USA)
Jay Shapiro, M.D., Uniform Services University of the Health Services (USA)
Eileen Shore, Ph.D., University of Pennsylvania (USA)
Michael Whyte, M.D., Shriners Hospital (USA)

WORKING GROUP ON AGING

Supported by an educational grant from the National Institute on Aging

7:15 pm - 9:15 pm **Georgia World Congress Center**
Room A315

Moderated by: Sundeep Khosla, M.D.

7:15 pm **Overview of Age-Related Bone Loss**
Moustapha Kassem, M.D., Ph.D., Odense University Hospital (Denmark)

7:45 pm **Fractures in the Context of Multiple Aging Comorbidities**
Deborah Kado, M.D., University of California, San Diego (USA)

8:15 pm **Senolytic Drugs to Treat Multiple Aging Conditions**
James Kirkland, M.D., Ph.D., Boston University (USA)

8:45 pm **Open Discussion**

BONE TURNOVER MARKERS WORKING GROUP

7:30 pm - 9:30 pm **Georgia World Congress Center**
Room A305

7:30 pm **Welcome and Introduction**
Núria Guañabens, MD. University of Barcelona (Spain)
Richard Eastell, MD, FRCP, FRCPath, FMedSci. University of Sheffield (UK)

7:35 pm **Treatment targets for bone turnover markers**
Samuel Vasikaran, MD. University of Western Australia, Nedlands (Australia)

8:05 pm **Periostin action in bone**
Nicolas Bonnet, MD. Geneva University Hospital & Faculty of Medicine (Switzerland)

8:45 pm **Myokines (myostatin, irisin and agrin)**
Nicola Napoli, MD. University Campus Biomedico of Rome (Italy)

9:25 pm Closing Remarks

WOMEN'S COMMITTEE NETWORKING RECEPTION

Supported by UCB and by a donation from Paula H. Stern, Ph.D.

8:00 pm - 9:30 pm **Omni Atlanta Hotel at CNN Center**
International Ballroom C

Join the ASBMR Women in Bone and Mineral Research Committee and Past ASBMR President, Sylvia Christakos, Ph.D. for a reception and discussion on navigating the "Imposter Syndrome" through your career. Don't miss this opportunity to network with your fellow colleagues!

Saturday, September 17, 2016

Day-At-A-Glance

Time/Event/Location **All locations in the Georgia World Congress Center unless otherwise noted**

ASBMR NETWORKING BREAKFAST

Sponsored by the ASBMR Membership Engagement and Education Committee

6:45 am - 8:00 am **Georgia World Congress Center**
Room A305

New Investigators (early-career stage), new ASBMR members and young and diverse investigators are invited to join ASBMR leadership, senior investigators and NIH Representatives for an informal networking breakfast. New Investigators and first-time attendees will have the opportunity to network with multiple senior investigators at tables assigned by topic. Breakfast will be provided.

ASBMR REGISTRATION OPEN

7:00 am - 5:00 pm **Georgia World Congress Center**
Registration Hall - Main Entrance

LOUIS V. AVIOLI LECTURE & PRESENTATION OF THE LOUIS V. AVIOLI, FREDERIC C. BARTTER AND PAULA STERN ACHIEVEMENT AWARDS

8:00 am - 9:30 am **Georgia World Congress Center**
Thomas B. Murphy Ballroom - Building B Level 5

8:00 am **Sex Steroids, Coupling, and Age-Related Bone Loss**
Sundeep Khosla, M.D.
Mayo Clinic College of Medicine, USA
Disclosures: Sundeep Khosla, None

POSTERS OPEN

9:30 am - 4:30 pm **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

DISCOVERY HALL OPEN

9:30 am - 4:30 pm **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

NETWORKING BREAK

9:30 am - 9:45 am **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

PLENARY ORALS: ENERGY METABOLISM, MUSCLE, BONE AND FAT

9:45 am - 11:00 am **Georgia World Congress Center**
Sidney Marcus Auditorium - Building A

Moderators:
Patricia Ducy, Ph.D.
Columbia University, USA
Disclosures: Patricia Ducy, None

Gabriel Mbalaviele, Ph.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Gabriel Mbalaviele, None

9:45 am **ASBMR 2016 Annual Meeting Young Investigator Award**
1033 **Hypoxia Signaling-Induced Glycolytic Metabolism in Osteoblasts can Affect Systemic Glucose Homeostasis by Increasing Glucose Utilization by the Skeleton**
Naomi Dirckx*[1], Robert J. Tower[1], Evi M. Mercken[1], Tom Breugelmans[1], Elena Nefyodova[1], Roman Vangoitsenhoven[2], Bart Van der Schueren[2], Chantal Mathieu[2], Thomas L. Clemens[3], Christa Maes[1]. [1]Laboratory of Skeletal Cell Biology & Physiology (SCEBP), Skeletal Biology & Engineering Research Center (SBE), KU Leuven, Belgium, [2]Clinical & Experimental Endocrinology, KU Leuven, Belgium, [3]Department of Orthopaedic Surgery, John Hopkins University School of Medicine, United states
Disclosures: Naomi Dirckx, None

10:00 am **Sclerostin influences body composition by regulating catabolic and anabolic metabolism in**
1034 **adipocytes**
Julie Frey, Soohyun Kim, Zhu Li, Ryan Tomlinson, Mehboob Hussain, Daniel Thorek, Michael Wolfgang, Ryan Riddle*. Johns Hopkins University, United states
Disclosures: Ryan Riddle, None

10:15 am **ASBMR 2016 Annual Meeting Young Investigator Award**
1035 **Regulation of Appetite by the Skeleton**
Ioanna Mosialou*, Steven Shikhel, Na Luo, Stavroula Kousteni. Columbia University, United states
Disclosures: Ioanna Mosialou, None

10:30 am **ASBMR 2016 Annual Meeting Young Investigator Award**
1036 **Succinate and its G-Protein-Coupled Receptor Stimulates Osteoclastogenesis and Bone Loss**
Yuqi Guo*, Tao Yu, Jian Yang, Xin Li. New York University, United states
Disclosures: Yuqi Guo, None

10:45 am **Osteocalcin Signaling in Myofibers Favors Adaptation to Exercise by Increasing Uptake and**
1037 **Utilization of Nutrients in Adult Mice**
Paula Mera*[1], Mathieu Ferron[2], Cyril Confavreux[3], Irwin Kurland[4], Michelle Puchowicz[5], Gerard Karsenty[1]. [1]Columbia University, United states, [2]Institut de recherches cliniques de Montréal (IRCM), Canada, [3]Université de Lyon, France, [4]Albert Einstein College of Medicine, United states, [5]Case Western Reserve University, United states
Disclosures: Paula Mera, None

PLENARY ORALS: MECHANOBIOLOGY

9:45 am - 11:00 am **Georgia World Congress Center**
Room A411/412

Moderators:
Tamara Alliston, Ph.D.
University of California, San Francisco, USA
Disclosures: Tamara Alliston, None

9:45 am **ASBMR 2016 Most Outstanding Basic Award**
1038 **Mechanically-Induced Calcium Oscillations in Osteocytes Facilitate Release of RANKL, OPG, and Sclerostin Through Extracellular Vesicles and Mediate Skeletal Adaptation**
Genevieve Brown*, Andrea Morrell, Samuel Robinson, Rachel Sattler, X. Edward Guo. Columbia University, United states
Disclosures: Genevieve Brown, None

10:00 am **Subchondral bone plate sclerosis during late osteoarthritis is mediated by loading-induced**
1039 **decrease in Sclerostin amount**
Haoruo Jia*[1], Xiaoyuan Ma[1], Zhaochun Yang[2], Zeyang Sun[3], Wei Tong[1], Lin Han[4], James H-C. Wang[2], Motomi Enomoto-Iwamoto[5], Ling Qin[1]. [1]Department of Orthopaedic Surgery, School of Medicine, University of Pennsylvania, United states, [2]Department of Orthopaedic Surgery, University of Pittsburgh School of Medicine, United states, [3]School of Engineering & Applied Science, University of Pennsylvania, United states, [4]School of Biomedical Engineering, Science & Health Systems, Drexel University, United states, [5]Department of Surgery, The Children's Hospital of Philadelphia, United states
Disclosures: Haoruo Jia, None

10:15 am **Mechanical Loading Induces CD31^{hi}Emcn^{hi} Vessel Formation by Preosteoclast Secretion of**
1040 **PDGF-BB**
Weicheng Xu*[1], Hui Xie[1], Ryan Tomlinson[1], Zhuying Xia[1], Genevieve Brown[2], Maureen Pickarski[3], Le Duong[4], X. Edward Guo[2], Xu Cao[1]. [1]Department of Orthopaedic Surgery, Johns Hopkins University School of Medicine, United states, [2]Department of Biomedical Engineering, Columbia University, United states, [3]Merck Res. Lab, Bone Biology Group, United states, [4]Merck Res. Labs., Bone Biology Group, United states
Disclosures: Weicheng Xu, None

10:30 am **Plasma Membrane Disruptions are a Novel Mechanosensation Mechanism in Osteocytes**
1041 Kanglun Yu[1], Ahmed Elsherbini[1], David Sellman[2], Kayce Vanpelt[1], Oran Kennedy[3], Anna McNeil[2], Paul McNeil[2], Meghan McGee-Lawrence*[2]. [1]Augusta University, United states, [2]Medical College of Georgia, Augusta University, United states, [3]NYU, United states
Disclosures: Meghan McGee-Lawrence, None

10:45 am **Sensory Nerve Signals Mediate Skeletal Adaptation to Mechanical Loads**
1042 Ryan Tomlinson*, Zhi Li, Ryan Riddle, Thomas Clemens. Johns Hopkins University, United states
Disclosures: Ryan Tomlinson, None

MEET-THE-PROFESSOR SESSIONS

11:00 am - 12:00 pm **Georgia World Congress Center**
Rooms A311-316

Meet the Professor: Biomechanics Meets Bone Biology: The Ultimate in Multidisciplinary Translational Research
Room A311

Clifford Rosen, M.D.
Maine Medical Center, USA
Disclosures: Clifford Rosen, None

Mary Bouxsein, Ph.D.
Beth Israel Deaconess Medical Center, Harvard Medical School, USA
Disclosures: Mary Bouxsein, None

Meet the Professor: Following up GWAS Findings - From the Dry Lab to the Wet Lab
Room A313

Brent Richards
McGill University, Canada
Disclosures: Brent Richards, None

Matthew Maurano, Ph.D.
New York University,
Disclosures: Matthew Maurano, None

Meet the Professor: Matricellular Proteins in Bone Remodeling and Repair: Novel Insights
Room A314

Andrea Alford, Ph.D.
University of Michigan, USA
Disclosures: Andrea Alford, None

Kurt Hankenson, D.V.M., Ph.D.
Michigan State University, USA
Disclosures: Kurt Hankenson, None

Meet the Professor: Progenitors for Bone Growth and Repair
Room A315

Henry Kronenberg, M.D.
Massachusetts General Hospital, USA
Disclosures: Henry Kronenberg, None

Noriaki Ono, D.D.S., Ph.D.
University of Michigan School of Dentistry, USA
Disclosures: Noriaki Ono, None

Meet the Professor: Sequential and Combination Therapy for Osteoporosis: Where Are We Now ?
Room A312

Felicia Cosman, M.D.
Helen Hayes HospitalColumbia University College of Physicians and Surgeons, USA
Disclosures: Felicia Cosman, Amgen, Eli Lilly 15; Amgen, Eli Lilly, Merck, Radius, Tarsa 14; Amgen, Eli Lilly 13

Meet the Professor: Phosphate Sensing: Two Sensors - A Metabolic and an Endocrine One?
Room A316

Clemens Bergwitz, M.D.
Yale School of Medicine, USA
Disclosures: Clemens Bergwitz, None

PUBLICATIONS WORKSHOP: INCREASE YOUR CHANCES OF GETTING PUBLISHED

11:00 am - 12:00 pm **Georgia World Congress Center**
Room A302

Meet with JBMR® Editor-in-Chief Dr. Juliet Compston at this year's Publications Workshop. You'll learn how to improve the quality of your journal manuscripts, what JBMR® is looking for and how to increase your chances of getting published. Whether you're a new author considering submitting a paper or a seasoned journal contributor, don't miss this unique opportunity to hear directly from and interact with JBMR®'s editor!

ASBMR/IOF CO-SPONSORED SESSION - FRACTURE RISK ASSESSMENT TO TARGET TREATMENT: EFFECTIVENESS AND COST-UTILITY

11:00 am - 12:00 pm **Georgia World Congress Center**
Room A404/405

Co-Chairs
John Kanis, M.D.
University of Sheffield, United Kingdom
Disclosures: John Kanis, None

Jane Cauley, Ph.D.
University of Pittsburgh Graduate School of Public Health, USA
Disclosures: Jane Cauley, None

11:00 am Economic Consequences of Treatment on Basis of Fracture Risk Assessment
Eugene McCloskey, M.D., MRCP, M.B.
University of Sheffield, United Kingdom
Disclosures: Eugene McCloskey, None

11:20 am **Innovations in Approach to Absolute Risk Assessment**
Cyrus Cooper, D.M., FRCP, MedSci
University of Southampton, United Kingdom
Disclosures: Cyrus Cooper, None

11:40 am **Prospective RCTs to Evaluate Effectiveness of Such Strategies**
Michael McClung, M.D.
Oregon Osteoporosis Center, USA
Disclosures: Michael McClung, Radius 14; Amgen 14; Merck 14

NETWORKING BREAK

12:00 pm - 12:30 pm

POSTER SESSION I & POSTER TOURS

12:30 pm - 2:30 pm **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

Odd # Posters will present from 12:30 pm - 1:30 pm
Even # Posters will present from 1:30 pm - 2:30 pm

ADULT METABOLIC BONE DISORDERS: OSTEOMALACIA AND VITAMIN D DEFICIENCY

SA0001 **Serum 25-Hydroxyvitamin D Values and Risk of All-Cause Mortality: A Population-Based, Retrospective, Cohort Study**
Daniel Dudenkov*, Kristin Mara, Tanya Petterson, Julie Maxson, Tom Thacher. Mayo Clinic, United states
Disclosures: Daniel Dudenkov, None

SA0002 **The Association of Gender, Antiepileptic Drug Use and Hypovitaminosis D among Patients with Epilepsy**
Poranee Ganokroj, Natnicha Houngngam, Lalita Wattanachanya*. Chulalongkorn University & King Chulalongkorn Memorial Hospital, Thailand
Disclosures: Lalita Wattanachanya, None

SA0003 **Vitamin D in Older People (VDOP): A Does Ranging Intervention Trail to Prevent Bone Loss**
Terry J Aspray*[1], Roger M Francis[1], Elaine McColl[2], Thomas J Chadwick[2], Elaine Stamp[2], Ann Prentice[3], Inez Schoenmakers[3]. [1]Institute for Cellular Medicine, Newcastle University, United Kingdom, [2]Institute for Health & Society, Newcastle University, United Kingdom, [3]MRC Human Nutrition Research, United Kingdom
Disclosures: Terry J Aspray, None

ADULT METABOLIC BONE DISORDERS: OTHER ADULT METABOLIC BONE DISORDERS

SA0004 **Clinical Characteristics, Causes and Survival in 115 Cancer Patients with PTHrP-mediated Hypercalcemia**
Dong Jin Chung*, Joon Jin, Jin Ook Chung, Dong Hyeok Cho, Min Young Chung. Chonnam National University Medical School, Korea, republic of
Disclosures: Dong Jin Chung, None

SA0005 **Relationship between biochemical and imaging biomarkers of vascular calcification in normal weight, overweight and obese individuals**
Antoine Bouquegneau*[1], Jennifer Walsh[2], Amy Evans[2], Fatma Gossiel[2], Margaret Paggiosi[2], Richard Eastell[2]. [1]Department of Nephrology - Dialysis - Transplantation CHU Sart-Tilman, Liège, Belgium, Belgium, [2]Mellanby Centre for Bone Research, Department of Oncology & Metabolism, The University of Sheffield, Sheffield, United Kingdom, United Kingdom
Disclosures: Antoine Bouquegneau, None

ADULT METABOLIC BONE DISORDERS: PAGET'S DISEASE

SA0006 **ASBMR 2016 Annual Meeting Young Investigator Award**
Measles Virus Nucleocapsid Protein Expressing Osteoclasts Increase Expression of SPHK1/S1P/S1PR3 to Enhance Osteoblast Differentiation in Paget's Disease
Yuki Nagata*[1], Yasuhisa Ohata[1], Jolene Windle[2], David Roodman[3], Noriyoshi Kurihara[1]. [1]Medicine / Hematology-Oncology, Indiana University, United states, [2]Human & Molecular Genetics, Virginia Commonwealth University, United states, [3]Medicine / Hematology-Oncology, Indiana University; Roudebush VA Medical Center, United states
Disclosures: Yuki Nagata, None

SA0007 **2016 ASBMR Fund for Research and Education Young Investigator Award**
MVNP Modulation of NFAM1 Signaling Enhances Osteoclast Formation and Bone Resorption Activity in Paget's Disease of Bone
Yuvaraj Sambandam*[1], Kumaran Sundaram[1], Takamitsu Saigusa[2], Sudhaker Rao[3], William Ries[4], Sakamuri Reddy[1]. [1]Darby Children's Research Institute, Medical University of South Carolina, United states, [2]Division of Nephrology, Medical University of South Carolina, United states, [3]Henry Ford Hospital, United states, [4]College of Dental Medicine, Medical University of South Carolina, United states
Disclosures: Yuvaraj Sambandam, None

ADULT METABOLIC BONE DISORDERS: PARATHYROID DISORDERS

SA0008 **An overview of the etiology, clinical manifestations, management strategies and complications of hypoparathyroidism: An update from the Canadian National Hypoparathyroidism Registry**
Aliya Khan*, Reema Shah, Hamid Syed, Tayyab Khan, J.E.M. Young. McMaster University, Canada
Disclosures: Aliya Khan, None

SA0009 **Determinants of Bone Mineral Density Changes Post-Parathyroidectomy in Patients with Primary Hyperparathyroidism**
Shilpa Shetty*, Li Hao Richie Xu, Beverley Huet, John Poindexter, Jennifer Rabaglia, Naim Maalouf. UT Southwestern Medical Center, United states
Disclosures: Shilpa Shetty, None

SA0010 **Expression profile of microRNAs in multiple endocrine neoplasia type 1**
gurjeet kaur*[1], Sanjay Bhadada[2]. [1]PhD student, India, [2]Additional Professor, India
Disclosures: gurjeet kaur, None

SA0011 **Long-Term rhPTH(1-84) Administration Persistently Affects Bone Remodeling Dynamics and Structure in Hypoparathyroidism**
Mishaela Rubin*, Natalie Cusano, Hua Zhou, Wen-Wei Fan, Diane Cozadd, Aline Costa, David Dempster, John Bilezikian. Columbia University, United states
Disclosures: Mishaela Rubin, Shire Pharma, 13

SA0012 **PTH(1-34) for the primary prevention of post-surgical hypocalcemia: an interventional prospective randomized trial (THYPOS trial)**
Andrea Palermo*[1], Nicola Napoli[1], Gaia Tabacco[2], Giuseppe Mangiameli[3], Filippo Longo[3], Daria Maggi[2], silvia Briganti[2], angelo Lauria Pantano[2], Anda Naciu[2], Silvia Angeletti[4], Fabio Vescini[5], Paolo Pozzilli[2], Pier Filippo Crucitti[3], Silvia Manfrini[2]. [1]University Campus Bio-Medico, Italy, [2]Department of endocrinology, University Campus Bio-Medico, Italy, [3]Department of Surgery, university Campus Bio-Medico, Italy, [4]laboratory, University Campus Bio-Medico, Italy, [5]Department of Endocirnology, Ospedaliero-Universitaria Santa Maria della Misericordia di Udine, Italy
Disclosures: Andrea Palermo, None

SA0013 **Site Specific Difference Of Bone Geometry Indices In Hypoparathyroid Patients**
HyeSun Park*, Sung kil Lim, Yumie Rhee, Da Hea Seo, Dongdong Zhang. Division of Endocrinology & Metabolism, Department of Internal Medicine, Yonsei University College of Medicine, Korea, republic of
Disclosures: HyeSun Park, None

BIOMECHANICS AND BONE QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

SA0014 **AFM & AFM-IR Studies of Collagen Microstructure and Chemical Composition for Estrogen Depleted and Drug Treated Cortical Bone and Lumbar Vertebrae**
Mark M Banaszak Holl*[1], Meagan Cauble[2], Matthew Muckle[3], Taeyong Ahn[4], Sriram Vaidyanathan[5], Rachel Merzel[6], Jeffrey A. Fessler[3], Bradford G. Orr[6], Le T. Duong[7]. [1]1Macromolecular Science & Engineering, 2Chemistry, 3Biomedical Engineering. University of Michigan, United states, [2]Chemistry. Univ of Michigan, United states, [3]Electrical Engineering. Univ of Michigan, United states, [4]Macromolecular Science & Engineering. Univ of Michigan, United states, [5]Biomedical Engineering. Univ of Michigan, United states, [6]Univ of Michigan, United states, [7]Merck & Co., United states
Disclosures: Mark M Banaszak Holl, None

SA0015 **Age and Gender Differences in Loading Induced Strain and Biomechanical Properties of C57Bl/6 Mice**
Mark T. Begonia, Hammad Mumtaz, Mark Dallas, An-Lin Cheng, Ganesh Thiagarajan*, Mark L. Johnson. University of Missouri-Kansas City, United states
Disclosures: Ganesh Thiagarajan, None

SA0016 **Alendronate treatment improves vertebral structural properties and maintains vertebral trabecular bone material properties in hound dogs**
Daniel J Brooks[1], Julia N Moulton[1], Caroline DiNapoli[2], Tessabella Magliochetti[2], Sephanie McCarthy[3], Robert M Urban[3], Deborah J Hall[3], Thomas M Turner[3], Mary L Bouxsein*[4]. [1]Center for Advanced Orthopaedic Studies, Beth Israel Deaconess Medical Center, United states, [2]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, United states, [3]Rush University Medical Center, United states, [4]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center & Department of Orthopedic Surgery, Harvard Medical School, United states
Disclosures: Mary L Bouxsein, Merck, 100

SA0017 **Feasibility of Quantitative *In Vivo* Assessment of Mineral and Matrix Properties by Solid-State Phosphorus-31 and Proton Magnetic Resonance**
Xia Zhao*[1], Hee Kwon Song[1], Cheng Li[1], Alan C Seifert[2], Felix W Wehrli[1]. [1]University of Pennsylvania, United states, [2]Icahn School of Medicine at Mount Sinai, United states
Disclosures: Xia Zhao, None

SA0018 **Glycated Osteocalcin Contributes to Loss of Bone Toughness**
Stacyann Morgan*[1], Caren Gundberg[2], Gerard Karsenty[3], Deepak Vashishth[1]. [1]Rensselaer Polytechnic Institute, United states, [2]Yale University, United states, [3]Columbia University, United states
Disclosures: Stacyann Morgan, None

SA0019 **Mapping of Trabecular Anisotropy Improves QCT-based Finite Element Estimation of Hip Strength in Pooled Stance and Side-Fall Load Configurations**
Jarunan Panyasantisuk*[1], Enrico Dall'Ara[2], Dieter Pahr[3], Philippe Zysset[1]. [1]Institute for Surgical Technology & Biomechanics, University of Bern, Switzerland, [2]Department of oncology & metabolism & INSIGNEO Institute for in silico medicine, University of Sheffield, United Kingdom, [3]Institute of Lightweight Design & Structural Biomechanics, Vienna University of Technology, Austria
Disclosures: Jarunan Panyasantisuk, None

SA0020 **Matrix-bound water concentration is lower in mice with brittle bones caused by osteogenesis imperfecta and separately ATF4 deficiency**
Mathilde Granke*[1], Sasidhar Uppuganti[1], Amy Creecy[1], Julie Schnur[2], Ben Greene[3], Mark Does[2], Jeffry Nyman[1]. [1]Vanderbilt university Medical Center, United states, [2]Vanderbilt University, United states, [3]Genzyme, United states
Disclosures: Mathilde Granke, None

SA0021 **Role of Advanced Glycation End-Products and Cortical Porosity in Type 2 Diabetes**
Lamya Karim*[1], Miranda Van Vliet[2], Kelsey Velie[2], Ayesha Abdeen[1], Douglas Ayres[1], Mary Bouxsein[1]. [1]Harvard Medical School, United states, [2]Beth Israel Deaconess Medical Center, United states
Disclosures: Lamya Karim, None

SA0022 **The Relationship Between Femoral Neck aBMD and the Underlying Morphological and Compositional Traits that are Coordinately Regulated to Establish Mechanical Homeostasis**
Andrew Kozminski[1], Erin Bigelow[1], Stephen Schlecht[1], Robert Goulet[1], Sioban Harlow[1], Carrie Karvonen-Gutierrez[1], Jane Cauley[2], Karl Jepsen*[1]. [1]University of Michigan, United states, [2]University of Pittsburgh, United states
Disclosures: Karl Jepsen, None

BIOMECHANICS AND BONE QUALITY: DISUSE OSTEOPOROSIS – ANIMAL MODELS

SA0023 **Bisphosphonate Pre-Treatments Enhance Trabecular Bone Architecture during Unloading and Reambulation Despite Lower Resorption and Formation**
Jeremy Black*[1], Jessica Brezicha[2], Corinne Metzger[3], Scott Lenfest[1], Jennifer Kosniewski[1], Susan Bloomfield[3], Matt Allen[4], Harry Hogan[5]. [1]TAMU Department of Mechanical Engineering, United states, [2]TAMU Department of Biomedical Engineering, United states, [3]TAMU Department of Health & Kinesiology, United states, [4]Department of Anatomy & Cell Biology, Indiana University School of Medicine, United states, [5]TAMU Department of Mechanical Engineering/ Department of Biomedical Engineering, United states
Disclosures: Jeremy Black, None

BIOMECHANICS AND BONE QUALITY: GENERAL

SA0024 **Collagen nanoelasticity is tunable via osmotic pressure**
Orestis Andriotis, Sylvia Desissaire, Philipp Thurner*. Vienna University of Technology, Austria
Disclosures: Philipp Thurner, None

SA0025 **Withdrawn**

SA0026 **Identification of the Damping Matrix for a Dynamic Finite Element Model of the rat Forelimb**
Wubin Cheng*, Kim Harrison, Majid Nazemi, David Cooper, James Johnston. University of Saskatchewan, Canada
Disclosures: Wubin Cheng, None

SA0027 **Long-term Administration of Oncology Doses of Zoledronic Acid does not Compromise Femoral Biomechanical Properties in Rice Rats (*Oryzomys palustris*)**
Jonathan Messer*, Hung-Yuan Chen, Jessica Jiron, Evelyn Castillo, Jorge Mendieta Calle, Donald Kimmel, J. Ignacio Aguirre. University of Florida, United states
Disclosures: Jonathan Messer, None

SA0028 **Nanoparticulate Mineralized Collagen Scaffolds Induce in Vivo Bone Regeneration Independent of Progenitor Cell Loading or Exogenous Growth Factor Stimulation**
Xiaoyan Ren*[1], Victor Tu[1], David Bischoff[2], Daniel Weisgerber[3], Michael Lewis[4], Dean Yamaguchi[5], Timothy Miller[6], Brendan Harley[3], Justine Lee[6]. [1]UCLA & VA Great Los Angles Healthcare System, United states, [2]VA Great Los Angele Healthcare System, United states, [3]University of Illinois at Urbana-Champaign, United states, [4]VA Great Los Angeles System, United states, [5]VA Great Los Angeles Healthcare System, United states, [6]UCLA & VA Great Los Angeles Healthcare System, United states
Disclosures: Xiaoyan Ren, None

SA0029 **Sensitivity of Proximal Femur Regions to Mechanical Loading in Young Adults**
Fátima Baptista*, Edgar Lopes, Vera Zymbal. Exercise & Health Laboratory, Faculty of Human Kinetics, University of Lisbon, Portugal
Disclosures: Fátima Baptista, None

SA0030 **Why Do Spine Fusions Fail?**
J Edward Puzas*. University of Rochester School of Medicine & Dentistry, United states
Disclosures: J Edward Puzas, None

BIOMECHANICS AND BONE QUALITY: MECHANICAL LOADING EFFECTS IN INTACT ANIMALS

SA0031 **Novel Associations Between Reduced Serum Sclerostin and Adaptive Bone Changes Following Exercise Training**
Melissa Ramcharan*[1], Rachel Izard[2], Bonnie Nolan[1], Lauren Smith[1], Stephen Schlecht[1], William Fraser[3], Julie Greeves[4], Karl Jepsen[1]. [1]University of Michigan, United states, [2]HQ Army & Training Division, United Kingdom, [3]Norwich Medical School, University of East Anglia, United Kingdom, [4]HQ Army Recruiting & Training Division, United Kingdom
Disclosures: Melissa Ramcharan, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: BONE DEVELOPMENT AND BONE MASS ACCRUAL

SA0032 **Associations of Behavioral Characteristics of Young Adults and Bone Health: Iowa Bone Development Study (IBDS)**
Elena Letuchy, Julie Eichenberger*, Linda Snetselaar, Kathleen Janz, Trudy Burns, Punam Saha, James Torner, Steven Levy. University of Iowa, United states
Disclosures: Julie Eichenberger, None

SA0033 **Lean and fat mass indices: An alternative to BMI for assessing growth outcomes in young children**
Neil R. Brett*, Kristina E. Parsons, Catherine Vanstone, Hope A. Weiler. McGill University, Canada
Disclosures: Neil R. Brett, None

SA0034 **Poor Glycemic Control is Associated with Greater Urinary Calcium Excretion in Adolescents with Type 1 Diabetes**
David Weber*[1], Kimberly O'Brien[2], Mary Leonard[3], Noya Rackovsky[4], George Schwartz[4]. [1]University or Rochester, United states, [2]Cornell University, United states, [3]Stanford University, United states, [4]University of Rochester, United states
Disclosures: David Weber, None

SA0035 **Precision of pQCT Measurements of Total, Trabecular and Cortical Bone Area, Content, Density, and Strength in Children**
Whitney Duff*[1], Kelsey Björkman[2], Chantal Kawalilak[3], Sheldon Wiebe[4], Saija Kontulainen[2]. [1]Department of Gastroenterology, College of Medicine, University of Saskatchewan, Canada, [2]College of Kinesiology, University of Saskatchewan, Canada, [3]Department of Mechanical Engineering, College of Engineering, University of Saskatchewan, Canada, [4]Department of Radiology, College of Medicine, University of Saskatchewan, Canada
Disclosures: Whitney Duff, None

SA0036 **Prickle1 is required for neural crest development**
Yong Wan*, Brandi Gillian, Brian Cusack, Heather Szabo-Rogers. university of pittsburgh, United states
Disclosures: Yong Wan, None

SA0037 **Sexual Dimorphism in the Distal Radius and Tibia Bone Size, Density, Micro-architecture and Strength is Manifested in Favor of Boys Already in Childhood**
Saija Kontulainen*[1], Kelsey Bjorkman[1], Chantal Kawalilak[1], Whitney Duff[2], Hassanali Vatanparast[1], J.D. Johnston[1]. [1]University of Saskatchewan, Canada, [2]University of Saskatchewan, Canada
Disclosures: Saija Kontulainen, None

SA0038 **The Muscle-Dependent Link Between IGF-I and Cortical Bone is Suppressed in Children with Insulin Resistance**
Joseph Kindler*[1], Norman Pollock[2], Emma Laing[1], Carlos Isales[2], Mark Hamrick[2], Ke-Hong Ding[2], Dorothy Hausman[1], George McCabe[3], Berdine Martin[3], Kathleen Hill Gallant[3], Stuart Warden[4], Connie Weaver[3], Munro Peacock[4], Richard Lewis[1]. [1]The University of Georgia, United states, [2]Augusta University, United states, [3]Purdue University, United states, [4]Indiana University, United states
Disclosures: Joseph Kindler, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: BONE LOSS IN PEDIATRICS

SA0039 **Intestinal microbiome present in Crohn disease impairs the skeletal health and linear growth**
Anu Maharjan*, Young Huh, Maureen Bower, Hong Yuan, Young Truong, Ian Carroll, Francisco Sylvester. University of North Carolina, United states
Disclosures: Anu Maharjan, None

BONE MARROW MICROENVIRONMENT AND NICHES: BONE AND HEMATOPOIESIS

SA0040 **Aging bone marrow microenvironments impart age-associated changes to hematopoietic stem and progenitor cells**
Corey Hoffman, Frank Akwaa, Rachel Rubinova, John Ashton, Mark LaMere, Brandon Zaffuto, Michael Becker, Benjamin Frisch*, Laura Calvi. University of Rochester School of Medicine & Dentistry, United states
Disclosures: Benjamin Frisch, None

SA0041 **Erythropoietin signaling regulates bone homeostasis**
Luis Fernandez De Castro Diaz[1], Soumyadeep Dey[2], Pamela Robey[1], Constance Noguchi[2], Sukanya Suresh*[2]. [1]Skeletal Biology Section, Craniofacial & Skeletal Diseases Branch, National Institute of Dental & Craniofacial Research, NIH, United states, [2]Molecular Medicine Branch, National Institute of Diabetes & Digestive & Kidney Diseases, United states
Disclosures: Sukanya Suresh, None

BONE MARROW MICROENVIRONMENT AND NICHES: GENERAL

SA0042 **Macrophage Progenitor RIP140 Knockdown Regulates Osteoclast Differentiation and Results in Osteopenia**
Bomi Lee*[1], Urszula T. Iwaniec[2], Russell T. Turner[2], Li-Na Wei[1], Anne Gingery[3]. [1]University of Minnesota, United states, [2]Oregon State University, United states, [3]Mayo Clinic, United states
Disclosures: Bomi Lee, None

BONE MARROW MICROENVIRONMENT AND NICHES: OSTEOIMMUNOLOGY

SA0043 **Fat, Inflammation, and Aging**
Raysa Rosario*, Hongfang Yu, Mark Hamrick, Carlos Isales, Babak Baban, Xing-Ming Shi. Georgia Regents University, United states
Disclosures: Raysa Rosario, None

BONE MARROW MICROENVIRONMENT AND NICHES: STEM CELL NICHES

SA0044 **HDL is essential for normal bone formation in mice**
Harry Blair*[1], Elena Kalyvioti[2], Nicholaos Papachristou[2], Irina Tourkova[3], Spryros Syggelos[4], K.E. Kypteos[5], Dionysios Papachristou[2]. [1]Veteran's Affairs Medical Center & Departments of Pathology & Cell Biology, University of Pittsburgh, United states, [2]Department of Anatomy-Histology-Embryology, & the Unit of Bone & Soft Tissue Studies, University of Patras Medical School, Greece, [3]Pittsburgh VA Medical Center, & Departments of Pathology & Cell Biology, University of Pittsburgh, United states, [4]Dept. Of Pharmacology, School of Medicine, Univertsity of Patras, Greece, [5]Dept. Of Pharmacology, School of Medicine, Univertsity of Patras., Greece
Disclosures: Harry Blair, None

BONE TUMORS AND METASTASIS: BONE TUMOR MICROENVIRONMENT

SA0045 **Bioactive PTHrP(12-48) modulates the bone marrow microenvironment independent of PTH1 receptor, is internalized into cells, and suppresses osteoclast differentiation and lifespan**
Charity Washam*, Diarra Williams, Archana Kamalakar, Nisreen Akel, Frances Swain, Dana Gaddy, Larry Suva. Texas A&M University, United states
Disclosures: Charity Washam, None

SA0046 **Leukemia inhibitory factor receptor (LIFR) signals via Stat3 to mediate tumor dormancy in bone**
Rachelle Johnson*, Rebecca Miao, Amato Giaccia. Stanford University, United states
Disclosures: Rachelle Johnson, None

BONE TUMORS AND METASTASIS: GENERAL

SA0047 **Oncogenic and Osteolytic Function of Histone Demethylase NO66 in Prostate Cancer induced Bone Metastasis**
Krishna Sinha*[1], Rozita Bagheri-Yarmand[2], Nora Navone[2], Xinhai Wan[2], Christopher Logothetis[2], robert Gagel[2], Johnny Huard[1]. [1]UT Health Science Center at Houston, United states, [2]MD Anderson Cancer Center, United states
Disclosures: Krishna Sinha, None

SA0048 **PKC-Zeta downregulation associates with metabolic plasticity in breast cancer cells during bone metastasis**
Manish Tandon*, Jitesh Pratap. Rush University Medical Center, United states
Disclosures: Manish Tandon, None

SA0049 **The Effects of Low Magnitude Mechanical Signals on Myeloma-induced Osteolysis are Both Anti-resorptive and Systemic**
Gabriel M. Pagnotti*[1], Kimberly DeCarr[1], Janet Rubin[2], Steven D. Bain[3], Clinton T. Rubin[1]. [1]Stony Brook University, United states, [2]University of North Carolina: Chapel Hill, United states, [3]University of Washington, United states
Disclosures: Gabriel M. Pagnotti, None

SA0050 **The Role of the COP9 Signalosome in the Pathogenesis of Osteosarcoma**
William Samsa*, Guang Zhou. Case Western Reserve University, United states
Disclosures: William Samsa, None

BONE TUMORS AND METASTASIS: MECHANISMS OF BONE METASTASIS

SA0051 **Novel ERα positive breast cancer model with estrogen independent growth in the bone microenvironment**
Biancamaria Ricci*[1], Aude-Hélène Capietto[2], Szeman Ruby Chan[3], Debora V Novak[4], Robert D Schreiber[3], Roberta Faccio[2]. [1]Department of Orthopaedic Surgery - Washington University School of Medicine, United states, [2]Department of Orthopaedic Surgery - Washington University School of Medicine, United states, [3]Department of Pathology & Immunology - Washington University School of Medicine, United states, [4]Department of Pathology & Immunology- Washington University School of Medicine, United states
Disclosures: Biancamaria Ricci, None

BONE TUMORS AND METASTASIS: THERAPEUTIC TARGETS FOR BONE TUMORS

SA0052 **Effects of cabozantinib alone and in combination with bortezomib in the 5TGM1 murine multiple myeloma model**
Mari I Suominen*[1], Katja M Fagerlund[1], Esa Alhoniemi[2], Jukka P Rissanen[1], Jussi M Halleen[1], Dana T Aftab[3]. [1]Pharmatest Services Ltd., Finland, [2]Avoltus Oy, Finland, [3]Exelixis Inc., United states
Disclosures: Mari I Suominen, Pharmatest Services Ltd, 17

CHONDROCYTES AND CARTILAGE MATRIX: ARTICULAR CARTILAGE

SA0053 **A Novel Protective Role of GPNMB/Osteoactivin in Post-traumatic Osteoarthritis**
Asaad Al Adlaan*[1], Nazar Hussein[1], Fatima Jaber[1], Tariq Haqqi[2], Fayez Safadi[2]. [1]Kent State University, United states, [2]Northeast Ohio Medical University, United states
Disclosures: Asaad Al Adlaan, None

SA0054 **Articular Cartilage Preservation in Mice Lacking Cathepsin K**
Fabiana Soki*[1], Ryu Yoshida[1], David N. Paglia[1], Maureen Pickarski[2], Marc Hansen[1], Le Duong[2], Hicham Drissi[1]. [1]Uconn Health Center, United states, [2]Merck & Co., Inc., United states
Disclosures: Fabiana Soki, None

SA0055 **IKKβ Activation in Postnatal Chondrocytes Results in a Chronic Inflammatory Environment within the Knee Joint and Recapitulates an Age-Associated Osteoarthritis Phenotype**
Sarah Catheline*, Martin Chang, Michael Zuscik, Jennifer Jonason. University of Rochester, United states
Disclosures: Sarah Catheline, None

SA0056 **Repair of Focal Cartilage Defects in the Rat using Human Embryonic Stem Cell-Derived Articular Cartilage Tissues**
April Craft*[1], Subhash Juneja[2], Heather Whetstone[3], Christian Veillette[2], Gordon Keller[4]. [1]Boston Children's Hospital, Harvard Medical School, United states, [2]Arthritis Program, Toronto Western Hospital, Canada, [3]Hospital for Sick Children, Canada, [4]McEwen Centre for Regenerative Medicine, University Health Network, Canada
Disclosures: April Craft, None

SA0057 **Saturated Fatty Acids Differently Alter Osteoarthritis Development in Diet Induced Obese Rats**
Indira Prasadam*, Sunderajhan Sekar, Yin Xiao, Ross Crawford. Institute of Health & Biomedical Innovation & Queensland University of Technology, Australia
Disclosures: Indira Prasadam, None

CHONDROCYTES AND CARTILAGE MATRIX: GENERAL

SA0058 **Modulation of Hypoxia Signaling, but not Angiogenesis Alone, Improves Regenerative Outcome During Endochondral Bone Tissue Engineering**
Pieter-Jan Stiers*, Nick van Gastel, Steve Stegen, Riet Van Looveren, Sophie Torrekens, Geert Carmeliet. Clinical & Experimental Endocrinology, KU Leuven, Belgium
Disclosures: Pieter-Jan Stiers, None

SA0059 **mTORC1 Modulates Craniofacial Cartilage Development in Zebrafish and Mice**
Meng Xie*[1], Lei Li[1], Phillip Newton[1], Evgeny Ivashkin[1], Vyacheslav Dyachuk[2], Olov Andersson[3], Hong Qian[4], Igor Adameyko[1], Andrei Chagin[1]. [1]Department of Physiology & Pharmacology, Karolinska Institutet, Stockholm SE-171 77, Sweden., Sweden, [2]Neuroscience Dep., Karolinska Institutet, Sweden, [3]Department of Cell & Molecular Biology (CMB), C5, Karolinska Institutet, Sweden, [4]Department of Medicine, Huddinge (MedH), H7, Karolinska Institutet, Sweden
Disclosures: Meng Xie, None

SA0060 **Raf Kinases are Essential for Phosphate Induction of Erk1/2 Phosphorylation in Hypertrophic Chondrocytes and Normal Endochondral Bone Development**
Garyfallia Papaioannou*[1], Elizabeth T. Petit[2], Eva S. Liu[3], Manuela Baccarini[4], Catrin Pritchard[5], Marie B. Demay[1]. [1]Endocrine Unit, Massachusetts General Hospital & Harvard Medical School, United states, [2]Endocrine Unit, Massachusetts General Hospital, United states, [3]Endocrine Unit, Massachusetts General Hospital, Harvard Medical School & Brigham & Women's Hospital, United states, [4]Department of Microbiology, Immunology & Genetics, Center of Molecular Biology, Max F. Perutz Laboratories, University of Vienna, Austria, [5]Department of Molecular Cell Biology, University of Leicester, UK, United Kingdom
Disclosures: Garyfallia Papaioannou, None

CHONDROCYTES AND CARTILAGE MATRIX: ORIGIN, DIFFERENTIATION, APOPTOSIS

SA0061 **Role of Discoidin Receptor 2 in Intervertebral Disc Development and Degeneration**
chunxi Ge*[1], Ernestina Schipani[2], Renny Franceschi[1], Hanshi Sun[1]. [1]University of Michigan School of Dentistry, United states, [2]University of Michigan School of Medicine, United states
Disclosures: chunxi Ge, None

CHONDROCYTES AND CARTILAGE MATRIX: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

SA0062 **Inhibition of Epigenetic Factor Dnmt3b within Articular Chondrocytes Coordinates Cellular Metabolic Response during the Development of Osteoarthritis**

Jie Shen*[1], Cuicui Wang[1], Daofeng Li[2], Jason Myers[3], John Ashton[3], Audrey McAlinden[1], Ting Wang[2], Regis O'Keefe[1]. [1]Department of Orthopaedic Surgery, School of Medicine, Washington University in St. Louis, United states, [2]Department of Genetics, School of Medicine, Washington University in St. Louis, United states, [3]University of Rochester Medical Center, United states

Disclosures: Jie Shen, None

ENERGY METABOLISM AND BONE: DIABETES AND BONE (ANIMAL MODELS)

SA0063 **Bone-Derived Lipocalin 2 is an Anorexigenic Hormone**

Steven Shikhel*, Stavroula Kousteni. Columbia University, United states

Disclosures: Steven Shikhel, None

SA0064 **Osteoblastic Hdac3 Expression Regulates Systemic Energy Metabolism**

Jessica Pierce*[1], Kanglun Yu[1], Ahmed Elsherbini[1], Elizabeth Bradley[2], Jennifer Westendorf[2], Meghan McGee-Lawrence[3]. [1]Augusta University, United states, [2]Mayo Clinic, United states, [3]Medical College of Georgia, Augusta University, United states

Disclosures: Jessica Pierce, None

ENERGY METABOLISM AND BONE: FAT AND BONE

SA0065 **Bone Marrow Adipose Changes After Gastric Bypass Surgery-Induced Weight Loss Are Influenced by Diabetes Improvement and Total Body Fat Loss**

Tiffany Kim*[1], Ann Schwartz[2], Xiaojuan Li[2], Kaipin Xu[2], Dennis Black[2], Dimitry Petrenko[3], Lygia Stewart[1], Stanley Rogers[2], Andrew Posselt[2], Jonathan Carter[2], Dolores Shoback[1], Anne Schafer[1]. [1]University of California, San Francisco & the San Francisco VA Medical Center, United states, [2]University of California, San Francisco, United states, [3]Alabama College of Osteopathic Medicine, United states

Disclosures: Tiffany Kim, None

SA0066 **Exercise Shrinks Marrow Adipocytes by Burning Fat**

Maya Styner*[1], Gabriel Pagnotti[2], Xin Wu[1], Cody McGrath[1], Buer Sen[1], Gunes Uzer[1], Zhihui Xie[3], Xiaopeng Zong[4], Martin Styner[5], Clinton Rubin[2], Janet Rubin[1]. [1]Department of Medicine, Division of Endocrinology, University of North Carolina, Chapel Hill, NC, United states, [2]Department of Biomedical Engineering, State University of New York, Stony Brook, NY, United states, [3]Department of Medicine, Division of Endocrinology, University of North Carolina, Chapel Hill, NC, United states, [4]Biomedical Research Imaging Center, University of North Carolina, Chapel Hill, NC, United states, [5]Departments of Psychiatry & Computer Science, University of North Carolina, Chapel Hill, NC, United states

Disclosures: Maya Styner, None

SA0067 **FSH Regulates Body Fat and Whole Body Metabolism**

Yaoting Ji[1], Peng Liu[1], Elizabeth Rendina-Ruedy[2], Victoria DeMambro[2], Tony Yuen*[1], Ping Lu[1], Bin Zhou[3], Ling-Ling Zhu[1], Samuel Robinson[3], Eric Yu[3], Christoph Buettner[1], Maria New[1], Marc Feldmann[4], Bian Zhuan[5], Jay Cao[6], Edward Guo[3], Jameel Iqbal[7], Li Sun[1], Clifford Rosen[2], Mone Zaidi[1]. [1]Icahn School of Medicine, United states, [2]Maine Medical Center Research Institute, United states, [3]Columbia University, United states, [4]Kennedy Institute of Rheumatology, United Kingdom, [5]Wuhan University, China, [6]USDA Department of Agriculture, United states, [7]Greater Los Angeles VA Medical Center, United states

Disclosures: Tony Yuen, None

SA0068 **Osteocalcin levels in adult women with different body mass index having normal glucose and hemoglobin A1c levels**

Susana Zeni*[1], Liliana Zago[2], Carlos Lugones[3], Graciela Brito[3], Carlos A Gonzalez Infantino[4]. [1]INIGEM, Argentina, [2]Dep. Nutrition. School of Pharmacy & Biochemistry.UBA, Argentina, [3]INIGEM. Hospital de Clinicas.UBA/CONICET, Argentina, [4]Dep. Nutrition. Hospital de Clinicas. School of Medicine., Argentina

Disclosures: Susana Zeni, None

SA0069 **Osteocyte-specific ablation of Pparγ (Ocy-Pparγ) improves energy metabolism and prevents fat accumulation and steatosis in response to a high fat diet**
Julia brun*[1], flavien Berthou[2], Mirko Trajkovski[2], Michelangelo Foti[2], Pierre Maechler[2], serge ferrari[1], Nicolas Bonnet[1]. [1]Service des Maladies Osseuses, Switzerland, [2]laboratoires des Maladies métaboliques, Switzerland
Disclosures: Julia brun, None

SA0070 **Serum Phosphate is Related to Fat Mass in Healthy Adults**
Emma Billington*[1], Greg Gamble[2], Ian Reid[2]. [1]University of Calgary, Canada, [2]University of Auckland, New zealand
Disclosures: Emma Billington, None

ENERGY METABOLISM AND BONE: GENERAL

SA0071 **Adipocyte- and Osteoblast-Specific Function of Protein Phosphatase 5 (PP5) in Modulation of PPARγ and Runx2 Activities and Regulation of Bone Mass and Energy Metabolism**
Lance A. Stechschulte*[1], Piotr J. Czernik[2], Edwin R. Sanchez[1], Renny Franceschi[3], Beata Lecka-Czernik[1]. [1]University of Toledo Health Science Campus, United states, [2]MicroTomografix Ltd, United states, [3]Periodontics & Oral Medicine University of Michigan School of Dentistry, United states
Disclosures: Lance A. Stechschulte, None

SA0072 **Cross-talk between oxidative metabolism and osteogenic signaling**
Roman Eliseev*, Melanie Busch, Noelle White. University of Rochester, United states
Disclosures: Roman Eliseev, None

SA0073 **Cyclophilin D Knock-out Mice Show Enhanced Resistance to Osteoporosis and to Metabolic Changes Observed in Aging Bone**
Laura Shum*, Roman Eliseev. University of Rochester, United states
Disclosures: Laura Shum, None

SA0074 **Eicosapentaenoic acid attenuates Dexamethasome-induced apoptosis by inducing adaptive autophagy via GPR120 in murine Bone Marrow-Derived Mesenchymal Stem Cells**
Bo Gao*[1], Liu Yang[2], Zhuo-Jing Luo[2]. [1]Xijing Hospital, Fourth Military Medical University, United states, [2]Xijing Hospital, Fourth Military Medical University, China
Disclosures: Bo Gao, None

GENETIC MODELS OF MUSCULOSKELETAL DISEASES: ANIMAL MODELS

SA0075 ***Fkbp10* is essential for normal bone quality and joint homeostasis in postnatal mice**
Joohyun Lim*[1], Caressa Lietman[1], Hamilton Wang[1], Ingo Grafe[1], Elda Munivez[1], Merry Ruan[1], Keren Machol[1], Brian Dawson[1], Terry Bertin[1], Yuqing Chen[1], Hao Ding[2], Dongsu Park[1], Xiahong Bi[2], Catherine Ambrose[3], Nadja Fratzl-Zelman[4], Paul Roschger[4], Klaus Klaushofer[4], Ingo Schmidt[5], Peter Fratzl[5], Jyoti Rai[6], MaryAnn Weis[6], David Eyre[6], Deborah Krakow[7], Brendan Lee[1]. [1]Department of Molecular & Human Genetics, Baylor College of Medicine, United states, [2]Department of Nanomedicine & Biomedical Engineering, University of Texas Health Science Center at Houston, United states, [3]Department of Orthopaedic Surgery, University of Texas Health Science Center at Houston, United states, [4]Ludwig Boltzmann Institute of Osteology, Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling 1st Med. Dept. Hanusch Hospital, Austria, [5]Department of Biomaterials, Max Planck Institute of Colloids & Interfaces, Research Campus Golm, Germany, [6]Department of Orthopaedics & Sports Medicine, University of Washington, United states, [7]Department of Orthopaedic Surgery, David Geffen School of Medicine at UCLA, United states
Disclosures: Joohyun Lim, None

SA0076 **Anti-Notch2 Antibodies Reverse the Severe Osteopenia of Hajdu Cheney Syndrome Mutants**
Ernesto Canalis*, Archana Sanjay, Jungeun Yu, David Bridgewater, Stefano Zanotti. UConn Health, United states
Disclosures: Ernesto Canalis, None

SA0077 **CRISPR/Cas9-generated Mouse Model of Autosomal-dominant Hypocalcemia Harboring the Activating G Protein Alpha 11 Mutation Arg60Cys and Use of Calcilytics and a Gαq/Gα11-specific Inhibitor**
Kelly Lauter Roszko*[1], Ruiye Bi[1], Sarah Howles[2], Hans Brauner-Osborne[3], Xiaofeng Xiong[3], Fadil Hannan[4], M Andrew Nesbit[5], Rajesh Thakker[6], Kristian Stromgaard[3], Thomas Gardella[1], Michael Mannstadt[1]. [1]Endocrine Unit, Massachusetts General Hospital, United states, [2]University of Oxford, United Kingdom, [3]Department of Drug Design & Pharmacology, University of Copenhagen, Denmark, [4]University of Liverpool, United Kingdom, [5]Ulster University, United Kingdom, [6]Nuffield Department of Clinical Medicine, University of Oxford, United Kingdom
Disclosures: Kelly Lauter Roszko, None

SA0078 **Generation and Phenotypic Characterization of a *Lrp4* R1170Q Knock-In Mouse Model**
Eveline Boudin*[1], Igor Fijalkowski[1], Stephan Sonntag[2], Gretl Hendrickx[1], Timur A Yorgan[3], Thorsten Schinke[3], Geert Mortier[1], Wim Van Hul[1]. [1]Centre of Medical Genetics, University & University Hospital of Antwerp, Belgium, Belgium, [2]PolyGene AG, Rümlang, Switzerland, Switzerland, [3]Department of Osteology & Biomechanics, University Medical Center Hamburg, Germany, Germany
Disclosures: Eveline Boudin, None

SA0079 **Genetic Variation Affects the Rate of Tibial Fracture Healing**
Jun Zhang*, Dana A. Godfrey, Robert D Maynard, Michael J Zuscik, Cheryl L. Ackert-Bicknell. Center for Musculoskeletal Research, University of Rochester Medical Center, United states
Disclosures: Jun Zhang, None

SA0080 **Increased Trabecular Bone, Altered Glucose Homeostasis and Improved Biomechanics in an Osteocalcin Null Rat Model Created by CRISPR/Cas9 Technology**
Laura Lambert*[1], Anil Challa[1], Aidi Niu[1], Lihua Zhou[1], Janusz Tucholski[1], Maria Johnson[1], Tim Nagy[1], Alan Eberhardt[1], Patrick Estep[1], Robert Kesterson[1], Jayleen Grams[2]. [1]UAB, United states, [2]UAB/Birmingham VA Medical Center, United states
Disclosures: Laura Lambert, None

SA0081 **Multi-Trait Mapping Reveals Novel Loci Controlling Relationships between Calcium Absorption, Bone Density, and Serum 1,25 Dihydroxyvitamin D in BXD Mice**
James Fleet*, Krittikan Chanpaisaeng, Perla Reyes-Fernandez, Rebecca Replogle. Department of Nutrition Science, Purdue University, United states
Disclosures: James Fleet, None

SA0082 **Spectrum of bone architectural abnormalities detected by µCT screening of mouse gene knockout lines**
Cheryl Ackert-Bicknell*[1], Douglas Adams[2], Renata Rydzik[2], LI Chen[2], Zhihua Wu[2], Seung-Hyun Hong[2], Gaven Garland[3], Pujan Joshi[2], Caibin Zhang[2], John Sundberg[3], Dong-Guk Shin[2], David Rowe[2]. [1]University of Rochester, United states, [2]University of Connecticut, United states, [3]The Jackson Laboratory, United states
Disclosures: Cheryl Ackert-Bicknell, None

SA0083 **The Effects of Soluble Activin Receptor Type IIB (ActRIIB-mFc) Treatment on Muscle and Bone Properties of Two Distinct Osteogenesis Imperfecta Mouse Models**
Youngjae Jeong*[1], Marybeth Brown[2], Ferris Pfeiffer[3], Mark Dallas[4], Yixia Xie[5], R. Scott Pearsall[6], Sarah Dallas[4], Charlotte Phillips[7]. [1]Department of Biochemistry, University of Missouri, United states, [2]Department of Biomedical Sciences & Physical Therapy Program, University of Missouri, United states, [3]Department of Bioengineering, University of Missouri, United states, [4]Department of Oral & Craniofacial Biology, University of Missouri at Kansas City, United states, [5]Department of Oral & Craniofacial Sciences, University of Missouri at Kansas City, United states, [6]Acceleron Pharma Inc., United states, [7]Departments of Biochemistry & Child Health, University of Missouri, United states
Disclosures: Youngjae Jeong, None

GENETIC MODELS OF MUSCULOSKELETAL DISEASES: OTHER DISEASES

SA0084 **Osteoprotegerin is Critical for the Formation of Heterotopic Ossification**
Song Xue*[1], Roberto Fajardo[2], Kevin McHugh[1]. [1]University of Florida, United states, [2]University of Texas Helath Science Center San Antonio, United states
Disclosures: Song Xue, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE: EPIGENOMICS (DNA METHYLATION AND HISTONE MODIFICATION)

SA0085 **Epigenomic Signature of Bisphosphonate use**
Roby Joehanes*, Yi-Hsiang Hsu, David Karasik, Douglas Kiel. Institutes for Aging Research; Hebrew SeniorLife; Harvard Medical School, United states
Disclosures: Roby Joehanes, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE: GENE EXPRESSION

SA0086 **Comprehensive genome characterization of alcohol-induced osteonecrosis of femoral head**
Dewei Zhao*, Yan Ding. The Affiliated Zhongshan Hospital of Dalian University, China
Disclosures: Dewei Zhao, None

SA0087 **TRAC, a novel time and cost saving gene expression analysis technology with improved efficacy**
Jani Salmivaara[1], Oona Kivelä*[1], Jussi Halleen[2], Jari Rautio[3]. [1]ValiRx Finland Ltd, Finland, [2]Pharmatest Services Ltd, Finland, [3]Biotech Start-Up Management, Finland
Disclosures: Oona Kivelä, ValiRx Finland Ltd, 13

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE: GENETIC ASSOCIATION STUDIES

SA0088 **Increased Detection of Genetic Loci Associated With Risk Predictors of Osteoporosis Using a Pleiotropic cFDR Method**
Jonathan Greenbaum*, Kehao Wu, Lan Zhang, Hui Shen, Jigang Zhang, Hong-Wen Deng. Tulane University Department of Biostatistics & Bioinformatics, United states
Disclosures: Jonathan Greenbaum, None

SA0089 **Individual Variants and Genetic Risk Score for Puberty Timing Associate with Pediatric Bone Mineral Density**
Diana Cousminer*[1], Jonathan Mitchell[1], Alessandra Chesi[1], Sani Roy[1], Heidi Kalkwarf[2], Joan Lappe[3], Vincente Gilsanz[4], Benjamin Voight[5], Sharon Oberfield[6], John Shepherd[7], Andrea Kelly[1], Shana McCormack[1], Struan Grant[1], Babette Zemel[1]. [1]Children's Hospital of Philadelphia, United states, [2]Cincinnati Children's Hospital Medical Center, United states, [3]Creighton University, United states, [4]Children's Hospital of Los Angeles, United states, [5]University of Pennsylvania, United states, [6]Columbia University Medical Center, United states, [7]University of California San Francisco, United states
Disclosures: Diana Cousminer, None

SA0090 **Several novel susceptibility loci identified in trans-ethnic genome-wide association for trabecular volumetric bone mineral density**
Xiaoying Fu*, Hong-Wen Deng. Center for Bioinformatics & Genomics, Tulane University, New Orleans, LA, USA Department of Biostatistics & Bioinformatics, School of Public Health & Tropical Medicine, Tulane University, New Orleans, LA, United states
Disclosures: Xiaoying Fu, None

HORMONAL REGULATORS: FGF23 AND OTHER PHOSPHATONINS

SA0091 **Elevations in FGF23 precede abrogation of either phosphate or iron homeostasis in the Ebf1-KO model of renal insufficiency**
Jackie Fretz*, Tracy Nelson, Li Li. Yale School of Medicine–Orthopaedics, United states
Disclosures: Jackie Fretz, None

SA0092 **ASBMR 2016 Annual Meeting Young Investigator Award**
Genetic Ablation of *Fgf23* Does not Modulate Experimental Heart Hypertrophy Induced by Pressure Overload
Svetlana Slavic*, Kristopher Ford, Ute Zeitz, Reinhold Erben, Olena Andrukhova. University of Veterinary Medicine, Vienna, Austria
Disclosures: Svetlana Slavic, None

SA0093 **The roles of *ENPP1* in osteocytes under phosphate overload condition**
Ryuichi Watanabe*, Takeshi Miyamoto, Morio Matsumoto, Masaya Nakamura. Department of Orthopaedic Surgery, Keio University School of Medicine, Japan
Disclosures: Ryuichi Watanabe, None

SA0094 **TNFα triggers renal FGF23 expression and elevates systemic FGF23 levels in mouse models of chronic kidney disease**
Daniela Egli-Spichtig*[1], Pedro Imenez Silva[2], Bob Glaudemans[3], Gehring Nicole[2], Carla Bettoni[4], Martin Zhang[5], Desiree Schoenenberger[2], Michal Rajski[2], David Hoogewijis[2], Felix Knauf[6], Isabelle Frey-Wagner[7], Gerhard Rogler[7], Farzana Perwad[5], Foeller Michael[8], Florian Lang[9], Roland H. Wenger[2], Ian Frew[2], Carsten A. Wagner[2]. [1]Institute of Physiology, University of Zurich; Division of Pediatric Nephrology, University of California San Francisco, United states, [2]Institute of Physiology, University of Zurich, Switzerland, [3]University of Zurich, Switzerland, [4]Intsitute of Physiology, University of Zurich, Switzerland, [5]Division of Pediatric Nephrology, University of California San Francisco, United states, [6]Universitätsklinikum Erlangen, Nephrologie und Hypertensiologie, Germany, [7]Division of Gastroenterology & Hepatology, University Hospital Zurich, Switzerland, [8]Ernaehrungsphysiologie, Martin-Luther-University Halle-Wittenberg, Germany, [9]Institute of Physiology, University of Tuebingen, Germany
Disclosures: Daniela Egli-Spichtig, None

HORMONAL REGULATORS: OTHER HORMONES

SA0095 **NLRP3 Inflammasome Promotes Bone resorption In Non-inflammatory Conditions Of Accelerated Bone Turnover**
Yael Allipe*, Chun Wang, Biancamaria Ricci, Rong Zeng, Chao Qu, Roberto Civitelli, Deborah Novack, Yousef Abu-Amer, Gabriel Mbalaviele. Washington University School of Medicine, United states
Disclosures: Yael Allipe, None

HORMONAL REGULATORS: SEX HORMONES AND GLUCOCORTICOIDS

SA0096 **From Conditional ERα Deletion Mouse Models to Novel Gene Targets of the Anti-Resorptive Effects of Estrogens**
Srividhya Iyer*[1], Ha-Neui Kim[1], Serra Semahat Ucer[1], Li Han[1], Aaron Warren[1], Julie Crawford[1], Rafael DeCabo[2], Haibo Zhao[1], Maria Almieda[1], Stavros Manolagas[1]. [1]Center for Osteoporosis & Metabolic Bone Diseases, Univ. Arkansas for Medical Sciences, & Central Arkansas Veterans Healthcare System, United states, [2]Laboratory of Experimental Gerontology, National Institute on Aging, National Institutes of Health, United states
Disclosures: Srividhya Iyer, None

HORMONAL REGULATORS: PARATHYROID HORMONE AND CALCIUM SENSING RECEPTORS

SA0097 ***Lrp6* is a Novel Target of the PTH-activated αNAC Transcriptional Coregulator**
Martin Pellicelli*, Hadla Hariri, Julie Miller, René St-Arnaud. Shriners Hospitals for Children - Canada, Canada
Disclosures: Martin Pellicelli, None

SA0098 **Anabolic Effects of Parathyroid Hormone is MKP1 Independent in Male Mice Bone**
Nabanita Datta*, Sonali Sharma, Chandrika Mahalingam. Wayne State University School of Medicine, United states
Disclosures: Nabanita Datta, None

SA0099 **The Deacetylase, Sirtuin 1, is Necessary for Parathyroid Hormone's Actions on Murine Bone**
Nicola Partridge*[1], Teruyo Nakatani[1], Jennifer Westendorf[2], David Sinclair[3], Yurong Fei[4]. [1]New York University, United states, [2]Mayo Clinic, United states, [3]Harvard Medical School, United states, [4]North Shore LIJ Health System, United states
Disclosures: Nicola Partridge, None

HORMONAL REGULATORS: SEX HORMONES AND GLUCOCORTICOIDS

SA0100 **A role for TIEG and estrogen-regulated miRNAs in mediating SOST expression in bone**
Malayannan Subramaniam*, Kevin Pitel, Elizabeth Bruinsma, John Hawse. Mayo Clinic, United states
Disclosures: Malayannan Subramaniam, None

SA0101 **Androgen Receptor SUMOylation Regulates Bone Mass in Male Mice**
Jianyao Wu*[1], Sofia Movérare-Skrtic[1], Fu-Ping Zhang[2], Matti Poutanen[3], Claes Ohlsson[1]. [1]Center for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, Sweden, [2]Department of Physiology, & Turku Center for Disease Modeling, Institute of Biomedicine, University of Turku, Finland, Finland, [3]Center for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden; Department of Physiology, & Turku Center for Disease Modeling, Institute of Biomedicine, University of Turku, Finland, Finland
Disclosures: Jianyao Wu, None

SA0102 **Glucocorticoid Signaling Is important For Exercise-induced Bone Formation**
Robert MacDonell[1], Jianrui Xu*[1], KeHong Ding[1], Qing Zhong[1], William Hill[1], Wendy Bollag[1], Monte Hunter[1], Meghan McGee-Lawrence[1], Mona El Refaey[2], Maribeth Johnson[1], Christopher Treager[3], Ying Han[4], Mohammed Elsalanty[1], Mark Hamrick[1], Xingming Shi[1], Carlos Isales[1]. [1]Medical College of Georgia, United states, [2]Ohio State University, United states, [3]Medical Colleg of Georgia, United states, [4]School & Hospital of Stomatology Xi'an Jiaotong University, China
Disclosures: Jianrui Xu, None

SA0103 **Influence of Progesterone Nuclear Receptor Signaling in Osteoprogenitor Cells on Sexual Dimorphism of Trabecular Bone Mass**
Alexander Kot*, Zengdong zhong, Hongliang Zhang, Evan Lay, Nancy Lane, Wei Yao. UC Davis Medical Center, United states
Disclosures: Alexander Kot, None

SA0104 **Withdrawn**

HORMONAL REGULATORS: VITAMIN D AND ANALOGS

SA0105 **25(OH)D_3 HALF-LIFE IS LONGER IN OLDER THAN YOUNGER ADULTS**
Inez Schoenmakers*[1], Shima Assar[1], Terry Aspray[2], Ann Prentice[1], Kerry Jones[1]. [1]MRC Human Nutrition Research, United Kingdom, [2]Newcastle University, Institute for Cellular Medicine, United Kingdom
Disclosures: Inez Schoenmakers, None

SA0106 **Epigenetic Signals Modulate 1,25$(OH)_2D_3$ Regulation of Innate Immune Responses in Lung Epithelial Cells**
Ran Wei*[1], Ki-Yoon Kim[2], Puneet Dhawan[3], Gill Diamond[4], Sylvia Christakos[3]. [1]Department of Microbiology, Biochemistry & Molecular Genetics, Rutgers- New Jersey Medical School, United states, [2]Department of Microbiology, Biochemistry & Molecular Genetics, Rutgers-NewJersey Medical School, United states, [3]Department of Microbiology, Biochemistry & Molecular Genetics, Rutgers-New Jersey Medical School, United states, [4]Department of Oral Biology, University of Florida, United states
Disclosures: Ran Wei, None

SA0107 **Vitamin D metabolism in human mesenchymal stem cells: Effects of body composition and leptin**
Jing Li*, Julie Glowacki, Meryl LeBoff, Shuanhu Zhou. Brigham & Women's Hospital, United states
Disclosures: Jing Li, None

MECHANOBIOLOGY: CELLULAR AND MOLECULAR EFFECT OF MECHANICAL LOADING AND UNLOADING

SA0108 **Disruption of Aldehyde Dehydrogenase 2 (Aldh2) Gene Results in Suppression of Increase in Trabecular Bone Mass After Climbing Exercise in Growing Mice**
Kayoko Furukawa*[1], Kunitaka Menuki[2], Manabu Tsukamoto[2], Takafumi Tajima[1], Hokuto Fukuda[1], Toshiharu Mori[2], Akinori Sakai[2]. [1]MD, Japan, [2]MD, Ph.D, Japan
Disclosures: Kayoko Furukawa, None

SA0109 **Mechanically-Induced Osteocyte-Th17 Cell Signaling and Osteoclastogenesis**
Travis McCumber*, Michael Turturro, Kristen Drescher, Diane Cullen. Creighton University, United states
Disclosures: Travis McCumber, None

SA0110 **Mechanoresponsive miR-138-5p targets MACF1 to inhibit bone formation**
Airong Qian*[1], Zhihao Chen[1], Fan Zhao[1], Chao Liang[2], Lifang Hu[1], Chong Yin[1], Peng Shang[1], Ge Zhang[3]. [1]Key Laboratory for Space Biosciences & Biotechnology, Institute of Special Environmental Biophysics, School of Life Sciences, Northwestern Polytechnical University, China, [2]Institute for Advancing Translational Medicine in Bone & Joint Diseases, School of Chinese Medicine, Hong Kong Baptist University, China, [3]Institute for Advancing Translational Medicine in Bone & Joint Diseases, School of Chinese Medicine, Hong Kong Baptist University, China
Disclosures: Airong Qian, None

SA0111 **Osteoblast-Derived Paracrine Factors Regulate Angiogenesis in Response to Mechanical Stimulation**
Chao Liu*, Xin Cui, Thomas Ackermann, Vittoria Flamini, Weiqiang Chen, Alesha Castillo. New York University, United states
Disclosures: Chao Liu, None

MECHANOBIOLOGY: CELLULAR AND MOLECULAR MECHANOSENSING

SA0112 **Mechanical LINC between nucleus and cytoskeleton regulates βcatenin nuclear access**
Gunes Uzer*, Guniz Bas, Melis Olcum, Buer Sen, Zhihui Xie, Cody McGrath, Maya Styner, Janet Rubin. University of North Carolina, United states
Disclosures: Gunes Uzer, None

MECHANOBIOLOGY: GENERAL

SA0113 **Osteocyte distribution does not influence locations of mechanically induced bone formation in cancellous bone**
Erin Cresswell*[1], Thu Nguyen[1], Michael Horsfield[1], Thomas Metzger[2], Glen Niebur[2], Christopher Hernandez[1]. [1]Cornell University, United states, [2]University of Notre Dame, United states
Disclosures: Erin Cresswell, None

SA0114 **Radiation-induced bone loss is attenuated by mechanical loading**
Peter Govey[1], Yue Zhang[2], Henry Donahue*[2]. [1]Penn State, United states, [2]Virginia Commonwealth University, United states
Disclosures: Henry Donahue, None

MUSCLE BIOLOGY AND BONE-MUSCLE CROSSTALK: CELLULAR AND MOLECULAR INTERACTIONS

SA0115 **A Metabolite of Contracted Muscle, β-aminoisobutyric Acid, BAIBA, Inhibits Trabecular Bone Loss by Hindlimb Unloading Potentially through Maintenance of Osteocyte Viability**
Yukiko Kitase*[1], Jianxun Yi[1], Julian Vallejo[1], Harika Vemula[2], William Gutheil[2], Marco Brotto[3], Lynda Bonewald[1]. [1]University of Missouri-Kansas City, Department of Oral & Craniofacial Sciences, School of Dentistry, United states, [2]University of Missouri-Kansas City, School of Pharmacy, United states, [3]University of Texas at Arlington, United states
Disclosures: Yukiko Kitase, None

SA0116 **Osteocytic gene expression is not rapidly altered following muscle paralysis**
Dylan Mogk, Leah Worton, Dewayne Threet, Brandon Ausk, Edith Gardiner, Steven Bain, Ted Gross*. University of Washington, United states
Disclosures: Ted Gross, None

SA0117 **Transgenic Expression of FNDC5 Impacts Skeletal Turnover by Targeting Osteoblasts, Osteoclasts and Adipocytes**
clifford rosen*[1], christiane wrann[2], bruce spiegelman[2], mary bouxsein[3], roland baron[4], kneichi nagano[4], phuong le[1], michaela reagan[1], lynda bonewald[5]. [1]maine medical center research institute, United states, [2]dana farber cancer institute, United states, [3]Harvard Medical School, United states, [4]harvard dental school, United states, [5]university of missouri kansas city, United states
Disclosures: clifford rosen, None

MUSCLE BIOLOGY AND BONE-MUSCLE CROSSTALK: GENERAL

SA0118 **Hindlimb Immobilisation, but Not Castration, Induces Reduction of Undercarboxylated Osteocalcin Associated with Muscle Atrophy in Rats**
Xuzhu Lin*[1], Erik Hanson[1], Andrew Betik[1], Tara Brennan-Speranza[2], Alan Hayes[1], Itamar Levinger[3]. [1]Institute of Sport, Exercise & Active Living (ISEAL), Victoria University, Australia, [2]Department of Physiology & Bosch Institute for Medical Research, University of Sydney, Australia, [3]Exercise & Active Living (ISEAL), Victoria University, Australia
Disclosures: Xuzhu Lin, None

MUSCULOSKELETAL AGING: BONE

SA0119 **Age-related Changes in the 3D Microstructural Mouse Cortical Bone Using High Resolution Desktop Micro-CT System**
Haniyeh Hemmatian*[1], Michaël R Laurent[2], Frank Claessens[3], Dirk Vanderschueren[4], Harry van Lenthe[1]. [1]Biomechanics Section, Department of Mechanical Engineering, KU Leuven, Belgium, [2]1-Laboratory of Molecular Endocrinology, Department of Cellular & Molecular Medicine, KU Leuven, 2- Gerontology & Geriatrics, Department of Clinical & Experimental Medicine, KU Leuven, Belgium, [3]Laboratory of Molecular Endocrinology, Department of Cellular & Molecular Medicine, KU Leuven, Belgium, [4]Clinical & Experimental Endocrinology, Department of Clinical & Experimental Medicine, KU Leuven, Belgium
Disclosures: Haniyeh Hemmatian, None

SA0120 **Bmi1 Plays A Critical Role in Protecting Bone Against Premature Aging by Inactivating p16 and p53 Signaling And Inhibiting Oxidative Stress**
Xianhui Lyu*, Qian Wang, Jianliang Jin, Dengshun Miao. Nanjing Medical University, China
Disclosures: Xianhui Lyu, None

SA0121 **Change in Circulating Serum Dickkopf-related protein 1 Levels over Lifetime Predicts End of Life Hip Shape and BMD Distribution**
Ellen E. Quillen*[1], Todd L. Bredbenner[2], Donald E. Moravits[2], Arthur E. Nicholls[2], Vicki Mattern[1], Anne Sheldrake[1], Jaydee Foster[1], Lorena M. Havill[1], Daniel P. Nicolella[2]. [1]Texas Biomedical Research Institute, United states, [2]Southwest Research Institute, United states
Disclosures: Ellen E. Quillen, None

SA0122 **DNA damage and senescence in osteoprogenitors expressing Osx1 may cause their decline in number with age**
Ha-Neui Kim*[1], Jianhui Chang[2], Lijian Shao[2], Li Han[1], Srividhya Iyer[1], Aaron Warren[1], Stavros Manolagas[1], Robert Jilka[1], Charles O'Brien[1], Daohong Zhou[2], Maria Almeida[1]. [1]Central Arkansas Veterans Healthcare System, University of Arkansas for Medical Sciences, United states, [2]University of Arkansas for Medical Sciences, United states
Disclosures: Ha-Neui Kim, None

SA0123 **Treatment of Aged Mice With PDGF-bb and Bortezomib (a Proteasome Inhibitor) Enhances Fracture Repair**
Hengwei Zhang*, Mengmeng Wang, Brendan Boyce, Lianping Xing. University of Rochester, United states
Disclosures: Hengwei Zhang, None

MUSCULOSKELETAL AGING: BONE AND MUSCLE INTERACTIONS

SA0124 **May Satellite Cells CD44+ Drive Muscle Regeneration in Osteoarthritis Patients?**
Umberto Tarantino[1], Jacopo Baldi*[1], Manuel Scimeca[2], Eleonora Piccirilli[1], Gasbarra Elena[1], Elena Bonanno[2]. [1]Department of Orthopaedics & Traumatology, Università degli Studi di Roma "Tor Vergata", Italy, [2]Department of Biomedicine & Prevention, Anatomic Phatology Section, Università degli Studi di Roma "Tor Vergata", Italy
Disclosures: Jacopo Baldi, None

SA0125 **Patterns of estrogen use and kyphosis in older women 15 years later**
Gina Woods*[1], Mei-Hua Huang[2], Howard Fink[3], Corinne McDaniels-Davidson[1], Peggy Cawthon[4], Deborah Kado[1]. [1]University of California, San Diego, United states, [2]University of California, Los Angeles, United states, [3]VA Healthcare System, United states, [4]California Pacific Medical Center Research Institute, United states
Disclosures: Gina Woods, None

MUSCULOSKELETAL AGING: MUSCLE WASTING AND DYSTROPHY

SA0126 **No effect of vitamin D on Physical Performance and balance in Elderly Women**
J Christopher Gallagher*[1], Shervin Yousefian[1], Lynette Smith[2]. [1]Creighton University Medical School, United states, [2]University Nebraska Medical Center, United states
Disclosures: J Christopher Gallagher, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION: MULTI-LINEAGE

SA0127 **Bmp2 Gene is required for In Vivo Differentiation of aSMA+ Periodontal Stem-like cells and In Vitro for Differentiation Associated changes in mRNA and Candidate Genomic Level Enhancer Function**
Stephen E Harris*[1], Audrey Rakian[1], Rebecca Neitzke[1], Michael Rediske[1], Marie A Harris[1], Ivo Kalajzic[2], Jian Q Feng[3], Jelica Gluhak-Heinrich[1], Yong Cui[1]. [1]UTHSCSA, United states, [2]U. of Connecticut Health Center, United states, [3]Baylor College of Dentistry, United states
Disclosures: Stephen E Harris, None

SA0128 **High-content *in vivo* imaging of zebrafish bone regeneration reveals dynamic NADH events during osteoblast dedifferentiation**
Claire Watson*, Edith Gardiner, Werner Kaminsky, Ronald Kwon. University of Washington, United states
Disclosures: Claire Watson, None

SA0129 **Intranuclear Actin Polymerization Controls MSC Differentiation**
Buer Sen[1], Gunes Uzer[1], Zhihui Xie[1], Cody McGrath[1], Amel Dudakovic[2], Maya Styner[1], Andre Van Wijnen[2], Janet Rubin*[1]. [1]UNC School of Medicine, United states, [2]Mayo Clinic, United states
Disclosures: Janet Rubin, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION: OSTEOBLASTS

SA0130 **Chondrocyte (CC) to Osteoblast (OB) Transdifferentiation Represents a Major Mechanism for Promotion of Trabecular (Tb) Bone Formation (BF) in Mice**
Patrick Aghajanian*, Shaohong Cheng, Chandrasekhar Kesavan, Weirong Xing, Jon Wergedal, Subburaman Mohan. VA Loma Linda Healthcare System, United states
Disclosures: Patrick Aghajanian, None

SA0131 **Commitment and differentiation of mesenchymal stromal cells is controlled by novel regulatory regions and transcription factor programs**
Jonathan Gordon*, Hai Wu, Coralee Tye, Joseph Boyd, Janet Stein, Gary Stein, Jane Lian. University of Vermont College of Medicine, United states
Disclosures: Jonathan Gordon, None

SA0132 **Enhanced Osteogenic and Vasculogenic Differentiation Potential of Human Adipose Stem Cells on Biphasic Calcium Phosphate Scaffolds in Fibrin Gels**
Fransisca van Esterik*[1], Behrouz Zandieh-Doulabi[1], Cees Kleverlaan[2], Jenneke Klein-Nulend[3]. [1]Department of Oral Cell Biology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & Vrije Universiteit Amsterdam, MOVE Research Institute Amsterdam, Netherlands, [2]Department of Dental Materials Science, Academic Centre for Dentistry (ACTA), University of Amsterdam & Vrije Universiteit Amsterdam, MOVE Research Institute Amsterdam, Netherlands, [3]Department of Oral Cell Biology, Academic Centre for Dentistry (ACTA), University of Amsterdam & Vrije Universiteit Amsterdam, MOVE Research Institute Amsterdam, Netherlands
Disclosures: Fransisca van Esterik, None

SA0133 **Mature Chondrocytes Are Able to Develop into Bone Marrow Osteo/Mesenchymal Progenitor Cells and Canonical Wnt Signaling Is Required for These Progenitor Cells to Commit to Osteogenic Fate in Endochondral Bones**
Xin Zhou*[1], Ailing Hunag[1], Klaus von der Mark[2], Benoit de Crombrugghe[1]. [1]UT MD Anderson Cancer Center, United states, [2]University Erlangen-Nuremberg, Germany
Disclosures: Xin Zhou, None

SA0134 **Notch Activation Enhances Mesenchymal Stem Cell Sheet Osteogenic Potential by Inhibition of Cellular Senescence**
Bo Tian*, Sheila Rogers, Dollie Smith, Todd Jaeblon, Massimo Max Morandi, John Marymont, Yufeng Dong. LSU Health Sciences Center, United states
Disclosures: Bo Tian, None

SA0135 **Transcriptional Control of CaSR by P300 in MSCs is mediated by HIF-1α**
Fengjie Zhang[1], Wing Pui Tsang[1], Qiling He[2], Chao Wan*[1]. [1]School of Biomedical Sciences, The Chinese University of Hong Kong, Hong kong, [2]Department of Microbiology, University of Alabama at Birmingham, United states
Disclosures: Chao Wan, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS: GENERAL

SA0136 **A novel combination of bone micro architecture descriptors and selected ROIs for the identification of osteoarthritis**
Richard Ljuhar*[1], Stefan Nehrer[2], Benjamin Norman[1], Davul Ljuhar[1], Tobias Haftner[1], Jiri Hladuvka[3], Marianne Bui Thi Mai[3], Helena Canhão[4], Jaime Branco[5], Ana Maria Rodrigues[4], Nelia Gouveia[5], Astrid Fahrleitner-Pammer[6], Hans-Peter Dimai[6]. [1]Braincon Technologies, Austria, [2]Center for Regenerative Medicine & Orthopedics, Danube University, Austria, [3]VRVis Research Competence Center, Austria, [4]Faculdade de Medicina da Universidade de Lisboa, Portugal, [5]NOVA Medical School Faculdade de Ciências Médicas Universidade Nova de Lisboa, Portugal, [6]Department of Internal Medicine, Division of Endocrinology & Metabolism, Medical University of Graz, Austria
Disclosures: Richard Ljuhar, None

SA0137 **Alterations in hip Shape may Explain the Increased Risk of hip Osteoarthritis in Individuals with High Bone Mass**
Celia Gregson*[1], Anjali Patel[1], Denis Baird[1], Sarah Hardcastle[1], Ben Faber[1], George Davey Smith[2], Jenny Gregory[3], Richard Aspden[3], Jon Tobias[1]. [1]Musculoskeletal Research Unit, School of Clinical Sciences, University of Bristol, Bristol, UK, United Kingdom, [2]MRC Integrative Epidemiology Unit, University of Bristol, Bristol, UK, United Kingdom, [3]Arthritis & Musculoskeletal Medicine, Institute of Medical Sciences, University of Aberdeen, UK, United Kingdom
Disclosures: Celia Gregson, None

SA0138 **Genome-wide association study of knee bone marrow lesions and association with previously reported bone mineral density loci**
Michelle S. Yau*[1], Braxton D. Mitchell[2], Rebecca D. Jackson[3], Marc C. Hochberg[2], Douglas P. Kiel[1], David T. Felson[4]. [1]Hebrew SeniorLife, BIDMC/Harvard, United states, [2]University of Maryland School of Medicine, United states, [3]The Ohio State University, United states, [4]Boston University School of Medicine, United states
Disclosures: Michelle S. Yau, None

SA0139 **Odanacatib Prevents Cartilage Damage and Osteophyte Development in the Anterior Cruciate Ligament Transection Rabbit Model of Osteoarthritis**
Ya Zhuo*[1], Maureen Pickarski[2], Gregg Wesolowski[3], Jacques Yves Gauthier[4], Le Duong[2]. [1]Merck & Co.Inc, United states, [2]Merck & Co. Inc., United states, [3]Formerly Merck & Co., Inc., United states, [4]Formerly Merck & Co., Inc., Canada
Disclosures: Ya Zhuo, Merck. Co. Inc., 17

SA0140 **Proteasome Inhibition Is a Potential Treatment for Osteoarthritis by Attenuating Inflammation and Improving Lymphatic Function**
Xi Lin*, Wensheng Wang, Wen Sun, Michael Zuscik, Lianping Xing. University of Rochester Medical Center, United states
Disclosures: Xi Lin, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS: RHEUMATOID ARTHRITIS AND INFLAMMATORY ARTHRITIS

SA0141 **Osteoclast microRNA Profiling in Erosive Rheumatoid Arthritis**
Hugues Allard-Chamard*[1], Gilles Boire[1], Artur De Brum- Fernandes[1], Michelle Scott[2], Luigi Bouchard[2], Sophie Roux[1]. [1]Rheumatology, Faculty of Medicine, Sherbrooke University, Canada, [2]Biochemistry, Faculty of Medicine, Sherbrooke University, Canada
Disclosures: Hugues Allard-Chamard, None

SA0142 **ASBMR 2016 Annual Meeting Young Investigator Award**
Superficial cells disappear during early stages of osteoarthritis via accelerated differentiation into chondrocytes
Lei Li*[1], Thibault Bouderlique[2], Phillip Newton[2], Elena Kozhemyakina[3], Andrew Lassar[3], Matthew Warman[4], Björn Barenius[5], Igor Adameyko[2], Andrei Chagin[2]. [1]Department of Physiology & Pharmacology, Karolinska Institutet, Sweden, [2]Department Physiology & Pharmacology, Karolinska Institute, Sweden, [3]Harvard Medical School, Boston, Massachusetts, United states, [4]Orthopaedic Research Labs, Boston Children's Hospital, Boston, Massachusetts, United states, [5]Södersjukhuset, Stockholm, Sweden
Disclosures: Lei Li, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: ADHESION, MOTILITY AND CELL-CELL COMMUNICATION

SA0143 **Changes in Membrane Potential Regulates RANKL Intracellular Transport via Voltage-gated Calcium Channels in Osteoblasts**
Takuya Notomi*[1], Miyuki Kuno[2], Akiko Hiyama[1], Yoichi Ezura[3], Kiyoshi Ohura[1], Masaki Noda[3]. [1]Osaka Dental University, Japan, [2]Osaka City University, Japan, [3]Tokyo Medical & Dental University, Japan
Disclosures: Takuya Notomi, None

SA0144 **ASBMR 2016 Annual Meeting Young Investigator Award**
Osteoblasts Inhibit Osteoclast Formation by Targeting Prdm1 via the Mechanism Underlying Matrix Vesicle-Mediated Transfer of miR-125b
Yasumasa Irie*[1], Tomoko Minamizaki[2], Faisal Ahmed[2], Yuko Nakao[3], Hirotaka Yoshioka[2], Kotaro Tanimoto[4], Katsuyuki Kozai[5], Yuji Yoshiko[2]. [1]Department of Calcified Tissue Biology, Department of Pediatric dentistry, Hiroshima University Institute of Biomedical & Health Sciences, Hiroshima, JAPAN., Japan, [2]Department of Calcified Tissue Biology, Hiroshima University Institute of Biomedical & Health Sciences, Hiroshima, JAPAN., Japan, [3]Department of Calcified Tissue Biology & Department of Orthodontics & Craniofacial Developmental Biology, Hiroshima University Institute of Biomedical & Health Sciences, Hiroshima, JAPAN., Japan, [4]Orthodontics & Craniofacial Developmental Biology, Hiroshima University Institute of Biomedical & Health Sciences, Hiroshima, JAPAN., Japan, [5]Pediatric dentistry, Hiroshima University Institute of Biomedical & Health Sciences, Hiroshima, JAPAN., Japan
Disclosures: Yasumasa Irie, None

SA0145 **Truncation of the Cx43 C-terminal domain disrupts multiple signaling pathways and recapitulates the skeletal phenotype of full length Cx43 conditional deletion in the osteoblast lineage**
Megan C. Moorer*[1], Carla Hebert[2], Ryan E. Tomlinson[3], Shuo Liu[2], Max Chason[4], Joseph P Stains[2]. [1]University of Maryland, Baltimore, Graduate School, United states, [2]University of Maryland, Baltimore, United states, [3]Johns Hopkins University, United states, [4]University of Maryland, United states
Disclosures: Megan C. Moorer, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: BONE FORMATION MECHANISMS

SA0146 **Conditional Knockout of the MicroRNA 17-92 Cluster in Type-I Collagen Expressing Cells Decreases Alveolar Bone Size and Incisor Teeth Mechanical Properties**
Subburaman Mohan[1], Micheal Ibrahim[2], Chandrasekhar Kesavan*[2]. [1]VA Loma Linda Healtcare System, United states, [2]VA Loma Linda Healthcare System, United states
Disclosures: Chandrasekhar Kesavan, None

SA0147 **CRISPR/Cas9 Editing of *IFITM5* Introduces BRIL p.Ser40Leu Substitution, Connecting Types V and VI OI, and Suppresses PEDF-mediated Induction of PPARγ**
Heeseog Kang*[1], Joan C. Marini[1], Susan Crawford[2]. [1]NIH, United states, [2]Northwestern University, United states
Disclosures: Heeseog Kang, None

SA0148 **Deletion of Axin1 in Osteoblast Progenitor Cells Leads to Delayed Endochondral Bone Formation through Inhibition of Osteoclast Formation**
Bing Shu*[1], Yongjian Zhao[1], Chunchun Xue[1], Rong Xie[2], Yongjun Wang[3], Di Chen[2]. [1]Longhua Hospital, Shanghai University of Traditional Chinese Medicine; Spine Research Institute, Shanghai University of Traditional Chinese Medicine, China, [2]Rush University Medical Center, United states, [3]School of Rehabilitation Science, Shanghai University of Traditional Chinese Medicine; Spine Research Institute, Shanghai University of Traditional Chinese Medicine, China
Disclosures: Bing Shu, None

SA0149 **Engineering a hyper-anabolic, super-secreting osteoblast**
Sara Young, Yu Shao, Paul Childress, Ronald Wek, Joseph Bidwell*. Indiana University School of Medicine, United states
Disclosures: Joseph Bidwell, 100

SA0150 **Glutaminase acts in osteoblasts to regulate bone formation**
Yilin Yu[1], Everett Knudsen[1], Fanxin Long[2], Courtney Karner*[1]. [1]Duke University School of Medicine, United states, [2]Washington University School of Medicine, United states
Disclosures: Courtney Karner, None

SA0151 **Kindlin-2 Plays A Pivotal Role in Skeletal Development and Homeostasis through Its Expression in Osteoblastic Cells and Osteocytes**
Huiling Cao*, Guozhi Xiao. Department of Biology & Shenzhen Key Laboratory of Cell Microenvironment, Southern University of Science & Technology, China
Disclosures: Huiling Cao, None

SA0152 **Legumain is a Novel Regulator of Bone Formation and Deregulated in Postmenopausal Osteoporosis**

Abbas Jafari*[1], Diyako Qanie[2], Thomas L. Andersen[3], Li Chen[2], Nicholas Ditzel[4], Sundeep Khosla[5], Harald T. Johansen[6], Per Kjærsgaard-Andersen[7], Jean-Marie Delaisse[8], Basem M. Abdallah[9], Daniel Hesselson[10], Rigmor Solberg[6], Moustapha Kassem[2]. [1]Department of Cellular & Molecular Medicine, University of Copenhagen, Denmark, [2]Endocrine Research Laboratory (KMEB), Odense University Hospital & University of Southern Denmark, Denmark, [3]Department of Clinical Cell Biology (KCB) Institute of Regional Health Science University of Southern Denmark, Denmark, [4]Endocrine Research Laboratory (KMEB), Odense University Hospital & University of Southern Denmark., Denmark, [5]Endocrine Research Unit, Mayo Clinic College of Medicine., United states, [6]Department of Pharmaceutical Biosciences, School of Pharmacy, University of Oslo, Norway, [7]Department of Orthopaedic Surgery, Vejle/Lillebaelt Hospital, Denmark, [8]Department of Clinical Cell Biology, Vejle/ Lillebaelt Hospital, Institute of Regional Health Research, University of Southern Denmark, Denmark, [9]Department of Endocrinology & Metabolism, Endocrine Research Laboratory (KMEB), Odense University Hospital & University of Southern Denmark, Denmark, [10]St Vincent's Clinical School, UNSW, Australia

Disclosures: Abbas Jafari, None

SA0153 **TUT7/ZCCHC6 is a novel regulator of matrix mineralization and osterix activity in osteoblasts**

Gregory Sondag*[1], Mohammad Khan[1], Mohammad Ansari[2], Nazar Hussein[3], Sara Haynie[1], Fayez Safadi[1], Tariq Haqqi[1]. [1]Northeast Ohio Medical University, United states, [2]Northeast Ohio Medical, United states, [3]Kent State University, United states

Disclosures: Gregory Sondag, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: HORMONAL AND LOCAL REGULATION

SA0154 **Pyk2-Deletion Potentiates Osteoblast Differentiation and Mineralization By Estrogen and Raloxifene**

Sumana Posritong*[1], Pierre P. Eleniste[1], Evan R. Himes[2], Melissa A. Kacena[2], Angela Bruzzaniti[1]. [1]Indiana University School of Dentistry, United states, [2]Indiana University School of Medicine, United states

Disclosures: Sumana Posritong, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: SIGNAL TRANSDUCTION AND TRANSCRIPTIONAL REGULATION

SA0155 **A novel Osteoblast Differentiation inhibiting lncRNA, AK138929**

Chong Yin*[1], Yan Zhang[1], Kun Yan[1], Zhihao Chen[1], Dijie Li[1], Fan Zhao[1], Lifang Hu[1], Yonghua Wang[2], Ge Zhang[3], Peng Shang[1], Airong Qian[1]. [1]School of Life Sciences, Northwestern Polytechnical University, China, [2]School of Life Sciences, Northwest A&F University, China, [3]School of Chinese Medicine, Hong Kong Baptist University, Hong kong

Disclosures: Chong Yin, None

SA0156 **Autophagy suppresses proliferation of bone marrow-derived osteoblast progenitor cells (BMOPCs) by targeting Cyclin D1**

Li Wang*[1], Paul Krebsbach[1], Jun-Lin Guan[2], Fei Liu[1]. [1]University of Michigan School of Dentistry, United states, [2]University of Cincinnati College of Medicine, United states

Disclosures: Li Wang, None

SA0157 **Epigenetic Regulation of Osteoblast Differentiation by Vitamin C Involving Prolyl Hydroxylase Domain-containing Protein 2 (PHD2)**

Richard Lindsey*[1], Shaohong Cheng[2], Sheila Pourteymoor[2], Catrina Alarcon[2], Subburaman Mohan[1]. [1]VA Loma Linda Healthcare System; Loma Linda University, United states, [2]VA Loma Linda Healthcare System, United states

Disclosures: Richard Lindsey, None

SA0158 **miR-1254 inhibits expression of sclerostin in human osteoblastic cell lines**

Osman M Azuraidi*, Peter Wilson, Kasia Goljanek-Whysall., Jane P Dillon, Nick Rhodes, James A Gallagher. University of Liverpool, United Kingdom

Disclosures: Osman M Azuraidi, None

SA0159 **Modulation of the histone H3K27 methyltransferase EZH2 stimulates WNT, PTH and BMP2-related paracrine signaling to promote osteogenesis**
Christopher Paradise*, Amel Dudakovic, Martina Gluscevic, Farah Ahmed, Eric Lewallen, Roman Thaler, Andre van Wijnen. Mayo Clinic, United states
Disclosures: Christopher Paradise, None

SA0160 **Protein Kinase D1 Plays an Important Role in Osteogenesis**
Wendy Bollag*[1], Vivek Choudhary[1], Qing Zhong[1], Kehong Ding[1], Jianrui Xu[1], Lakiea Bailey[1], Maribeth Johnson[1], Yun Su[1], Mohammed Elsalanty[2], Meghan McGee-Lawrence[1], Xingming Shi[1], Carlos Isales[1]. [1]Medical College of Georgia at Augusta University, United states, [2]Augusta University, United states
Disclosures: Wendy Bollag, None

OSTEOCLASTS - FUNCTION: BONE RESORPTION MECHANISMS

SA0161 **Control of bone resorption by the rate of osteoprogenitor recruitment during bone remodeling**
Nicolai E Lassen[1], Thomas L Andersen[1], Kent Soe[1], Ellen M Hauge[2], Soren Harving[3], Gete ET Eschen[2], Jean-Marie Delaisse*[1]. [1]Vejle/Lillebælt Hospital, University of Southern Denmark, Denmark, [2]Aarhus hospital, Denmark, [3]Aalborg Hospital, Denmark
Disclosures: Jean-Marie Delaisse, None

SA0162 **Cross Talk Between CD36 and CD47/Tsp1 in Osteoclastogenesis**
Joanne Walker*, Srinivas Koduru, Ben-hua Sun, Meiling Zhu, Christine Simpson, Madhav Dhodapkar, Karl Insogna. Yale University School of Medicine, United states
Disclosures: Joanne Walker, None

SA0163 **Fluoride regulates osteoclastogenesis in a strain-specific manner**
Flávia Amadeu de Oliveira*[1], Amanda Amaral Pereira[1], Talita da Silva Ventura[1], Marília Buzalaf[1], Rodrigo Cardoso de Oliveira[1], Camila Peres-Buzalaf[2]. [1]University of Sao Paulo, Brazil, [2]Universidade do Sagrado Coração, Brazil
Disclosures: Flávia Amadeu de Oliveira, None

SA0164 **Function of novel splicing variant of NF-κB receptor activator (vRANK)**
Riko Kitazawa*[1], Ryuma Haraguchi[2], Yosuke Mizuno[1], Yasuhiro Kobayashi[3], Sohei Kitazawa[2]. [1]Department of Diagnostic Pathology, Ehime University Hospital, Japan, [2]Department of Molecular Pathology, Ehime University Graduate School of Medicine, Japan, [3]Institute of Oral Science, Matsumoto Dental University, Japan
Disclosures: Riko Kitazawa, None

SA0165 **ICOS-Ligand Triggering Impairs Osteoclast Differentiation and Function**
CASIMIRO L GIGLIOTTI[1], ELENA BOGGIO[1], NAUSICAA CLEMENTE[1], Chiara Dianzani[2], Annalisa Chiocchetti[1], Renzo Boldorini[1], Michela Bosetti[3], Giancarlo Isaia[4], Patrizia D'Amelio*[4], Umberto Dianzani[1]. [1]Interdisciplinary Research Center of Autoimmune Diseases (IRCAD) & Department of Health Sciences, University of Piemonte Orientale (UPO), Italy, [2]Department of Drug Science & Technology, University of Torino, Italy, [3]Departamento de Medicina Celular y Molecular, Centro de Investigaciones Biologicas, Consejo Superior de Investigaciones Cientıficas, Spain, [4]Dept of Medical Science University of Torino, Italy
Disclosures: Patrizia D'Amelio, None

SA0166 **Osteoclast Vitamin D Receptor Increases Bone Resorption and Regulates Osteoblast Activity in vivo**
Na-Rae Park*[1], Da-In Yeo[2], Gyeong-Hwa Kim[2], Xiangguo Che[1], Yu-ra Choi[2], Clara Yongjoo Park[2], Shigeaki Kato[3], Je-Yong Choi[2]. [1]Department of Biochemistry & Cell Biology, Kyungpook National University School of Medicine, Daegu, South Korea, Korea, republic of, [2]Department of Biochemistry & Cell Biology, BK21 PLUS KNU Biomedical Convergence Program, Kyungpook National University , School of Medicine, Daegu, South Korea, Korea, republic of, [3]Soma Central Hospital, Fukushima, Japan, Japan
Disclosures: Na-Rae Park, None

SA0167 **ASBMR 2016 Felix Bronner Young Investigator Award**
Osteoclast-Secreted Slit3 as a Novel Regulator Linking Bone Resorption and Formation
Beom-Jun Kim*[1], Young-Sun Lee[2], Sun-Young Lee[2], Seung Hun Lee[1], Jung-Eun Kim[3], Eun-Ju Chang[4], Seung-Whan Kim[5], Sung Ho Ryu[6], Sun-Kyeong Lee[7], Joseph A Lorenzo[8], Seong Hee Ahn[9], Hyeonmok Kim[1], Jung-Min Koh[1]. [1]Division of Endocrinology & Metabolism, Asan Medical Center, University of Ulsan College of Medicine, Korea, republic of, [2]Asan Institute for Life Sciences, Korea, republic of, [3]Department of Molecular Medicine, Cell & Matrix Research Institute, Kyungpook National University School of Medicine, Korea, republic of, [4]Department of Anatomy & Cell Biology, Cellular Dysfunction Research Center & BMIT, University of Ulsan College of Medicine, Korea, republic of, [5]Department of Pharmacology, University of Ulsan College of Medicine, Korea, republic of, [6]Department of Life Science & Division of Molecular & Life Sciences, Pohang University of Science & Technology, Korea, republic of, [7]UConn Center on Aging, University of Connecticut Health Center, United states, [8]Division of Endocrinology, Department of Medicine, University of Connecticut Health Center, United states, [9]Department of Internal Medicine, Inha University School of Medicine, Korea, republic of
Disclosures: Beom-Jun Kim, None

SA0168 **Smad4 In Osteoclasts Reduce Bone Mass by Inhibiting Osteoclast Differentiation**
Mayu Morita*[1], Ryotaro Iwasaki[2], Hiromasa Kawana[2], Shigeyuki Yoshida[2], Taneaki Nakagawa[2], Takeshi Miyamoto[3]. [1]DDS, Japan, [2]DDS, Ph.D, Japan, [3]MD, Ph.D, Japan
Disclosures: Mayu Morita, None

OSTEOCLASTS - FUNCTION: SIGNAL TRANSDUCTION

SA0169 **Functional Role of Endothelin in Inflammatory Bone Loss**
Inik Chang*, Sue Young Oh, Dong Min Shin. Yonsei University College of Dentistry, Korea, republic of
Disclosures: Inik Chang, None

SA0170 **Osteoclasts as an intracellular growth niche for *Staphylococcus aureus***
Jennifer Krauss*[1], Emily Goering[2], Deborah Novack[1]. [1]Washington University School of Medicine, United states, [2]Washington University, United states
Disclosures: Jennifer Krauss, None

SA0171 **Selective Serotonin Reuptake Inhibitors (SSRIs) inhibit Ca2+-calmodulin/CREB/NFATc1 signaling in osteoclasts in a 5HTT-independent manner**
Maria Jose Ortuno*, Subramanyam Venkata, Henry M. Colecraft, Patricia Ducy. Columbia University, United states
Disclosures: Maria Jose Ortuno, None

SA0172 **The Lipid Phosphatase Inpp4b Modulates Bone Homeostasis Through the PKCβ/GSK-3β Signaling Pathway**
Lina Saad*, Monica Pata, Jean Vacher. IRCM, Canada
Disclosures: Lina Saad, None

SA0173 **Towards a gene regulatory network in the feedback inhibition of osteoclasts by CD8 T cells**
Elena Shashkova*[1], Anna Cline-Smith[1], Jahnavi Trivedi[1], Chloe Ferris[1], Zachary Buchwald[2], Jesse Gibbs[3], Deborah Novack[3], Rajeev Aurora[1]. [1]Saint Louis University, United states, [2]Emory University School of Medicine, United states, [3]Washington University School of Medicine, United states
Disclosures: Elena Shashkova, None

OSTEOCLASTS - FUNCTION: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

SA0174 **Novel critical role for EZH2-increased H3K27 trimethylation and C/EBPβ-LAP to LIP switch at the MafB promoter during the early phase of osteoclastogenesis**
Juraj Adamik*, Peng Zhang, Quanhong Sun, Deborah L. Galson. University of Pittsburgh, United states
Disclosures: Juraj Adamik, None

OSTEOCLASTS - ORIGIN AND CELL FATE: GENERAL

SA0175 **Comparative roles of c-Fos and C/EBPα in osteoclast differentiation through regulation by the RANK cytoplasmic IVVY538-538 motif in a RBP-J downregulation manner**
Joel Jules*, Wei Chen, Yi-Ping Li. University of Alabama at Birmingham, United states
Disclosures: Joel Jules, None

SA0176 **Notch2 Expression is Required for Spleen B Cell Allocation and Osteoclastogenesis**
Archana Sanjay*, Bhavita Walia, Jungeun Yu, Stefano Zanotti, Ernesto Canalis. UConn Health, United states
Disclosures: Archana Sanjay, None

SA0177 **Similarities between IL8 and RANKL Stimulation of Osteoclast Formation Suggests a Highly Conserved Signaling Cascade that Facilitates Bone Resorption in Breast Cancer**
Diarra Williams*[1], Archana Kamalakar Kamalakar[1], Nisreen Akel[1], Frances Swain[2], Dana Gaddy[1], Larry Suva[1]. [1]Texas A&M University, United states, [2]Texas A&M University, United Kingdom
Disclosures: Diarra Williams, None

OSTEOCYTES: BONE REMODELING REGULATION

SA0178 **Deletion of Mitofusin-2 in Osteocytes Causes a Profound Skeletal Phenotype Characterized by Reduced Bone Turnover**
Meiling Zhu*, Ben-hua Sun, Christine Simpson, Steven Tommasini, Karl Insogna. Yale University School of Medicine, United states
Disclosures: Meiling Zhu, None

SA0179 **Deletion of YAP and TAZ in Osteoblasts and Osteocytes Suppresses Bone Formation and Reduces Bone Mass**
Jinhu Xiong*, Marilina Piemontese, Yu Liu, Yuko Fujiwara, Priscilla Baltz, Charles O'Brien. University of Arkansas for Medical Sciences, United states
Disclosures: Jinhu Xiong, None

SA0180 **HDAC5 is required for loading-induced sclerostin down-regulation**
Marc Wein*[1], Elizabeth Williams[1], Maureen O'Meara[1], Belinda Beqo[1], Leah Worton[2], Edith Gardiner[2], Paola Divieti-Pajevic[3], Ted Gross[2], Henry Kronenberg[1]. [1]Massachusetts General Hospital, United states, [2]University of Washington, United states, [3]Boston University, United states
Disclosures: Marc Wein, None

SA0181 **Increased Wnt/β-catenin Signaling and Decreased Osteoclastogenic Potential of Osteocytic Cells Lacking Cx37**
Rafael Pacheco-Costa*, Iraj Hassan, Lilian Plotkin. Indiana University School of Medicine, United states
Disclosures: Rafael Pacheco-Costa, None

SA0182 **Osteocyte-Driven Perilacunar Remodeling is Impaired in Glucocorticoid Induced Osteonecrosis**
Tristan Fowler*[1], Claire Acevedo[1], Courtney Mazur[1], Faith Hall-Glenn[1], Aaron Fields[1], Hrishkesh Bale[2], Robert Ritchie[2], Jeffrey Lotz[1], Thomas Vail[1], Tamara Alliston[1]. [1]University of California San Francisco, United states, [2]Lawrence Berkeley National Laboratory, United states
Disclosures: Tristan Fowler, None

SA0183 **Osteocytes Utilize Lacunar Acidification to Remove Calcium from Their Perilacunar Matrix During Lactation**
Katharina Jähn*[1], Shilpa Kelkar[2], Hong Zhao[2], Yixia Xie[2], LeAnn M Tiede-Lewis[2], Vladimir Dusevich[2], Sarah L Dallas[2], Lynda F Bonewald[2]. [1]University Medical Center Hamburg-Eppendorf, Germany, [2]University of Missouri-Kansas City, United states
Disclosures: Katharina Jähn, None

OSTEOCYTES: ORIGIN, CELL CYCLE AND APOPTOSIS

SA0184 **Occurrence of apoptosis in cementocytes**
Katharina Oliveira*, Raquel Silva, Marcio Beloti, Alberto Consolaro, Lea Silva. University of São Paulo, Brazil
Disclosures: Katharina Oliveira, None

OSTEOCYTES: PARACRINE AND ENDOCRINE FUNCTION

SA0185 **Acute in vivo osteocyte responses to mechanical load in mice bearing a genetic intracellular calcium sensor: recruitment of responding cells depends on both strain magnitude and loading frequency**
Karl J Lewis*[1], Joyce Louie[1], Samuel Stephen[1], Zeynep Seref-Ferlengez[2], David C Spray[2], Mia M Thi[2], Robert J Majeksa[1], Sheldon Weinbaum[1], Mitchell B Schaffler[1]. [1]Dept. of Biomedical Engineering, City College of New York, United states, [2]Dept. of Neuroscience, Albert Einstein College of Medicine, United states
Disclosures: Karl J Lewis, None

SA0186 **Cinacalcet hydrochloride increases bone strength in patients with renal hyperparathyroidism**
Aiji Yajima*[1], Ken Tsuchiya[1], Yasuo Imanishi[2], Masaaki Inaba[2], Yoshihiro Tominaga[3], Tatsuhiko Tanizawa[4], Akemi Ito[5], Kosaku Nitta[1]. [1]Kidney Center, Medicine, Tokyo Women's Medical University, Japan, [2]Department of Metabolism, Endocrinology & Molecular Medicine, Osaka City University Graduate School of Medicine, Japan, [3]Department Endocrine Surgery, Nagoya Second Red Cross Hospital, Japan, [4]Tanizawa Clinic, Orthopedic Surgery, Japan, [5]Ito Bone Histomorphometry Institute, Japan
Disclosures: Aiji Yajima, None

SA0187 **Vitamin D regulates perilacunar remodeling and osteocyte survival in human and murine bone**
Tim Rolvien*[1], Björn Busse[2], Klaus Püschel[3], Matthias Krause[4], Marie B. Demay[5], Michael Amling[2]. [1]Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Hamburg, Germany, Germany, [2]Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, [3]Department of Legal Medicine, University Medical Center Hamburg-Eppendorf, Hamburg, Germany, Germany, [4]Department of Trauma & Reconstructive Surgery, Asklepios Clinic St. Georg, Hamburg, Germany, Germany, [5]Endocrine Unit, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts 02114, United states
Disclosures: Tim Rolvien, None

OSTEOPOROSIS - ASSESSMENT: BIOCHEMICAL TESTS

SA0188 **Establishing reference intervals of serum 24,25-dihydroxyvitamin D and 25-hydroxyvitamin D-to-24,25-dihydroxyvitamin D ratio by LC-MS/MS**
Jonathan Tang*[1], Holly Nicholls[1], Isabelle Piec[1], Christopher Washbourne[1], John Dutton[1], Sarah Jackson[2], Julie Greeves[2], William Fraser[1]. [1]University of East Anglia, United Kingdom, [2]HQ Army Recruiting & Training Division, United Kingdom
Disclosures: Jonathan Tang, None

SA0189 **Relationship Between Serum Levels of Fibroblast Growth factor 23 (FGF23) and Osteoporotic Fracture Risk in Postmenopausal Women with Chronic Kidney Disease Stage G2**
Mika Yamauchi*[1], Kiyoko Nawata[2], Masahiro Yamamoto[1], Toshitsugu Sugimoto[1]. [1]Internal Medicine 1, Shimane University Faculty of Medicine, Japan, [2]Health & Nutrition, The University of Shimane, Japan
Disclosures: Mika Yamauchi, None

SA0190 **Serum osteoprotegerin is a marker of both fracture and cardiovascular risk in older men – the prospective STRAMBO study**
Pawel Szulc*[1], Lorenz C Hofbauer[2], Roland Chapurlat[1]. [1]INSERM UMR 1033, University of Lyon, Hospices Civils de Lyon, France, [2]Universitätsklinikum Carl Gustav Carus, Technische Universität Dresden, Germany
Disclosures: Pawel Szulc, None

OSTEOPOROSIS - ASSESSMENT: BONE QUALITY

SA0191 **25-Hydroxyvitamin-D Concentration and Bone Mineral Density as Predictors of Fragility Fracture in a Bone Health Clinic**
Matthew McCarley*, Gordon Klein, Kelsey L. Wise, Ronald W. Lindsey. University of Texas Medical Branch, United states
Disclosures: Matthew McCarley, None

SA0192 **Withdrawn**

SA0193 **Evaluation of Trabecular Bone Score in Patients with a Distal Radius Fracture**
Hyun Sik Gong*. Department of Orthopedic Surgery, Seoul National University College of Medicin, Korea, republic of
Disclosures: Hyun Sik Gong, None

SA0194 **Patients with Klinefelter syndrome have severe bone microarchitecture impairment: the KLINOS study**
Cyrille Confavreux*[1], Anne Piot[2], Pawel Szulc[3], Justine Bacchetta[2], Sylviane Ailloud[4], Hervé Lejeune[5], Roland Chapurlat[2], Stéphanie Boutroy[3], Ingrid Plotton[6]. [1]INSERM UMR1033 – LYOS - Université de Lyon - Hospices Civils de Lyon, France, [2]INSERM UMR1033 – LYOS - Université de Lyon, Hospices Civils de Lyon, France, [3]INSERM UMR1033 – LYOS - Université de Lyon, France, [4]Hospices Civils de Lyon, France, [5]Reproductive Medicine Department, Hospices Civils de Lyon, France, [6]INSERM UMRS1208 INRA- StemGamE - Université de Lyon - Department of Molecular Hormonology & Endocrinology, Hospices Civils de Lyon, France
Disclosures: Cyrille Confavreux, None

SA0195 **The trabecular bone score reflects bone microarchitecture at the peripheral skeleton in kidney transplant recipients**
Matthew Luckman*[1], Didier Hans[2], Natalia Cortez[3], Kyle Nishiyama[3], Sanchita Agarwal[4], Lucas Nikkel[5], Sapna Iyer[6], Chengchen Zhang[3], Edward Guo[3], Donald McMahon[3], Elizabeth Shane[3], Tom Nickolas[3]. [1]Department of Human Nutrition, Columbia University, United states, [2]Lausanne University, Switzerland, [3]Columbia University, United states, [4]Columbia Univeristy, United states, [5]University of Rochester, United states, [6]Kaiser Health Center, United states
Disclosures: Matthew Luckman, None

SA0196 **Trabecular bone score (TBS) reference values from all combination of lumbar vertebrae in dual-energy absorptiometry (DXA) from NHANES 2005-2008 multiethnic Survey**
Bo Fan*, John Shepherd. University of California San Francisco, United states
Disclosures: Bo Fan, None

SA0197 **Validation study of a new ultrasonic device targeting cortical bone by HR-pQCT**
Ko Chiba*[1], Ryoichi Suetoshi[2], Narihiro Okazaki[3], Ayako Kurogi[3], Tatsuo Arai[2], Takeshi Kawajiri[2], Shuntaro Sato[4], Makoto Osaki[3]. [1]Department of Orthopaedic Surgery, Nagasaki University Hospital, Japan, [2]Technology Development & Researching Laboratory, Furuno Electr ic Co., Ltd, Japan, [3]Department of Orthopaedic Surgery, Nagasaki University Hospital, Japan, [4]Clinical Research Center, Nagasaki University Hospital, Japan
Disclosures: Ko Chiba, None

OSTEOPOROSIS - ASSESSMENT: DXA

SA0198 **Analyzing the cortical and trabecular bone of tenofovir-treated HIV patients using 3D-DXA**
Robert Güerri-Fernández*[1], Ludovic Humbert[2], Judit Villar-García[3], Roger Fonollà[4], Lucia Moro[5], Leo Mellibovsky[6], Xavier Nogues[7], Marta Trenchs-Rodríguez[8], Hernando Knobel[3], Adolfo Díez-Pérez[6]. [1]Infectious Diseases Hospital del Mar Medical Research Institute, Spain, [2]Galgo Medical. Barcelona, Medical, Spain, [3]Infectious Diseases. Hospital del Mar., Spain, [4]GALGO Medical, Barcelona, Spain, Spain, [5]Internal Medicine. Hospital del Mar Medical Research Insitute, Spain, [6]Internal Medicine. Hospital del Mar., Spain, [7]Internal Medicine. Hospital del Mar. Barcelona, Spain, [8]Catalan Institute of Health. ICS. Barcelona, Spain, Spain
Disclosures: Robert Güerri-Fernández, None

SA0199 **Analyzing the cortical and trabecular bone of type 1 diabetes patients using 3D-DXA – a longitudinal study**
Ludovic Humbert*[1], Martin Keil[2], Gabriele Lehmann[3], Alexander Sämann[2], Roger Fonolla[1], Thomas Neumann[2]. [1]Galgo Medical, Spain, [2]Department of Internal Medicine III, Jena University Hospital, Germany, [3]Institute of Medical Statistics, Computer Sciences & Documentation, Jena University Hospital, Germany
Disclosures: Ludovic Humbert, None

SA0200 **Bone structural components and lean mass assessed by 3D-DXA in Hip Fracture Patients**
Luis Del Rio*[1], Silvana Di Gregorio[1], Patricia Sanchez[2]. [1]MD, Spain, [2]CTD, Spain
Disclosures: Luis Del Rio, None

SA0201 **Chronic Joint Pain is Associated with Spinal Osteoporosis in Midlife Asian Women**
Yue Luna Wang*[1], Susan Jane Sinclair Logan[2], Lay Wai Khin[3], Saw Myat Sabai[1], Pa Pa Thu Win[1], Yean Ling Mayvien Teo[1], Stephen Fearns Smagula[4], Jane A. Cauley[5], Eu-Leong Yong[1]. [1]Department of Obstetrics & Gynaecology, National University of Singapore (NUS), Singapore, Singapore, [2]Department of Obstetrics & Gynaecology, National University Hospital (NUH), Singapore, Singapore, [3]Singapore Institute for Clinical Sciences - A*STAR, Singapore, Singapore, [4]Department of Psychiatry, Western Psychiatric Institute & Clinic, University of Pittsburgh Medical Center (Pennsylvania), United States of America, United states, [5]Department of Epidemiology, University of Pittsburgh (Pennsylvania) Graduate School of Public Health (GSPH), United States of America, United states
Disclosures: Yue Luna Wang, None

SA0202 **Feasibility study of a Quality Control methodology for TBS**
Renaud Winzenrieth*[1], Jessy Libber[2], Diane Krueger[2], Franck Michelet[1], Neil Binkley[2]. [1]R&D department, Med-Imaps SASU, France, [2]University of Wisconsin Osteoporosis Clinical Research Program, United states
Disclosures: Renaud Winzenrieth, Mes-Imaps, 17

SA0203 **Performance of FRAX in Clinical Practice According to WHO and NOF Definitions of Osteoporosis in Canadian Women and Men: The Manitoba BMD Cohort**
William Leslie*[1], Sumit Majumdar[2], Suzanne Morin[3], Lisa Lix[1], John Schousboe[4], Kris Ensrud[4], Helena Johansson[5], Anders Oden[5], Eugene McCloskey[5], John Kanis[5]. [1]University of Manitoba, Canada, [2]University of Alberta, Canada, [3]McGill University, Canada, [4]University of Minnesota, United states, [5]Centre for Metabolic Bone Diseases, University of Sheffield Medical School, United Kingdom
Disclosures: William Leslie, None

OSTEOPOROSIS - ASSESSMENT: OTHER IMAGING TECHNIQUES

SA0204 **ASBMR 2016 Annual Meeting Young Investigator Award**
Accuracy of MRI-Based Measures of Bone Strength Compared to Direct Mechanical Testing
Elizabeth A. Kobe*, Olivia M. Teter, Michelle Slinger, Karyll Davis, Abigail Hong, Chamith S. Rajapakse, Felix W. Wehrli. University of Pennsylvania Perelman School of Medicine (Radiology), United states
Disclosures: Elizabeth A. Kobe, None

SA0205 **ASBMR 2016 Annual Meeting Young Investigator Award**
Assessment of bone strength and cortical porosity in a group of premenopausal women with celiac disease after 3-years on gluten-free diet
María Belen Zanchetta[1], Vanesa Carla Longobardi*[1], Fernando Silveira[2], Florencia Costa[1], Cesar Bogado[3], Julio Cesar Bai[1], Jose R Zanchetta[1]. [1]MD, Argentina, [2]PH, Argentina, [3]PHD, Argentina
Disclosures: Vanesa Carla Longobardi, None

SA0206 **Body Mass Index is Negatively Correlated with Lumbar Spine Trabecular Bone Score on Hologic but not GE-Lunar Densitometers**
Gillian Mazzetti*[1], Claudie Berger[1], William Leslie[2], Didier Hans[3], Lisa Langsetmo[1], David Hanley[4], Christopher Kovacs[5], Jerilynn Prior[6], Stephanie Kaiser[7], K. Shawn Davison[8], Robert Josse[9], Alexandra Papaioannou[10], Rick Adachi[10], David Goltzman[1], Suzanne Morin[1]. [1]McGill University, Canada, [2]University of Manitoba, Canada, [3]University of Lausanne, Switzerland, [4]University of Calgary, Canada, [5]Memorial University, Canada, [6]University of British Columbia, Canada, [7]Dalhousie University, Canada, [8]Saskatoon Osteoporosis & CaMos Centre, Canada, [9]University of Toronto, Canada, [10]McMaster University, Canada
Disclosures: Gillian Mazzetti, None

SA0207 **Finite Element Analysis Based in pQCT Imaging To Improve Assessment of Fracture Risk**
Dale Robinson[1], Qichun Song[2], Hongyuan Jiang[1], Peter Vee Sin Lee[1], John Wark*[3]. [1]University of Melbourne, Australia, [2]2nd Affiliated Hospital, Xi'an Jiaotong University, China, [3]University of Melbourne & Royal Melbourne Hospital, Australia
Disclosures: John Wark, None

SA0208 **Fracture Discrimination Using a Novel Pulse-Echo Ultrasound Device**
John Schousboe[1], Ossi Riekkinen[2], Janne Karjalainen*[2]. [1]Park Nicollet Institute, United states, [2]Bone Index Finland, Finland
Disclosures: Janne Karjalainen, None

SA0209 **Reliable quantification of marrow fat unsaturation level using in vivo MR spectroscopy**
Xiaojuan Li*[1], Kaipin Xu[1], Sigurdur Sigurdsson[2], Trisha Hue[1], Ann Schwartz[1]. [1]University of California, San Francisco, United states, [2]Icelandic Heart Association, Iceland
Disclosures: Xiaojuan Li, None

SA0210 **Risk factors including age, gender, osteoporosis in spine or hip, and local osteoporosis for more severe pattern of fracture in proximal humerus fracture**
Kyoung Hwan Koh, Jin Hwan Kim*. Inje University Ilsan Paik Hosptial, Korea, republic of
Disclosures: Jin Hwan Kim, None

SA0211 **Subject-Specific Finite Element Modeling Based on HR-pQCT at the Distal Tibia Predicts Bone Strength at Hip and Spine**
Andres Kroker*, Ryan Plett, Britta Jorgenson, Kyle Nishiyama, Steven Boyd. 1. McCaig Institute for Bone & Joint Health, 2. Department of Radiology, Cumming School of Medicine, University of Calgary, Calgary, AB, Canada, Canada
Disclosures: Andres Kroker, None

SA0212 **The Canadian Multicentre Osteoporosis Study (CaMos) and Vertebral Fractures**
Brian Lentle*[1], Claudie Berger[2], Jacques Brown[3], Lisa Langsetmo[4], Doneal Thomas[2], Benjamin Fine[5], Kevin Lian[1], Arvind Shergill[5], J Jacques Trollip[1], Linda Probyn[6], William D Leslie[7], Stephanie M Kaiser[8], Jonathan D Adachi[9], Tanveer Towheed[10], David A Hanley[11], K Shawn Davison[12], Jerilynn Prior[1], David Goltzman[13]. [1]UBC, Canada, [2]CaMos, RI-MUHC, McGill University, Canada, [3]Centre Hospitalier de l'Université Laval, Canada, [4]University of Minnesota, Canada, [5]University of Toronto, Canada, [6]Sunnybrook Health Sciences Centre, Canada, [7]University of Manitoba, Canada, [8]Dalhousie University, Canada, [9]McMaster University, Canada, [10]Queen's University, Canada, [11]University of Calgary, Canada, [12]University of Victoria, Canada, [13]McGill University, Canada
Disclosures: Brian Lentle, None

SA0213 **The Impact of QCT Reconstruction Kernel on Bone Mineral Density and Finite Element Estimated Bone Strength**
Andrew Michalski*[1], W. Brent Edwards[2], Steven Boyd[1]. [1]Department of Radiology, Cumming School of Medicine, University of Calgary, Canada, [2]Faculty of Kinesiology, University of Calgary, Canada
Disclosures: Andrew Michalski, None

SA0214 **Trabecular Bone Score (TBS) and its association with Cobb angle kyphosis in older men**
Erin Deiotte[1], Jian Shen[1], Jaclyn Bergstrom[1], Jeanne Nichols[1], John Schousboe[2], David Wing[1], Gina Woods[1], Nancy Lane[3], Wendy Katzman[4], Deborah Kado*[1]. [1]University of California, San Diego, United states, [2]Park Nicollet Institute & University of Minnesota, United states, [3]University of California, Davis, United states, [4]University of California, San Francisco, United states
Disclosures: Deborah Kado, None

SA0215 **Ultrashort Echo Time Magnetization Transfer (UTE-MT) Imaging and Modeling of Cortical Bone**
Yajun Ma*[1], Eric Chang[2], Jiang Du[1]. [1]Department of Radiology, University of California, San Diego, United states, [2]VA San Diego Healthcare System, San Diego; Department of Radiology, University of California, San Diego, United states
Disclosures: Yajun Ma, None

SA0216 **Weight Change in Men in Late Life and Bone Microarchitecture at the Distal Tibia**
Kristine Ensrud*[1], Tien Vo[2], Lisa Langsetmo[2], Andrew Burghardt[3], John Schousboe[2], Jane Cauley[4], Sharmila Majumdar[3], Brent Taylor[1], Andrew Hoffman[5], Eric Orwoll[6]. [1]University of Minnesota / VA Health Care System, United states, [2]University of Minnesota, United states, [3]University of California, United states, [4]University of Pittsburgh, United states, [5]Stanford University, United states, [6]Oregon Health & Science University, United states
Disclosures: Kristine Ensrud, None

OSTEOPOROSIS - EPIDEMIOLOGY: BONE MINERAL DENSITY

SA0217 **A Mathematical Model to Quantify Links Between Bone Mineral Density, Patient Factors and Therapeutic Interventions on Fracture Risk in Patients with Osteoporosis**
Rena Eudy*, William Gillespie, Matthew Riggs, Marc Gastonguay. Metrum Research Group LLC, United states
Disclosures: Rena Eudy, None

SA0218 **Accelerated Bone Loss at the Hip: Association with Increased Risk of Subsequent Mortality in Older Men**
Peggy Cawthon[1], Eric Orwoll*[2], Sheena Patel[1], Susan Ewing[3], Kristine Ensrud[4], Jane Cauley[5], Jennifer Lyons[6], Lisa Fredman[6], Deborah Kado[7], Andrew Hoffman[8]. [1]California Pacific Medical Center Research Institute, United states, [2]Bone & Mineral Unit, Oregon Health & Science University, United states, [3]University of California San Francisco, United states, [4]University of Minnesota & Minneapolis VA Health Care System, United states, [5]University of Pittsburgh, United states, [6]Boston University School of Public Health, United states, [7]University of California San Diego, United states, [8]Stanford University & VA Palo Alto Health Care System, United states
Disclosures: Eric Orwoll, None

SA0219 **Comparison of Volumetric Bone Mineral Density and Macro-architecture among Indian, United States Caucasians and Afro Caribbean Older Men**
Guru Rajesh Jammy*[1], Robert M. Boudreau[1], Tushar Singh[1], Pawan Sharma[2], Kristine E Ensrud[3], Joseph M. Zmuda[1], P S Reddy[2], Anne B Newman[1], Jane A Cauley[1]. [1]Department of Epidemiology, University of Pittsburgh, United states, [2]SHARE INDIA - Mediciti Institute of Medical Sciences, India, [3]Division of Epidemiology & Community Health, University of Minnesota; Department of Medicine, University of Minnesota; Center for Chronic Disease Outcomes Research, VA Health Care System, Minneapolis., United states
Disclosures: Guru Rajesh Jammy, None

SA0220 **Genome-Wide Association Study of DNA Methylation Identifies a Novel Locus Associated with Bone Mineral Density**
John Morris*[1], Pei-Chien Tsai[2], Yi-Hsiang Hsu[3], Roby Joehanes[3], Jie Zheng[4], Katerina Trajanoska[5], Mette Soerensen[6], Vincenzo Forgetta[7], Kaare Christensen[6], Lene Christiansen[6], Tim Spector[2], Fernando Rivadeneira[5], Jonathan Tobias[4], David Evans[4], Douglas Kiel[3], Brent Richards[1], Jordana Bell[2]. [1]Department of Human Genetics, McGill University, Canada, [2]Department of Twin Research & Genetic Epidemiology, King's College London, United Kingdom, [3]Department of Medicine, Institute for Aging Research, Hebrew SeniorLife, BIDMC, & Harvard Medical School, United states, [4]MRC Integrative Epidemiology Unit, University of Bristol, United Kingdom, [5]Department of Epidemiology, Erasmus Medical Center, Netherlands, [6]The Danish Twin Registry, Epidemiology, Institute of Public Health, University of Southern Denmark, Denmark, [7]Centre for Clinical Epidemiology, Lady Davis Institute, Jewish General Hospital, McGill University, Canada
Disclosures: John Morris, None

SA0221 **Regional Variations in Rates of Osteopenia, Osteoporosis, Fractures, and Bone Mineral Density Screening in Male US Veterans**
Joanne LaFleur*[1], Yan Cheng[1], Jacob Crook[2], Robert Adler[3], Kenneth Lyles[4], Cathleen Colon-Emeric[4]. [1]University of Utah College of Pharmacy Department of Pharmacotherapy, United states, [2]University of Utah Division of Epidemiology, United states, [3]Richmond VA Medical Center, United states, [4]Duke University Department of Geriatrics, United states
Disclosures: Joanne LaFleur, None

OSTEOPOROSIS - EPIDEMIOLOGY: ENVIRONMENTAL AND LIFESTYLE FACTORS

SA0222 **Relationship Between Serum Vitamin B6 and Bone Mineral Density in the Middle-aged and Elderly People in Shanghai, China**

Lin Chen*[1], Jing Wang[2], Chenguang Li[1], Liang Qiao[1], Xiaofeng Qi[1], Qiang Wang[1], Xuejun Cui[3], Bing Shu[1], Yongjun Wang[4]. [1]Longhua Hospital, Shanghai University of Traditional Chinese Medicine; Spine Research Institute, Shanghai University of Traditional Chinese Medicine, China, [2]Longhua Hospital, Shanghai University of Traditional Chinese Medicine; Shanghai Geriatric institute of Chinese Medicine, China, [3]Longhua Hospital, Shanghai University of Traditional Chinese Medicine, China, [4]Longhua Hospital, Shanghai University of Traditional Chinese Medicine; School of Rehabilitation Science, Shanghai University of Traditional Chinese Medicine; Spine Research Institute, Shanghai University of Traditional Chinese Medicine, China

Disclosures: Lin Chen, None

OSTEOPOROSIS - EPIDEMIOLOGY: FALLS AND FRACTURES

SA0223 **Biochemical Markers of Inflammation Associated with Increased Mortality in Hip Fracture Patients**

Debbie Norring-Agerskov*[1], Lise Bathum[1], Ole Vesterager Pedersen[2], Jes Bruun Lauritzen[3], Henrik Jørgensen[4], Niklas Rye Jørgensen[5]. [1]Department of Clinical Biochemistry, Hvidovre Hospital, University of Copenhagen, Denmark, [2]Department of Clinical Immunology, Næstved Sygehus, Denmark, [3]Department of Orthopaedic Surgery, Bispebjerg Hospital, University of Copenhagen, Denmark, [4]Department of Clinical Biochemistry, Bispebjerg Hospital, University of Copenhagen, Denmark, [5]Department of Clinical Biochemistry, Rigshospitalet Glostrup, University of Copenhagen, Denmark

Disclosures: Debbie Norring-Agerskov, None

SA0224 **Fracture Risk After Bariatric Surgery: Roux-en-Y Gastric Bypass Versus Adjustable Gastric Banding**

Elaine Yu*[1], Moa Park[2], Joan Landon[2], Seoyoung Kim[2]. [1]Endocrine Unit, Massachusetts General Hospital, United states, [2]Division of Pharmacoepidemiology & Pharmacoeconomics, Brigham & Women's Hospital, United states

Disclosures: Elaine Yu, None

SA0225 **Fracture Risk Assessment In Long term care: FRAIL**

Sarah Berry*[1], Yoojin Lee[2], Andrew Zullo[2], Vincent Mor[2], Kevin McConeghy[2], Geetanjoli Banerjee[2], Ralph D'Agostino[3], Douglas Kiel[1]. [1]Hebrew SeniorLife & BIDMC, United states, [2]Brown University, United states, [3]Boston University, United states

Disclosures: Sarah Berry, Amgen, 100

SA0226 **Osteoporosis and Functional Outcome after a Distal Radius Fracture in Men – A prospective study of the first post-fracture year**

Lisa Egund*, Fiona McGuigan, Kristina Akesson. Clinical & Molecular Osteoporosis Research Unit, Department of Clinical Science Malmö, Lund University & Department of Orthopedics, Skåne University Hospital Malmö, Sweden, Sweden

Disclosures: Lisa Egund, None

SA0227 **Vertebral Fractures have Similar Impact as hip Fractures on the Progression of Frailty**

Olga Gajic-Veljanoski*[1], Jonathan D. Adachi[2], Courtney Kennedy[3], George Ioannidis[4], Claudie Berger[5], Andy Kin On Wong[6], Kenneth Rockwood[7], Susan Kirkland[7], Parminder Raina[8], Lehana Thabane[8], Alexandra Papaioannou[1], The CaMos Research Group[5]. [1]McMaster University & Hamilton Health Sciences/St. Peter's Hospital – GERAS Centre, Canada, [2]McMaster University & St. Joseph's Healthcare Hamilton, Canada, [3]Hamilton McMaster UniversiMcMaster University & Health Sciences/St. Peter's Hospital - GERAS Centre, Canada, [4]McMaster University &Hamilton Health Sciences/St. Peter's Hospital – GERAS Centre, Canada, [5]Camos – McGill University, Canada, [6]University Health Network, Canada, [7]Dalhousie University, Canada, [8]McMaster University, Canada

Disclosures: Olga Gajic-Veljanoski, None

OSTEOPOROSIS - EPIDEMIOLOGY: MENOPAUSE AND SEX HORMONES

SA0228 **Estrogen-Containing Contraceptives are Associated with Reduced Risk of Stress Fracture in Female Soldiers**

Kristin L. Popp*[1], Julie M. Hughes[2], Craig J. McKinnon[2], Kathryn E. Ackerman[3], Joseph R. Kardouni[2], Katelyn I. Guerriere[2], Ronald W. Matheny, Jr.[2], Mary L. Bouxsein[4]. [1]Endocrine Unit, Massachusetts General Hospital & Harvard Medical School, United states, [2]Military Performance Division, United States Army Research Institute of Environmental Medicine, United states, [3]Divisions of Sports Medicine & Endocrinology, Boston Children's Hospital, Endocrine Unit, Massachusetts General Hospital, & Harvard Medical School, United states, [4]Endocrine Unit, Massachusetts General Hospital, Harvard Medical School & Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, Department of Orthopaedic Surgery, United states

Disclosures: Kristin L. Popp, None

SA0229 **Pubertal timing predicts adult non-vertebral fracture risk in men – the BEST cohort**

Claes Ohlsson*[1], Maria Bygdell[1], Liesbeth Vandenput[1], Dan Mellström[1], Arvid Sonden[2], Jenny Kindblom[1]. [1]Center for Bone & Arthritis Research, Institute of Medicine, the Sahlgrenska Academy at Gothenburg University, Sweden, [2]Bioinformatics Core Facility, Sahlgrenska Academy at University of Gothenburg, Sweden

Disclosures: Claes Ohlsson, None

SA0230 **2016 ASBMR Fund for Research and Education Young Investigator Award**
The Effects of Cross-sex Hormonal Treatment in Transgender Persons on their Bone Mineral Density: a 1 year Prospective Observational Study

Chantal Wiepjes*, Mariska Vlot, Maartje Klaver, Paul Lips, Renate de Jongh, Annemieke Heijboer, Martin den Heijer. VU Medisch Centrum, Netherlands

Disclosures: Chantal Wiepjes, None

OSTEOPOROSIS - EPIDEMIOLOGY: RISK FACTORS

SA0231 **CHANGE IN BONE STRUCTURE WITH AGE AS ASSESSED BY PERIPHERAL QUANTITATIVE COMPUTED TOMOGRAPHY AND RELATIONSHIPS WITH MUSCLE IN OLDER MEN AND WOMEN**

Elaine Dennison*, Kate Ward, Karen Jameson, Mark Edwards, Cyrus Cooper. MRC Lifecourse Epidemiology Unit, United Kingdom

Disclosures: Elaine Dennison, None

SA0232 **Gender differences in proximal femur shape: findings from a population based study in adolescents**

Monika Frysz*[1], Denis Baird[2], Jennifer S Gregory[3], Rebecca J Barr[3], Richard M Aspden[3], Lavinia Paternoster[1], Jon H Tobias[2]. [1]School of Social & Community Medicine, University of Bristol, UK; MRC Integrative Epidemiology Unit at the University of Bristol, UK, United Kingdom, [2]Musculoskeletal Research Unit, School of Clinical Sciences, University of Bristol, UK, United Kingdom, [3]Arthritis & Musculoskeletal Medicine, Institute of Medical Sciences, University of Aberdeen, UK, United Kingdom

Disclosures: Monika Frysz, None

SA0233 **High Risk of Second Fracture within 1, 2, 5 years after Prior Fracture among Women 65 years or Older**

Akhila Balasubramanian[1], Jie Zhang[2], Lang Chen[2], Deborah Wenkert[1], Shanette G Daigle[2], Andreas Grauer[1], Jeffrey R Curtis*[2]. [1]Amgen, United states, [2]University of Alabama at Birmingham, United states

Disclosures: Jeffrey R Curtis, Janssen, 13; Amgen, 14; Crescendo, 13; Janssen, 14; Pfizer, 14; BMS, 14; Corrona, 13; BMS, 13; Roche/Genentech, 14; Coronna, 14; Crescendo, 14; Pfizer, 13; Roche/Genentech, 13; AbbVie, 13; Amgen, 13; UCB, 13; AbbVie, 14; UCB, 14

SA0234 **Imminent Risk of Clinical Vertebral Fracture After Fracture (Reykjavik Study)**

Helena Johansson*[1], Kristín Siggeirsdóttir[2], Nicholas C Harvey[3], Anders Odén[1], Vilmundur Gudnason[2], Eugene McCloskey[1], Gunnar Sigurdsson[2], John Kanis[1]. [1]Centre for Metabolic Bone Diseases, University of Sheffield, United Kingdom, [2]Icelandic Heart Association, Kopavogur, Iceland, [3]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom

Disclosures: Helena Johansson, None

SA0235 **Kidney Function and Fracture Risk among Older Male Veterans**
Rasheeda Hall[1], Rick Sloane[1], Robert Adler[2], Kenneth Lyles[1], Joanne LaFleur[3], Cathleen Colon-Emeric*[1]. [1]Duke University, United states, [2]Richmond VAMC, United states, [3]University of Utah, United states
Disclosures: Cathleen Colon-Emeric, None

SA0236 **Lower TBS Score is a Risk Factor for Atypical Femur Fractures but not Independent of Duration of Antiresorptive Therapy**
Andy Kin On Wong*[1], K. Shawn Davison[2], William D. Leslie[3], Jonathan D. Adachi[4], Jacques P. Brown[5], Robert G. Josse[6], Aliya Khan[4], Angela M. Cheung[1]. [1]University Health Network, Canada, [2]University of Victoria, Canada, [3]University of Manitoba, Canada, [4]McMaster University, Canada, [5]Laval University, Canada, [6]St. Michael's Hospital, Canada
Disclosures: Andy Kin On Wong, None

SA0237 **Prediction of two-year risk of fracture among older US women**
Annette Adams*[1], Eric Johnson[2], Hui Zhou[1], Robert Platt[3], Deborah Wenkert[4], Steven Jacobsen[1], Akhila Balasubramanian[4]. [1]Kaiser Permanente Southern California, United states, [2]The Center for Health Research, United states, [3]McGill University Health Center Research Institute, Canada, [4]Amgen Inc, United states
Disclosures: Annette Adams, Amgen Inc, 13; Otsuka, 13; Merck, 13

OSTEOPOROSIS - HEALTH CARE DELIVERY: GENERAL

SA0238 **A One Year Post Hip Fracture Survey: Why Are Older Adults Not Receiving Osteoporosis Treatment**
Mia Barnett*[1], Judy Beizer[2], Stuart Weinerman[1], Liron Sinvani[1], Gisele Wolf-Klein[1], Andrej Kozikowski[1]. [1]Northwell Health, United states, [2]St. John's University College of Pharmacy & Health Sciences, United states
Disclosures: Mia Barnett, None

SA0239 **Factors Associated with the Online Uptake of a Multi-modal Educational Intervention for the Activating Patients at Risk for OsteoPOroSis (APROPOS) Study: a Randomized Trial within the GLOW Cohort**
Maria Danila[1], Elizabeth Rahn*[1], Ryan Outman[1], Amy Mudano[1], Tammi Thomas[1], Jeroan Allison[2], Fred Anderson[2], Julia Anderson[3], Peter Cram[4], Jeffrey Curtis[1], Liana Fraenkel[5], Susan Greenspan[6], Andrea LaCroix[7], Sumit Majumdar[8], Michael Miller[9], Jeri Nieves[10], David Redden[1], Monika Safford[11], Stuart Silverman[12], Ethel Siris[13], Daniel Solomon[14], Amy Warriner[1], Nelson Watts[15], Robert Yood[16], Kenneth Saag[1]. [1]The University of Alabama at Birmingham, United states, [2]University of Massachusetts Medical School, United states, [3]Group Health Cooperative, United states, [4]University of Toronto, Canada, [5]Yale University, United states, [6]University of Pittsburgh, United states, [7]University of California - San Diego, United states, [8]University of Alberta, Canada, [9]The University of Oklahoma, United states, [10]Helen Hayes Hospital, United states, [11]Weill Cornell Medical Center, United states, [12]Cedars-Sinai Medical Center, United states, [13]Columbia University Medical Center, United states, [14]Brigham & Women's Hospital, United states, [15]Mercy Health Osteoporosis & Bone Health Services, United states, [16]Reliant Medical Group, United states
Disclosures: Elizabeth Rahn, None

SA0240 **Impact of Frailty on Health Care Services Use among Non-institutionalized Quebec Seniors with Non-hip Fracture: a Population-based Study using Administrative Databases**
Vanessa Fillion[1], Marie-Josée Sirois[1], Suzanne N Morin[2], Philippe Gamache[3], Sonia Jean*[3]. [1]Laval University, Canada, [2]McGill University, Canada, [3]INSPQ, Canada
Disclosures: Sonia Jean, None

SA0241 **Impact of Gastrointestinal Events on Patient-Reported Outcomes in Asia-Pacific Women with Osteoporosis: Baseline Results of the MUSIC OS-AP Study**
Ankita Modi[1], Peter Ebeling[2], Mel Lee[3], Yong-Ki Min[4], Ambrish Mithal[5], Xiaoqin Yang*[1], Santwona Baidya[6], Shuvayu Sen[1], Shiva Sajjan[1]. [1]Merck & Co., Inc., United states, [2]Monash University, Australia, [3]Chang Gung Memorial Hospital, Taiwan, province of china, [4]Sungkyunkwan University, Korea, republic of, [5]Medanta the Medicity, India, [6]Optum, Australia
Disclosures: Xiaoqin Yang, Merck & Co., Inc., 17

SA0242 **Over 48,000 Ontario seniors have started denosumab: patient characteristics, regional variation in use and persistence with therapy**
Suzanne M. Cadarette*, Guilia P. Consiglio, B. Boyd Hao, Joann K. Ban, M. Amine Amiche. University of Toronto, Canada
Disclosures: Suzanne M. Cadarette, None

SA0243 **Patient- and Hospital-Level Factors associated with Receipt of Bone Densitometry (DXA) in Male Veterans Hospitalized for Hip Fracture**
Samantha Solimeo*, Gary Rosenthal, Mary Vaughan Sarrazin. CADRE, Iowa City VA HCS & Department of Internal Medicine, University of Iowa, United states
Disclosures: Samantha Solimeo, None

SA0244 **Rush Fracture Liaison Service for Capturing "missed opportunities" to Treat Osteoporosis**
MILLI JAIN*[1], SHUCHI SHAH[2], SANFORD BAIM[1]. [1]RUSH university, United states, [2]Graduate College, Rush University, United states
Disclosures: MILLI JAIN, None

SA0245 **The Activating Patients at Risk for OsteoPOroSis (APROPOS) Study: a Randomized Trial within the GLOW Cohort**
Maria Danila*[1], Ryan Outman[1], Elizabeth Rahn[1], Amy Mudano[1], David Redden[1], Peng Li[1], Fred Anderson[2], Jeffrey Curtis[1], Susan Greenspan[3], Andrea LaCroix[4], Michael Miller[5], Jeri Nieves[6], Stuart Silverman[7], Amy Warriner[1], Nelson Watts[8], Nicole Wright[1], Kenneth Saag[1]. [1]The University of Alabama at Birmingham, United states, [2]University of Massachusetts Medical School, United states, [3]University of PIttsburgh, United states, [4]University of California San Diego, United states, [5]University of Oklahoma, United states, [6]Helen Hayes Hospital, United states, [7]Cedars Sinai Hospital, United states, [8]Mercy Health, United states
Disclosures: Maria Danila, None

OSTEOPOROSIS - HEALTH CARE DELIVERY: OUTCOME STUDIES

SA0246 **Clinical Utility of Spinal Imaging in Patients Deemed at Moderate Fracture Risk in an Orthopaedic Post Fracture Intervention Program for Osteoporosis Care**
Earl Bogoch, Victoria Elliot-Gibson*, Erin Norris, Robert Josse, Joanna Sale. St. Michael's Hospital, Canada
Disclosures: Victoria Elliot-Gibson, Novartis Canada Ltd, 100; Mr. and Mrs. W. Saunderson, 100; Amgen Canada Inc, 100; Warner Chilcott, 100; Helen McCrea Peacock Foundation, 100; Merck Frosst Canada Inc, 100; Martin Family Foundation, 100; Mr. Clifford Martin, 100; Procter and Gamble Pharmaceuticals Inc, 100; Alliance for Better Bone Health, 100

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: CALCIUM AND VITAMIN D

SA0247 **Calcium and Vitamin D Supplementation Leads to Greater Improvements in Trabecular Bone Microarchitecture in Young Adults undergoing Initial Military Training**
Erin Gaffney-Stomberg*[1], Katelyn Guerriere[1], Sonya Cable[2], Mary Bouxsein[3], Julie Hughes[1], James McClung[1]. [1]USARIEM, United states, [2]WAMC, United states, [3]Harvard Medical School, United states
Disclosures: Erin Gaffney-Stomberg, None

SA0248 **Cardiovascular disease and calcium supplementation: a cross-sectional study primary care in South Brazil**
Ronaldo Godinho, Pietra Zorzo, Thales Ilha, Adhan de Vieira, Felipe Langer, Leo Dal Osto, Rafaela Copes, Fabio Comim, Melissa Premaor*. Federal University of Santa Maria, Brazil
Disclosures: Melissa Premaor, None

SA0249 **Dietary Calcium Intake and Vascular Markers in Healthy Postmenopausal Women**
Angel Ong*[1], Shubhabrata Das[2], Hope Weiler[1], Michelle Wall[3], Angela Cheung[4], Elham Rahme[5], Susan Whiting[6], Stella Daskalopoulou[7], David Goltzman[7], Suzanne Morin[7]. [1]School of Dietetics & Human Nutrition, McGill University, Canada, [2]Division of Experimental Medicine, Department of Medicine, McGill University, Canada, [3]McGill University Health Centre Research Institute, Canada, [4]Department of Medicine, University of Toronto, Canada, [5]Division of Clinical Epidemiology, McGill University Health Centre Research Institute, Canada, [6]College of Pharmacy & Nutrition, University of Saskatchewan, Canada, [7]Department of Medicine, McGill University Health Centre Research Institute, Canada
Disclosures: Angel Ong, None

SA0250 **Effects of Low-fat Dairy Foods on Bone and Body Composition, Lipid Profile and Pro-inflammatory Markers in Overweight/Obese Women During the Weight Loss Regimen**
Ashley Carter*[1], Pei-Yang Liu[2], Hyehyung Shin[3], Youjin Kim[4], Jasminka Ilich[1]. [1]Florida State University, United states, [2]University of Akron, United states, [3]Samsung Life Insurance, Korea, democratic people's republic of, [4]The State University of New Jersey, United states
Disclosures: Ashley Carter, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: EXERCISE

SA0251 **High Impact Mechanical Loading Increases Bone Material Strength – Results from a 3-Month Intervention Study**
Daniel Sundh*, Mattias Lorentzon, Martin Nilsson, Michail Zoulakis, Martin Hellgren. Geriatric Medicine, Department of Internal Medicine & Clinical Nutrition, Institute of Medicine, University of Gothenburg, Gothenburg, Sweden, Sweden
Disclosures: Daniel Sundh, None

SA0252 **High Intensity Progressive Resistance Training for 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 & Menzies Health Institue Queensland, Griffith University, Gold Coast, Australia, Australia, [2]The Bone Clinic, Brisbane, Australia, Australia
Disclosures: Steven Watson, None

SA0253 **Moderate-to-vigorous Physical Activity but not Sedentary Time is Associated with Musculoskeletal Health Outcomes in a Cohort of Australian Middle-aged Women**
Feitong Wu*[1], Karen Wills[1], Laura Laslett[1], Brian Oldenburg[2], Graeme Jones[1], Tania Winzenberg[1]. [1]Menzies Institute for Medical Research, University of Tasmania, Australia, [2]School of Population & Global Health, University of Melbourne, Australia
Disclosures: Feitong Wu, None

SA0254 **Yoga-Associated Vertebral Compression Fractures: Experience from a Tertiary Referral Care Center**
Jad Sfeir*, Vikram Sonawane, Mehrsheed Sinaki, Matthew Drake. Mayo Clinic, United states
Disclosures: Jad Sfeir, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: GENERAL

SA0255 **Comparison of Lifestyle Factor, Nutritional Status and Bone Mineral Density in Korean Women**
Hee-Sook Lim[1], Tae-Hee Kim[2], Dong-Won Byun*[3], Hae-Hyeog Lee[2], Yoo-Jin Park[2]. [1]Department of Nutrition, Soonchunhyang University Bucheon Hospital, Korea, republic of, [2]Department of Obstetrics & Gynecology, Soonchunhyang University College of Medicine, Korea, republic of, [3]Division of Endocrinology & Metabolism, Department of Internal Medicine, Soonchunhyang University College of Medicine, Korea, republic of
Disclosures: Dong-Won Byun, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: OTHER NUTRIENTS

SA0256 **Does Magnesium Status Influence Bone Mineral Density?**
Michael Johnson[1], R. Erin Johnson[2], Karen Hansen*[1]. [1]University of Wisconsin School of Medicine & Public Health, United states, [2]Saint Luke's Health System, United states
Disclosures: Karen Hansen, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: PROTEINS

SA0257 **Increased Milk Protein Isolate Consumption during Diet-Induced Energy Restriction Does Not Influence Changes in Bone Quantity in Overweight and Obese Older Adults**
Christian Wright*, Jing Zhou, Wayne Campbell. Purdue University, Department of Nutrition Science, United states
Disclosures: Christian Wright, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE AND THE MICROBIOME, BONE INFECTIONS

SA0258 **LGG and VSL#3 Probiotics Prevent Ovariectomy Induced Bone Loss and Induce Bone Anabolism in Normal Mice by Decreasing Gut Permeability and Inducing Wnt10b Production**
Jau-Yi Li*[1], Abdul Malik Tyagi[1], Emory Hsu[1], Marcelo Steiner[1], Jonathan Adams[1], Rheinallt Jones[2], Roberto Pacifici[1]. [1]Emory University, School of Medicine, United states, [2]Department of Pediatrics, Emory University, United states
Disclosures: Jau-Yi Li, None

SA0259 **The Gut Microbiome Influences Bone Strength and Regulates Differences in Bone Biomechanical Phenotype Among Inbred Mouse Strains**
Jason Guss*[1], Michael Horsfield[1], Fernanda Fontenele[1], Taylor Sandoval[1], Marysol Luna[1], Fnu Apoorva[1], Svetlana Lima[1], Rodrigo Bicalho[1], Marjolein van der Meulen[1], Ankur Singh[1], Ruth Ley[1], Steven Goldring[2], Christopher Hernandez[1]. [1]Cornell University, United states, [2]Hospital for Special Surgery, United states
Disclosures: Jason Guss, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE MODELING AND REMODELING

SA0260 **Delayed bone healing in type 1 diabetic rats is ameliorated by insulin treatment**
Ariane Zamarioli*[1], Francisco de Paula[1], Maysa Campos[1], Raquel Silva[2], José Volpon[1]. [1]School of Medicine of Ribeirão Preto, Brazil, [2]School of Dentistry of Ribeirão Preto, Brazil
Disclosures: Ariane Zamarioli, None

SA0261 **Different Effects of Absence of Complement Component 3 and Anaphylatoxin Receptors on Tissue-Level Properties of Bone**
Danielle MacKay*[1], Thomas Kean[1], Kristina Bernardi[2], Heather Haeberle[3], Catherine Ambrose[4], Feng Lin[5], James Dennis[1]. [1]Baylor College of Medicine, United states, [2]Seattle Children's Hospital, United states, [3]University of Texas, United states, [4]University of Texas Health Science Center at Houston, United states, [5]Cleveland Clinic Lerner Research Institute, United states
Disclosures: Danielle MacKay, None

SA0262 **Upregulation of SOST before arthritis onset in arthritis model could partly explain paradoxical effect of sclerostin inhibition in arthritis**
Guillaume Courbon*, Raphaelle Lamarque, Marie-Thérèse Linossier, Norbert Laroche, Thierry Thomas, Laurence Vico, Hubert Marotte. INSERM 1059, University of Lyon, France
Disclosures: Guillaume Courbon, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: CALCIUM, VITAMIN D, NUTRITIONAL AND PHYSICAL FACTORS

SA0263 **S-Allylmercapro-N-Acetylcysteine Modulates Stromal Bone Marrow Cells and Bone Structure in Adult Healthy and Diabetic Mice**
Naphtali Savion*, Reem Abu-Kheit, Shlomo Kotev-Emeth, Yankel Gabet. Sackler Faculty of Medicine, Tel Aviv University, Israel
Disclosures: Naphtali Savion, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GENERAL

SA0264 **Association between bone turnover markers and level of cognition in older community dwelling individuals with memory concerns**
Ryan Ross*, Raj Shah, Rick Sumner. Rush University Medical Center, United states
Disclosures: Ryan Ross, None

SA0265 **Bone Loss After Roux-en-Y Gastric Bypass in Mice is Independent of Weight Loss**
Elaine Yu*[1], Joseph Brancale[2], Matthew Scott[1], Daniel Brooks[1], Scott Lajoie[2], Lee Kaplan[2], Mary Bouxsein[1]. [1]Endocrine Unit, Massachusetts General Hospital, United states, [2]Obesity, Metabolism & Nutrition Institute, Massachusetts General Hospital, United states
Disclosures: Elaine Yu, None

SA0266 **Irreversible Deterioration of Cortical and Trabecular Microstructure Associated with Breastfeeding**
Ashild Bjornerem*[1], Ali Ghasem-Zadeh[2], Xiaofang Wang[2], Minh Bui[2], Susan P Walker[2], Roger Zebaze[2], Ego Seeman[2]. [1]UiT The Arctic University of Norway, Australia, [2]University of Melbourne, Australia
Disclosures: Ashild Bjornerem, None

SA0267 **Loss of Bone in Sickle Cell Trait and Sickle Cell Disease Female Mice Is Associated with Reduced IGF-1 in Bone and Serum**
Liping Xiao*[1], Biree Andemariam[1], Pam Taxel[1], Douglas J Adams[1], William T Zempsky[2], Marja M Hurley[1]. [1]UConn Health, United states, [2]Connecticut Children's Hospital, United states
Disclosures: Liping Xiao, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GLUCOCORTICOIDS AND OTHER DRUGS

SA0268 **A unique peptide containing the heparin binding domain of IGFBP-2 increases bone mass in ovariectomized (OVX) rats**
Gang Xi*[1], Christine Wai[1], Thierry Abribat[2], Thomas Delale[2], Victoria DeMambro[3], Clifford Rosen[3], David Clemmons[1]. [1]University of North Carolina at Chapel Hill, United states, [2]Alize Pharma III, France, [3]Maine Medical Center Research Institute, United states
Disclosures: Gang Xi, Alize Pharma III, 100

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: DIABETES

SA0269 **Effects of Obesity and Diabetes on the Rate of Bone Density Loss in Women: The Manitoba BMD Cohort**
William Leslie*[1], Suzanne Morin[2], Sumit Majumdar[3], Lisa Lix[1]. [1]University of Manitoba, Canada, [2]McGill University, Canada, [3]University of Alberta, Canada
Disclosures: William Leslie, None

SA0270 **Insulin Sensitivity is Positively Associated with Appendicular Bone Density**
Se-Min Kim*[1], Xiuqing Guo[2], Yii-Der I. Chen[2], Willa A. Hsueh[3], Jerome I. Rotter[2], Mark O. Goodarzi[1]. [1]Cedars-Sinai Medical Center, United states, [2]Harbor-UCLA Medical Center, United states, [3]The Ohio State University, United states
Disclosures: Se-Min Kim, None

SA0271 **Type 2 Diabetes Mellitus Is Associated with Enhanced Bone Microarchitecture but Lower Bone Material Strength and Poorer Physical Function in Elderly Women**
Anna G. Nilsson*[1], Daniel Sundh[2], Martin Nilsson[2], Robert Rudäng[2], Anna Darelid[2], Michail Zoulakis[2], Dan Mellström[2], Mattias Lorentzon[2]. [1]Institute of Medicine, Sahlgrenska Academy, Gothenburg University, Sweden, [2]Geriatric Medicine, Centre for Bone & Arthritis Research, The Sahlgrenska Academy, University of Gothenburg, Sweden
Disclosures: Anna G. Nilsson, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: DRUGS, OTHER THAN GLUCOCORTICOIDS

SA0272 **Biopsy-based bone remodeling characteristics of premenopausal women with idiopathic osteoporosis on selective serotonin reuptake inhibitors (SSRIs)**
Adi Cohen*[1], Mafo Kamanda-Kosseh[1], Donald McMahon[1], David Dempster[2], Hua Zhou[2], Joan Lappe[3], Robert Recker[3], Julie Stubby[3], Mariana Bucovsky[1], Elizabeth Shane[1]. [1]Columbia University, United states, [2]Helen Hayes Hospital, United states, [3]Creighton University, United states
Disclosures: Adi Cohen, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: GLUCOCORTICOIDS

SA0273 **Effects of Alendronate and Low-intensity Pulsed Ultrasound Therapies on Bone Mineral Density in Cancellous Osteotomy Sites in the Proximal Tibias of Rats with Glucocorticoid-induced Osteoporosis**
Tetsuya Kawano*, Naohisa Miyakoshi, Yuji Kasukawa, Chie Sato, Masashi Fujii, Masazumi Suzuki, Norimitsu Masutani, Manabu Akagawa, Yuichi Ono, Yoichi Shimada. Department of Orthopedic Surgery, Akita University Graduate School of Medicine, Japan
Disclosures: Tetsuya Kawano, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: HIV

SA0274 **Bone Metabolism Dysfunction Mediated by the Increase of Proinflammatory Cytokines in Chronic HIV Infection**
Erika Grasiela Marques de Menezes*[1], Alcyone Artioli Machado[2], Fernando Barbosa Jr[2], Francisco Jose Albuquerque de Paula[2], Anderson Marliere Navarro[2]. [1]Sao Paulo State University, Brazil, [2]University of Sao Paulo, Brazil
Disclosures: Erika Grasiela Marques de Menezes, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: MOBILITY DISORDERS, DISUSE OSTEOPOROSIS

SA0275 **Bone Loss Countermeasures for Long Duration Spaceflight**
Elisabeth Spector*[1], Toshio Matsumoto[2], Jeffrey Jones[3], Jay Shapiro[4], Thomas Lang[5], Linda Shackelford[6], Scott M. Smith[6], Harlan Evans[1], Robert Ploutz-Snyder[7], Jean Sibonga[6], Joyce Keyak[8], Toshi Nakamura[9], Kenjiro Kohri[10], Hiroshi Ohshima[11], Gilbert Moralez[12], Adrian LeBlanc[13]. [1]Wyle Science, Technology & Engineering Group, United states, [2]U of Tokushima Graduate School of Medicine, Japan, [3]Baylor College of Medicine, United states, [4]Kennedy Krieger Institute, United states, [5]UCSF, United states, [6]NASA Johnson Space Center, United states, [7]Universities Space Research Association, United states, [8]U of California at Irvine, United states, [9]U of Occupational & Environmental Health, Japan, [10]Nagoya City U, Japan, [11]JAXA, Japan, [12]U of N Texas Health Science Center, United states, [13]Baylor College of Medicine & Universities Space Research Association, United states
Disclosures: Elisabeth Spector, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: OTHER CONDITIONS OR DISEASES

SA0276 **Bone Quantity and Quality Impairments Contribute to the Fragility of Rib in End-Stage Cystic Fibrosis Patients**

Louis-Georges Ste-Marie*[1], Natalie Dion[1], Delphine Farlay[2], Safiétou Sankhe[3], Sébastien Rizzo[2], Valérie Jomphe[1], Nathalie J Bureau[1], Georges Boivin[2], Larry C Lands[4], Pasquale Ferraro[1], Geneviève Mailhot[3]. [1]CHUM-Centre hospitalier de l'université de Montréal, Canada, [2]INSERM, UMR 1033, Université de Lyon, Université Claude Bernard Lyon 1, France, [3]Research Centre, CHU Sainte-Justine, Canada, [4]MUHC-McGill University, Canada

Disclosures: Louis-Georges Ste-Marie, None

SA0277 **Denosumab Versus Bisphosphonate Treatment for Secondary Osteoporosis Caused by Rheumatoid Arthritis**

Hayato Kinoshita*[1], Naohisa Miyakoshi[2], Takeshi Kashiwagura[3], Hidekazu Abe[1], Yusuke Sugimura[4], Yoichi Shimada[2]. [1]Ugo municipal hospital, department of orthopedic surgery, Japan, [2]Akita University graduate school of medicine, Department of orthopedic surgery, Japan, [3]Akita city hospital, department of orthopedic surgery, Japan, [4]Nakadori general hospital, department of orthopedic surgery, Japan

Disclosures: Hayato Kinoshita, None

SA0278 **Dipeptidyl Peptidase-4 Activity and Osteoporosis. Findings from the Cardiovascular Health Study**

monique bethel*[1], Petra Buzkova[2], Laura Carbone[1], Howard Fink[3], John Robbins[4], Carlos Isales[1], William Hill[5]. [1]Medical College of Georgia, United states, [2]University of Washington, United states, [3]University of Minnesota, United states, [4]University of California, United states, [5]Augusta University, United states

Disclosures: monique bethel, None

SA0279 **Evidence for the prevention of bone loss in postmenopausal breast cancer patients treated with aromatase inhibitors**

Peter Schwarz*[1], Bo Abrahamsen[2]. [1]Dept. Endocrinology, Rigshospitalet, Copenhagen University, Denmark, [2]University of Southern Denmark & Holbæk Hospital, Denmark

Disclosures: Peter Schwarz, Novartis, 13

SA0280 **Osteoporosis with Multiple Spontaneous Vertebral Fractures in a Young Male Carrying Triple Polymorphism in COL1A, VDR and LRP5 Genes**

Panagoullia Kollia[1], Eleni Vafeiadou[2], John Yovos*[2], Maria Yavropoulou[2]. [1]Department of Genetics & Biotechnology, Faculty of Biology, School of Physical Sciences, University of Athens, Athens, Greece., Greece, [2]Laboratory of Clinical & Molecular Endocrinology, AHEPA University hospital, Aristotle University of Thessaloniki, Greece

Disclosures: John Yovos, None

SA0281 **TBS VARIATION IN BREAST CANCER WOMEN COMPLETING AI-THERAPY: A PROSPECTIVE STUDY OF THE B-ABLE COHORT**

MARIA RODRIGUEZ-SANZ[1], MARTA PINEDA-MONCUSÍ[1], NATALIA GARCIA-GIRALT[1], SONIA SERVITJA[2], TAMARA MARTOS[2], JOSEP BLANCH-RUBIÓ[3], IGNASI TUSQUETS[2], MARIA MARTINEZ[2], JAIME RODRIGUEZ-MORERA[4], ADOLFO DÍEZ-PÉREZ[4], JOAN ALBANELL[2], XAVIER NOGUES-SOLAN*[4]. [1]IMIM (Hospital del Mar Research Institute), Red Temática de Investigación Cooperativa en Envejecimiento y Fragilidad (RETICEF), Barcelona, Spain, [2]Cancer Research Program, IMIM (Hospital del Mar Research Institute), Medical Oncology Department, Hospital del Mar, Autonomous University of Barcelona, Barcelona, Spain., Spain, [3]Medical Reumathology Department, Hospital del Mar, Barcelona, Spain., Spain, [4]Internal Medicine Department, Hospital del Mar, Universitat Autònoma de Barcelona, Barcelona, Spain

Disclosures: XAVIER NOGUES-SOLAN, None

SA0282 **The Predictors for Twelve Months Efficacy of Denosumab, an Anti-RANKL Antibody, on Osteoporosis in Rheumatoid Arthritis Patients from Japanese Multicenter Study (TBCR-BONE)**

Yuji Hirano*[1], Yasuhide Kanayama[2], Masaaki Isono[3], Nobunori Takahashi[4], Naoki Ishiguro[4], Toshihisa Kojima[5]. [1]Rheumatology, Toypohashi Municipal Hospital, Japan, [2]Orthopaedic Surgery & Rheumatology, Toyota Kosei Hospital, Japan, [3]Rheumatology, Toyohashi Municipal Hospital, Japan, [4]Orthopaedic Surgery, Nagoya University Graduate School of Medicine, Japan, [5]Orthopaedic Suegery, Nagoya University Graduate School of Medicine, Japan

Disclosures: Yuji Hirano, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: SMOKING, ALCOHOL AND OTHER ENVIRONMENTAL FACTORS

SA0283 **Short-term smoking cessation improved bone formation in male smokers**

Reiko Watanabe*, Nobuyuki Tai, Junko Hirano, Daisuke Inoue, Ryo Okazaki. Teikyo University Chiba Medical Center, Japan

Disclosures: Reiko Watanabe, None

OSTEOPOROSIS - TREATMENT: ANABOLIC AGENTS

SA0284 **Effect of Teriparatide or Risedronate in BMD and Fracture Recovery in Elderly Patients with a Recent Pertrochanteric Hip Fracture: Final Results of a 78-week Randomized Clinical Trial**

Jorge Malouf*[1], Umberto Tarantino[2], Per Aspenberg[3], Søren Overgaard[4], Costantino Corradini[5], Jan Stepan[6], Lars Borris[7], Pedro García-Hernández[8], Eric Lespessailles[9], Frede Frihagen[10], Kyriakos Papavasiliou[11], Helmut Petto[12], José Ramón Caeiro[13], Fernando Marin[14]. [1]Internal Medicine; Hospital San Pablo, Spain, [2]Orthopaedic Surgery; University Tor Vergata, Italy, [3]Department of Clinical & Experimental Medicine, Linköping University, Sweden, [4]Orthopaedic Surgery, University of Southern Denmark, Denmark, [5]Orthopaedic Institute Gaetano Pini, Italy, [6]Institute of Rheumatology, Charles University, Czech republic, [7]Orthopaedic Surgery, University Hospital, Denmark, [8]Osteoporosis Center, University Hospital, Mexico, [9]IPROS Unit, Hôpital Porte Madeleine, France, [10]Orthopaedic Surgery, University Hospital, Norway, [11]Orthopaedic Surgery, Aristotle University, Greece, [12]Eli Lilly Austria GmbH, Austria, [13]Orthopaedic Surgery, University Hospital, Spain, [14]Eli Lilly Research Centre Ltd, Erl Wood Manor, United Kingdom

Disclosures: Jorge Malouf, None

SA0285 **Withdrawn**

SA0286 **Relative Efficacy of Prompt Follow-up Therapy in Postmenopausal Women Completing the Denosumab and Teriparatide Administration (DATA) Study**

Benjamin Leder*, Linda Jiang, Joy Tsai. Massachusetts General Hospital, United states

Disclosures: Benjamin Leder, Amgen, 13; Amgen, 14; Lilly, 13; Merck, 14; Lilly, 14

SA0287 **Response to teriparatide treatment differs by anatomical site and bone compartment**

Margaret Paggiosi[1], Lang Yang[1], Daniel Blackwell[1], Jennifer Walsh[1], Nicola Peel[2], Eugene McCloskey[1], Richard Eastell*[1]. [1]Mellanby Centre for Bone Research, Department of Oncology & Metabolism, The University of Sheffield, United Kingdom, [2]Mellanby Centre for Bone Research, Sheffield Teaching Hospitals NHS Foundation Trust, United Kingdom

Disclosures: Richard Eastell, None

SA0288 **The Risk of Subsequent Osteoporotic Fractures Is Decreased in Patients Experiencing Fracture While on Denosumab: Results From the FREEDOM and FREEDOM Extension Studies**

Dl Kendler*[1], A Chines[2], Ml Brandi[3], S Papapoulos[4], Em Lewiecki[5], J-Y Reginster[6], C Roux[7], M Munoz Torres[8], A Wang[2], Hg Bone[9]. [1]University of British Columbia, Canada, [2]Amgen Inc., United states, [3]University of Florence, Italy, [4]Leiden University Medical Center, Netherlands, [5]New Mexico Clinical Research & Osteoporosis Center, United states, [6]University of Liège, Belgium, [7]Paris Descartes University, France, [8]Hospital Universitario San Cecilio, Spain, [9]Michigan Bone & Mineral Clinic, United states

Disclosures: Dl Kendler, Amgen, Eli Lilly, Astra Zeneca, Astalis, 13; Amgen, Eli Lilly, 15; Amgen, Eli Lilly, 14

SA0289 **Denosumab Treatment for 10 Years in Postmenopausal Women with Osteoporosis was Associated with Substantially Lower Fracture Incidence Relative to Their Baseline FRAX-predicted Probability**

E Siris*[1], N Pannacciulli[2], Pd Miller[3], Em Lewiecki[4], R Chapurlat[5], E Jódar Gimeno[6], Ns Daizadeh[2], Rb Wagman[2], Ja Kanis[7]. [1]Columbia University Medical Center, United states, [2]Amgen Inc., United states, [3]Colorado Center for Bone Research, United states, [4]New Mexico Clinical Research & Osteoporosis Center, United states, [5]Hôpital Edouard Herriot, France, [6]Hospital Universitario Quirónsalud Madrid, Spain, [7]University of Sheffield, United Kingdom

Disclosures: E Siris, Amgen, Merck, Radius, 14

SA0290 **Effect of Long-term Denosumab Treatment on Bone Mineral Density in Women with Osteoporosis and Contraindications to Oral Bisphosphonates - Observational Study**

Andrzej Sawicki*. Medical Centre Synexux, Poland

Disclosures: Andrzej Sawicki, None

SA0291 **Effect of Risedronate on Bone Loss due to Anastrozole Given to Prevent Breast Cancer: 5-year Results from the IBIS-II Prevention Trial**

Ivana Sestak*[1], Jack Cuzick[1], Glen Blake[2], Raj Patel[3], Robert Coleman[4], Richard Eastell[5]. [1]Centre for Cancer Prevention, Queen Mary University, United Kingdom, [2]Division of Imaging Sciences, King's College London, United Kingdom, [3]Charing Cross Hospital, United Kingdom, [4]Yorkshire Cancer Research Professor of Medical Oncology, Department of Oncology & Metabolism, Weston Park Hospital, University of Sheffield, United Kingdom, [5]Metabolic Bone Centre, Northern General Hospital, United Kingdom

Disclosures: Ivana Sestak, None

SA0292 **Efficacy and Safety of Denosumab in Chinese Postmenopausal Women with Osteoporosis at Increased Risk of Fracture: Results From a 12-Month, Randomized, Double-blind, Placebo-controlled Phase III Study**

Han Min Zhu[1], Hai Tang[2], Qun Cheng[1], Liang He[3], Peng Qiu Li[4], Qing Yun Xue[5], De Cai Chen[6], Xiao Lan Jin[7], Wen Jing Zhu[8], Hong Xin Zhao[8], Antonio Nino*[9], Zhen Lin Zhang[10]. [1]Huadong Hospital Affiliated to Fudan University, China, [2]Beijing Friendship Hospital, Capital Medical University, China, [3]Bejing Jishuitan Hospital, China, [4]Sichuan Provincial People's Hospital, China, [5]Beijing Hospital, China, [6]West China Hospital, Sichuan University, China, [7]Chinese People's Liberation Army General Hospital of Chengdu, China, [8]GlaxoSmithKline (China) R&D Company Limited, China, [9]Metabolic Pathways & Cardiovascular Therapeutic Area Unit, GlaxoSmithKline, Collegeville, Pennsylvania, USA, United states, [10]The Sixth People's Hospital affilated to Shanghai Jiaotong University, China

Disclosures: Antonio Nino, GlaxoSmithKline, 14

SA0293 **Exploratory Pooled Analysis on the Effect of Ibandronate in the MOVER and MOVEST Studies by Propensity Score Matching**

Seitaro Yoshida*[1], Masato Tobinai[1], Koichi Endo[1], Shingo Katakura[1], Junko Hashimoto[1], Rumiko Matsumoto[2], Hiroshi Hagino[3], Masko Ito[4], Tetsuo Nakano[5], Hideki Mizunuma[6], Toshitaka Nakamura[7]. [1]Chugai Pharmaceutical Co. Ltd., Japan, [2]Taisho Pharmaceutical Co. Ltd., Japan, [3]Tottori University, Japan, [4]Nagasaki University, Japan, [5]Tamana Central Hospital, Japan, [6]Hirosaki University, Japan, [7]National Center for Global Health & Medicine, Japan

Disclosures: Seitaro Yoshida, Chugai Pharmaceutical Co. Ltd., 17

SA0294 **Fracture risk after discontinuation of denosumab**

Akeem Yusuf*[1], Haifeng Guo[1], Akhila Balasubramanian[2], Nicola Pannacciulli[2], Rachel Wagman[2], J. Michael Sprafka[2]. [1]Chronic Disease Research Group, United states, [2]Amgen Inc., United states

Disclosures: Akeem Yusuf, None

SA0295 **Improving Feasibility for The Effectiveness of DiscontinuinG bisphosphonates (EDGE) Trial: A Pilot Study**
Nicole Wright*[1], P. Jeffrey Foster[2], Amy Mudano[2], E. Michael Lewiecki[3], William Shergy[4], Jeffrey Curtis[2], Gary Cutter[5], Maria Danila[2], Meredith Kilgore[6], Cora Lewis[7], Sarah Morgan[2], David Redden[5], Amy Warriner[8], Kenneth Saag[9]. [1]Department of Epidemiology, University of Alabama at Birmingham, United states, [2]Division of Clinical Immunology & Rheumatology, University of Alabama at Birmingham, United states, [3]University of New Mexico, United states, [4]Rheumatology Associates of North Alabama, United states, [5]Department of Biostatistics, University of Alabama at Birmingham, United states, [6]Department of Health Care Organization & Policy, University of Alabama at Birmingham, United states, [7]Division of Preventive Medicine, University of Alabama at Birmingham, United states, [8]Division of Endocrinology, Diabetes & Metabolism, University of Alabama at Birmingham, United states, [9]Division of Clinical Immunology & Rheumatology, United states
Disclosures: Nicole Wright, Amgen, 100

SA0296 **Pathogenesis of Atypical Femur Fractures: Analysis at Midpoint of Recruitment**
Pooja Kulkarni*[1], Mahalakshmi Honasoge[1], Elizabeth Warner[1], Arti Bhan[1], Shiri Levy[1], Heather Remtema[1], George Divine[2], Sudhaker Rao[1]. [1]Henry Ford Division of Endocrinology, Diabetes & Bone & Mineral Disorders, United states, [2]Henry Ford Public Health Services, United states
Disclosures: Pooja Kulkarni, None

SA0297 **Surgically Treated Osteonecrosis and Osteomyelitis of the jaw and Oral Cavity in Patients Highly Adherent to Alendronate Treatment. User-only National Cohort Study**
Bo Abrahamsen*[1], Pia A Eiken[2], Daniel Prieto-Alhambra[3], Richard Eastell[4]. [1]Holbæk Hospital & University of Southern Denmark, Denmark, [2]Hillerød Hospital, Denmark, [3]NIHR Musculoskeletal Biomedical Research Unit, University of Oxford, United Kingdom, [4]Metabolic Bone Centre, Northern General Hospital, United Kingdom
Disclosures: Bo Abrahamsen, Novartis, 13; UCB, 13

OSTEOPOROSIS - TREATMENT: COMPLIANCE AND PERSISTENCE

SA0298 **Comparison of Osteoporosis Pharmacotherapy Fracture Rates: Analysis of a MarketScan® Claims Database Cohort**
Alan Reynolds*[1], Paul Kocis[2], Guodong Liu[3], Ed Fox[4]. [1]Penn State College of Medicine, United states, [2]Penn State Hershey Medical Center, United states, [3]Penn State Public Health Sciences, United states, [4]Penn State Hershey Bone & Joint Institute, United states
Disclosures: Alan Reynolds, None

OSTEOPOROSIS - TREATMENT: OTHER AGENTS

SA0299 **Differential Effects of Odanacatib Therapy on Markers of Bone Resorption and Formation in Postmenopausal Women with Osteoporosis: A Subgroup Study of the 5-Year Data from the Extension of the Phase 3 Long-Term Odanacatib Fracture Trial (LOFT)**
Le T. Duong*[1], Maureen Pickarski[1], Seth Clark[1], Hilde Giezek[2], Dosinda Cohn[1], Rachid Massaad[2], S. Aubrey Stoch[1]. [1]Merck & Co., Inc., United states, [2]MSD Europe Inc., Belgium
Disclosures: Le T. Duong, Merck & Co (employment), 17

OSTEOPOROSIS - TREATMENT: QUALITY OF LIFE

SA0300 **Effects of a therapy with anti-RANKL antibody denosumab on bone metabolism markers and QOL in patients with osteoporosis**
Toshihisa Maeda*[1], Shinya Hayashi[1], Yasushi Miura[2], Yoshitada Sakai[3], Ryosuke Kuroda[1], Masahiro Kurosaka[1]. [1]Department of Orthopaedic Surgery, Kobe University Graduate School of Medicine, Japan, [2]Division of Orthopedic Science, Department of Rehabilitation Science, Kobe University Graduate School of Health Sciences, Japan, [3]Division of Rehabilitation Medicine, Kobe University Graduate School of Medicine, Japan
Disclosures: Toshihisa Maeda, None

PARACRINE REGULATORS: BONE MORPHOGENETIC PROTEINS AND TRANSFORMING GROWTH FACTORS

SA0301 **PDGF-BB inhibits BMP2-Smad signaling during osteogenic differentiation of periosteal progenitor cells**
Xi Wang*, Brya Matthews, Ivo Kalajzic. UConn Health, United states
Disclosures: Xi Wang, None

SA0302 **Thrombospondin status affects matrix-level control of endogenous TGF-beta bioavailability via tissue specific mechanisms**
Dylan Shearer*, Nolan Bick, Anita Reddy, Andrea Alford. University of Michigan, United states
Disclosures: Dylan Shearer, None

PARACRINE REGULATORS: CYTOKINES AND IMMUNOMODULATORS

SA0303 **Smoothened Agonist (SAG) Induced Mouse Calvarial Defect Healing**
Soonchul Lee*, Hsin Chuan Pan, Alan Nguyen, Jia Shen, Swati Shrestha, Greg Asatrian, Nicholas Bernthal, Kang Ting, Chia Soo, Aaron James. UCLA, United states
Disclosures: Soonchul Lee, None

SA0304 **Soluble Interleukin-6 receptor released by osteocytes promotes bone formation and maintains trabecular bone mass by *trans*-signaling**
Melissa Murat, Emma C Walker, Patricia Ho, Brett Tonkin, Narelle McGregor, T J Martin, Natalie A Sims*. St. Vincent's Institute of Medical Research, Australia
Disclosures: Natalie A Sims, None

PARACRINE REGULATORS: FIBROBLAST AND INSULIN-LIKE GROWTH FACTORS

SA0305 **Ablation of Ephrin B2 in Chondrocytes Leads to Impaired Osteoprogenitor Stem Cell Activation and Delayed Fracture Repair**
Yongmei Wang*, Lin Ling, Nicholas Heiniger, Wasima Wayer, Thai Nguyen, Carly Matsukuma, Daniel Bikle. Endocrine Unit, University of California, San Francisco/San Francisco VA Medical Center, United states
Disclosures: Yongmei Wang, None

PRECLINICAL MODELS – NUTRITION: GENERAL

SA0306 **$1,25(OH)_2D_3$ Prevents Bone Aging by Inhibiting Oxidative Stress And Inactivating p16-Rb And p53-p21 Signaling**
Renlei Yang*[1], Lulu Chen[1], Wei Zhang[1], David Goltzman[2], Dengshun Miao[1]. [1]Nanjing Medical University, China, [2]McGill University, Canada
Disclosures: Renlei Yang, None

SA0307 **A Maternal Low Protein Diet During Pregnancy and Weaning Negatively Impacts Offspring Bone Mineral Density**
Ke-Hong Ding*[1], Kunglun Yu[1], Qing Zhong[1], William Hill[1], Xingming Shi[1], Jianrui Xu[1], Wendy Bollag[1], Monte Hunter[1], Meghan McGee-Lawrence[1], Mona El Refaey[2], Maribeth Johnson[1], Mohammed Elsalanty[1], Ying Han[3], Mark Hamrick[1], Carlos Isales[1]. [1]Medical College of Georgia, United states, [2]Ohio University, United states, [3]Stomatology Hospital of Xi'an Jiaotong University, China
Disclosures: Ke-Hong Ding, None

SA0308 **Free Fatty Acid Receptor 4 (GPR120) Stimulates Bone Formation and Suppresses Bone Resorption in the Presence of Elevated *n*-3 Fatty Acid Levels**

Seong Hee Ahn*[1], Sook-Young Park[2], Ji-Eun Baek[2], Su-Youn Lee[2], Wook-Young Baek[2], Sun-Young Lee[2], Young-Sun Lee[2], Hyun Ju Yoo[3], Hyeonmok Kim[4], Seung Hun Lee[4], Dong-Soon Im[5], Sun-Kyeong Lee[6], Beom-Jun Kim[4], Jung-Min Koh[4]. [1]Department of Endocrinology & Metabolism, Inha University Hospital, Inha University School of Medicine, Korea, republic of, [2]Asan Institute for Life Sciences, Korea, republic of, [3]Biomedical Research Center, Asan Medical Center, University of Ulsan College of Medicine, Korea, republic of, [4]Division of Endocrinology & Metabolism, Asan Medical Center, University of Ulsan College of Medicine, Korea, republic of, [5]Molecular Inflammation Research Center for Aging Intervention (MRCA) & College of Pharmacy, Pusan National University, Korea, republic of, [6]UConn Center on Aging, University of Connecticut Health Center, Korea, republic of

Disclosures: Seong Hee Ahn, None

PRECLINICAL MODELS – NUTRITION: MACRONUTRIENTS

SA0309 **High fat diets rich in monounsaturated or saturated fatty acids differentially alter vitamin D hydroxylase and bone in older female mice**

Yang Wang*, Joshua Miller, Patricia Buckendahl, Sue Shapses. Rutgers University, United states

Disclosures: Yang Wang, None

PRECLINICAL MODELS – PHARMACOLOGY: ANTIRESORPTIVES

SA0310 **Competitive equilibrium-based displacement of bisphosphonates for the prevention of BRONJ**

Akishige Hokugo*[1], Shuting Sun[2], Mark Lundy[2], Charles E. McKenna[3], Frank H. Ebetino[2], Ichiro Nishimura[4]. [1]Regenerative Bioengineering & Repair (REBAR) Lab. Division of Plastic & Reconstructive Surgery Department of Surgery, David Geffen School of Medicine at UCLA, United states, [2]BioVinc LLC, United states, [3]Department of Chemistry, USC Dornsife College of Letters, Arts & Sciences, United states, [4]Weintraub Center for Reconstructive Biotechnology, UCLA School of Dentistry, United states

Disclosures: Akishige Hokugo, None

SA0311 **Maxillary Periodontitis and Osteonecrosis of the Jaw-Like Lesions in Rice Rats (*Oryzomys palustris*) Fed a Standard Diet and Treated with Zoledronic Acid**

J.Ignacio Aguirre*[1], Jonathan Messer[1], Jessica Jiron[1], Hung-Yuan Chen[1], Evelyn Castillo[1], Jorge Mendieta Calle[1], Catherine Van Poznak[2], Donald Kimmel[1]. [1]Department of Physiological Sciences, University of Florida, United states, [2]Internal Medicine Oncology, University of Michigan, United states

Disclosures: J.Ignacio Aguirre, None

PRECLINICAL MODELS – PHARMACOLOGY: BONE-FORMING AGENTS

SA0312 **Bone-Targeted Bortezomib Prevents OVX- and Myeloma-Induced Bone Loss with Less Systemic Adverse Effects more Effectively than Bortezomib**

Hua Wang*[1], L Xiao[1], Hengwei Zhang[1], Wen Sun[1], Frank Hal Ebetino[1], Robert K. Boeckman, Jr[1], Babatunde Oyajobi[2], Brendan Boyce[1], Lianping Xing[1]. [1]University of Rochester Medical Center, United states, [2]University of Texas Health Science Center at San Antonio, United states

Disclosures: Hua Wang, None

SA0313 **Co-deletion of Lrp5 and Lrp6 in bone severely diminishes bone gain from sclerostin antibody administration**

Kyung-Eun Lim*[1], Bart Williams[2], Chris Paszty[3], Matthew Warman[4], Alexander Robling[1]. [1]Indiana University School of Medicine, United states, [2]Van Andel Research Institute, United states, [3]Amgen, Inc., United states, [4]Boston Children's Hospital, United states

Disclosures: Kyung-Eun Lim, None

SA0314 **Forces Associated with SpaceX Launch do not Impact Bone Healing but Unloading Inhibits Bone Regeneration**
Paul Childress*[1], Cynthia-May S. Gong[2], Evan Himes[1], Sungshin Choi[2], Yasaman Shirazi-Fard[2], Todd McKinley[1], Tien-min Chu[3], Nabarun Chakraborty[4], Rasha Hammamieh[4], Melissa Kacena[1]. [1]Department of Orthopaedic Surgery, Indiana University School of Medicine, United states, [2]WYLE Labs, United states, [3]Department of Biomedical & Applied Sciences, Indiana University School of Dentistry, United states, [4]US Army Center for Environmental Health Research, United states
Disclosures: Paul Childress, None

SA0315 **Single Bisphosphonate Dosing Enhances Effects of Sclerostin Antibody On Stiffness of the Vertebral Body During Growth in an Osteogenesis Imperfecta Mouse Model**
Diana Olvera*[1], Basma Khoury[1], Joan C. Marini[2], Michelle S. Caird[1], Kenneth M. Kozloff[1]. [1]Orthopaedic Research Laboratories, Department of Orthopaedic Surgery. University of Michigan, United states, [2]Bone & Extracellular Matrix Branch, National Institute of Child Health & Human Development, NIH, United states
Disclosures: Diana Olvera, None

PRECLINICAL MODELS – PHARMACOLOGY: OTHERS

SA0316 **Alleviating Osteonecrosis of the Femoral Head by Suppressing the ER Stress**
Daquan Liu[1], Xinle Li[1], Jie Li[1], Shuang Yang[1], Hiroki Yokota[2], Ping Zhang*[2]. [1]Department of Anatomy & Histology, School of Basic Medical Sciences, Tianjin Medical University, China, [2]Department of Biomedical Engineering, Indiana University-Purdue University, United states
Disclosures: Ping Zhang, None

SA0317 **Bisphosphonate-Modified PEG-NELL, a Novel Bone-Targeted Molecule, as a Systemic Therapeutic for Osteoporosis**
Yulong Zhang*[1], Justine Tanjaya[2], Jin Hee Kwak[2], Mengliu Yu[3], Soonchul Lee[4], Jiayu Shi[5], Rui Dong[6], Jia Shen[5], Eric Chen[5], Xinli Zhang[5], Chia Soo[7], Benjamin Wu[8], Kang Ting[2]. [1]Department of Bioengineering, UCLA, Los Angeles & Division of Advanced Prosthodontics, School of Dentistry, UCLA, Los Angeles, United states, [2]Division of Growth & Development, Section of Orthodontics, School of Dentistry, UCLA, Los Angeles & Department of Craniofacial Research Institute, School of Dentistry, UCLA, Los Angeles, United states, [3]Department of Craniofacial Research Institute, School of Dentistry, UCLA, Los Angeles, CA 90095, United states, [4]Orthopaedic Hospital Department of Orthopaedic Surgery & the Orthopaedic Hospital Research Center, UCLA, Los Angeles, United states, [5]Division of Growth & Development, Section of Orthodontics, School of Dentistry, UCLA, Los Angeles, United states, [6]Department of Bioengineering, UCLA, Los Angeles, United states, [7]Orthopaedic Hospital Department of Orthopaedic Surgery & the Orthopaedic Hospital Research Center, UCLA, Los Angeles & Division of Plastic & Reconstructive Surgery, Department of Surgery, David Geffen School of Medicine, UCLA, Los Angeles, United states, [8]Department of Bioengineering, UCLA, Los Angeles & Division of Advanced Prosthodontics, School of Dentistry, UCLA, Los Angeles & Weintraub Center for Reconstructive Biotechnology, School of Dentistry, UCLA, Los Angeles, United states
Disclosures: Yulong Zhang, None

SA0318 **Changes of Articular Cartilage and Subchondral Bone in Rat Osteoarthritis Model Induced by Surgical MMT and MCLT Operation**
ZhiQi Peng*, Jukka Vääräniemi, Katja M Fagerlund, Jukka P Rissanen, Jenni Bernoulli, Jussi M Halleen, Jukka Morko. Pharmatest Services Ltd, Finland
Disclosures: ZhiQi Peng, None

SA0319 **In Vivo Hypobaric Hypoxia, Hypodynamia and Bone Healing in Mice**
Marjorie DURAND*, Xavier Holy. Institut de Recherche Biomédicale des Armées, France
Disclosures: Marjorie DURAND, None

SA0320 **Role of matrix-bound Bisphosphonates in the development of osteonecrosis of the jaw**
Ranya Elsayed[1], R. Nicole Howie[2], Sudha Ananth[1], Pheba Abraham[1], Mohamed Awad[1], Zachary Patterson[1], Mohammed Elsalanty*[3]. [1]Augusta University, United states, [2]Medical University of South Carolina, United states, [3]Dental College of Georgia, Augusta University, United states
Disclosures: Mohammed Elsalanty, None

SA0321 **The Effects of Streptozotocin on Osteoblast to Osteocyte Differentiation *In Vitro***
Amanda Sutherland*[1], Tammy Brown[2], Donna Pacicca[2]. [1]University of Kansas School of Medicine, United states, [2]Children's Mercy Hospital, United states
Disclosures: Amanda Sutherland, None

SA0322 **The Effects of Switching From Teriparatide to Anti-Rankl Antibody on Bone Metabolism**
Toshinobu Omiya*[1], Jun Hirose[2], Yuho Kadono[3], Yasunori Omata[4], Naohiro Izawa[5], Takeshi Miyamoto[6], Sakae Tanaka[7]. [1]oomiya9ort@yahoo.co.jp, Japan, [2]j.hirose513@gmail.com, Japan, [3]ykadono-tky@umin.net, Japan, [4]grandbleu_1024@yahoo.co.jp, Japan, [5]izawa.naohiro@gmail.com, Japan, [6]miyamoto@z5.keio.jp, Japan, [7]tanakas-ort@h.u-tokyo.ac.jp, Japan
Disclosures: Toshinobu Omiya, None

RARE BONE DISEASES: FIBROUS DYSPLASIA

SA0323 **Dental Findings from the National Institutes of Health Fibrous Dysplasia/McCune-Albright Syndrome Cohort**
Andrea Burke*, Alison Boyce, Michael Collins. NIDCR, United states
Disclosures: Andrea Burke, None

SA0324 **Increased Risk of Breast Cancer in Polyostotic Fibrous Dysplasia and McCune-Albright Syndrome**
Bas Majoor*, Olaf Dekkers, Sander Dijkstra, Judith Bovee, Vincent Smit, Neveen Hamdy, Natasha Appelman-Dijkstra. Leiden University Medical Center, Netherlands
Disclosures: Bas Majoor, None

SA0325 **Inhibition of Activin A Stops the Regrowth of Surgically Resected Heterotopic Bone in a Mouse Model of Fibrodysplasia Ossificans Progressiva and Indicates a New Potential Path to Therapy**
Lily Huang, Liqin Xie, Nanditha Das, Xialing Wen, Lili Wang, Andrew Murphy, Vincent Idone, Aris Economides, Sarah Hatsell*. Regeneron Pharmaceuticals, United states
Disclosures: Sarah Hatsell, None

RARE BONE DISEASES: HYPOPHOSPHATASIA

SA0326 **Ambulatory Performance in Adolescents and Adults with Hypophosphatasia Treated with Asfotase Alfa: Data from a Phase II, Randomized, Dose-ranging, Open-label, Multi-center Study**
Priya S. Kishnani*[1], Cheryl Rockman-Greenberg[2], Katherine L. Madson[3], Marisa Gayron[4], Uchenna Iloeje[4], Michael P. Whyte[5]. [1]Duke University Medical Center, United states, [2]University of Manitoba, Canada, [3]Shriners Hospital for Children, United states, [4]Alexion Pharmaceuticals, United states, [5]Shriners Hospital for Children & Washington University School of Medicine, United states
Disclosures: Priya S. Kishnani, Alexion Pharmaceuticals, Inc, 17; Alexion Pharmaceuticals, Inc, 13

SA0327 **Skeletal, growth, and functional improvements in infants and young children with life-threatening hypophosphatasia treated with asfotase alfa for 5 years**
Jill H. Simmons*[1], Nick Bishop[2], Richard Lutz[3], Hui Zhang[4], Kenji P. Fujita[4], Michael P. Whyte[5]. [1]Vanderbilt University School of Medicine, United states, [2]University of Sheffield, United Kingdom, [3]University of Nebraska Medical Center, United states, [4]Alexion Pharmaceuticals, Inc, United states, [5]Shriners Hospital for Children & Washington University School of Medicine, United states
Disclosures: Jill H. Simmons, Alexion Pharmaceuticals, Inc, 17

SA0328 **Subtrochanteric, diaphyseal femoral fractures in Hypophosphatasia**
Franca Genest*, Lothar Seefried. Wuerzburg University, Germany
Disclosures: Franca Genest, None

SA0329 **Utilization of an algorithm to identify individuals at risk for hypophosphatasia (HPP) within an electronic health record (EHR) database**
Joseph Biskupiak*[1], Amy Sainski[1], Minkyoung Yoo[1], Diana Brixner[1], Uchenna Iloeje[2]. [1]Pharmacotherapy Outcomes Research Center, Department of Pharmacotherapy, University of Utah, United states, [2]Alexion Pharmaceuticals, Inc., United states
Disclosures: Joseph Biskupiak, None

RARE BONE DISEASES: HYPOPHOSPHATEMIC RICKETS

SA0330 ***SLC34A1/NPT2a* Mutations cause Hereditary Hypophosphatemic Rickets with Hypercalciuria**
Alyssa Chen*[1], Avram Traum[2], Amita Sharma[2], Henry Fehrenbach[3], Anne Schafer[4], Dolores Shoback[4], Magged Hussein[5], Bernd Hoppe[6], Harald Jüppner[2], Clemens Bergwitz[1]. [1]Yale School of Medicine, United states, [2]Massachusetts General Hospital, United states, [3]Klinikum Memmingen, Germany, [4]University of California San Francisco, United states, [5]King Faisal Specialist Hospital & Research Center, Saudi arabia, [6]Universität Bonn, Germany
Disclosures: Alyssa Chen, None

SA0331 **Evaluating the Effects of KRN23, a Fully Human Anti-FGF23 Monoclonal Antibody, on Functional Outcomes in Children with X-linked Hypophosphatemia (XLH): 40-week Interim Results from a Randomized, Open-label Phase 2 Study**
Erik Imel*[1], Thomas Carpenter[2], Agnès Linglart[3], Annemieke Boot[4], Wolfgang Högler[5], Raja Padidela[6], William van't Hoff[7], Anthony Portale[8], Sunil Agarwal[9], Chao-Yin Chen[9], Alison Skrinar[9], Javier San Martin[9], Michael Whyte[10]. [1]Indiana University School of Medicine, United states, [2]Yale University School of Medicine, United states, [3]Hôpital Bicêtre, France, [4]University of Groningen, Netherlands, [5]Birmingham Children's Hospital, United Kingdom, [6]Royal Manchester Children's Hospital, United Kingdom, [7]Great Ormond Street Hospital, United Kingdom, [8]University of California, United states, [9]Ultragenyx Pharmaceutical Inc., United states, [10]Shriners Hospital for Children, United states
Disclosures: Erik Imel, Ultragenyx Pharmaceuticals Inc., 13; Ultragenyx Pharmaceuticals Inc., 17

SA0332 **Factors Associated with Serum Intact FGF23 Levels in Patients with X-linked Hypophosphatemic Rickets**
Keiko Yamamoto*, Takuo Kubota, Kei Miyata, Shinji Takeyari, Kenichi Yamamoto, Hirofumi Nakayama, Makoto Fujiwara, Taichi Kitaoka, Satoshi Takakuwa, Keiichi Ozono. Department of Pediatrics, Osaka University Graduate School of Medicine, Japan
Disclosures: Keiko Yamamoto, None

RARE BONE DISEASES: OSTEOGENESIS IMPERFECTA

SA0333 **Non-lethal Type VIII Osteogenesis Imperfecta has Elevated Bone Matrix Mineralization**
Nadja Fratzl-Zelman*[1], Aileen M. Barnes[2], MaryAnn Weis[3], Erin Carter[4], Theresa E. Hefferan[5], Giorgio Perino[4], Weizhong Chang[2], Peter A. Smith[6], Paul Roschger[1], Klaus Klaushofer[1], Francis H. Glorieux[7], David R. Eyre[3], Cathleen Raggio[8], Frank Rauch[7], Joan C. Marini[2]. [1]Ludwig Boltzmann Institute of Osteology at Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling, 1st Med. Dept. Hanusch Hospital, Vienna, Austria, [2]Section on Heritable Disorders of Bone, NICHD, NIH, Bethesda, United states, [3]The Orthopaedic Research Laboratories, University of Washington, Seattle, United states, [4]Hospital for Special Surgery, New York, United states, [5]Department of Orthopedics, Mayo Clinic College of Medicine, Rochester, United states, [6]Shriners' Hospital for Children, Chicago, United states, [7]Shriners' Hospital for Children & McGill University, Montreal, Canada, [8]Department of Orthopedics, Mayo Clinic College of Medicine, Seattle, United states
Disclosures: Nadja Fratzl-Zelman, None

RARE BONE DISEASES: OTHER RARE BONE DISEASES

SA0334 **Characteristics of Vertebral Deformity in Gaucher Disease: the Gaucherite Study UK**
Fjola Johannesdottir*, Timothy M. Cox, Patrick Deegan, Simona D'Amore, Kenneth E. Poole. Department of Medicine, University of Cambridge, United Kingdom
Disclosures: Fjola Johannesdottir, None

SA0335 **Intra-Tibial Injection of Lymphatic Endothelial Cells Leads to Aggressive Osteolysis, a Mouse Model of Gorham-Stout Disease**
Hua Wang*, Wensheng Wang, Xing Li, Wen Sun, Brendan Boyce, Lianping Xing. University of Rochester Medical Center, United states
Disclosures: Hua Wang, None

SA0336 **Meckel's and condylar cartilages anomalies in achondroplasia result in defective development and growth of the mandible**
Martin Biosse Duplan[1], Davide Komla-Ebri[2], Yann Heuzé[3], Valentin Estibals[2], Emilie Gaudas[2], Nabil Kaci[2], Catherine Benoist-Lasselin[2], Michel Zerah[4], Ina Kramer[5], Michaela Kneissel[6], Diana Graus Porta[6], federico Di Rocco[7], Laurence Legeai-Mallet*[2]. [1]Institut Imagine, France, [2]Institut Imagine-INSERM U1163, France, [3]UMR5199 PACEA, Université de Bordeaux, France, [4]Hôpital Necker, France, [5]Novartis, Switzerland, [6]Novartis, France, [7]Neurochirurgie Pédiatrique, Hopital Femme Mère Enfant CHU de Lyon, France
Disclosures: Laurence Legeai-Mallet, None

SA0337 **Observation of Recurrent Bone Marrow Oedemas in HIV Patients on Antiviral Therapy**
Sebastian Radmer[1], Ilko Kastirr*[2], Reimer Andresen[2]. [1]Centre for Orthopaedics, Berlin, Germany, [2]Institute of Diagnostic & Interventional Radiology/Neuroradiology, Westkuestenklinikum Heide, Academic Teaching Hospital of the Universities of Kiel, Luebeck & Hamburg, Heide, Germany
Disclosures: Ilko Kastirr, None

SA0338 **Rescue of Short-lived Progressive Ankylosis Protein in Craniometaphyseal Dysplasia**
Jitendra Kanaujiya*, Edward Bastow, Zhifang Hao, Ernst J Reichenberger, I-Ping Chen. University of Connecticut Health, United states
Disclosures: Jitendra Kanaujiya, None

SA0339 **Small molecule Alk inhibitors with improved selectivity and pharmacokinetics inhibit heterotopic ossification without toxicity in a mouse model of fibrodysplasia ossificans progressiva**
Daniel Perrien*, Corey Hopkins, Craig Lindsley, Audrey Frist, Heather Durai, Nicole Fleming, Sabrina Booton, Charles Hong. Vanderbilt University Medical Center, United states
Disclosures: Daniel Perrien, La Jolla Pharmaceutical Company, 13

SARCOPENIA, MUSCLE AND FALLS: FALLS ASSESSMENT AND EPIDEMIOLOGY

SA0340 **Anxiety Disorders and Falls among Older Adults**
Kara Holloway[1], Lana Williams[1], Sharon Brennan-Olsen[1], Amelia Morse[1], Mark Kotowicz[1], Geoff Nicholson[2], Julie Pasco*[1]. [1]Deakin University, Geelong, VIC Australia, Australia, [2]Melbourne Medical School, Western Campus, The University of Melbourne, VIC, Australia, Australia
Disclosures: Julie Pasco, None

SA0341 **Distal Radius Fracture Patients Show Reduced Ability of Dynamic Body Balancing**
Hidetoshi Kaburagi*[1], Koji Fujita[1], Akimoto Nimura[2], Takashi Miyamoto[1], Ryuichi Kato[3], Atsuhi Okawa[1]. [1]Dept. of Orthopedic Surgery, Tokyo Medical & Dental University, Japan, [2]Dept. of Clinical Anatomy, Tokyo Medical & Dental University, Japan, [3]JA Kyosai Research Institute, Japan
Disclosures: Hidetoshi Kaburagi, None

SARCOPENIA, MUSCLE AND FALLS: GENERAL

SA0342 **Age-related Changes and Sex-related Differences in Spinal Kyphosis Angles and Spinal Mobility in an Elderly Japanese Population**
Yuji Kasukawa*, Naohisa Miyakoshi, Michio Hongo, Yoshinori Ishikawa, Daisuke Kudo, Masazumi Suzuki, Tetsuya Kawano, Norimitsu Masutani, Manabu Akagawa, Yuichi Ono, Yoichi Shimada. Department of Orthopedic Surgery, Akita University Graduate School of Medicine, Japan
Disclosures: Yuji Kasukawa, None

SA0343 **Prevalence of Sarcopenia in Korean Patients After Hip Fracture: A Case-Control Study**
Yong-Chan Ha*[1], Ho-Yeon Chung[2], Hyoung-Moo Park[1]. [1]Chung-Ang University College of Medicine, Korea, republic of, [2]Kyung Hee University, Korea, republic of
Disclosures: Yong-Chan Ha, None

SA0344 **Thoracic muscle density and size are associated with kyphosis severity: Framingham Study**
Amanda Lorbergs*[1], Dennis Anderson[2], Brett Allaire[2], Douglas Kiel[3], Michelle Yau[1], Mary Bouxsein[4], L. Adrienne Cupples[5], Tom Travison[1], Elizabeth Samelson[1]. [1]Institute for Aging Research, Hebrew Senior Life & Harvard Medical School, United states, [2]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, United states, [3]Institute for Aging Research, Department of Medicine BIDMC, & Hebrew Senior Life & Harvard Medical School, United states, [4]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center & Harvard Medical School, United states, [5]Department of Biostatistics, Boston University School of Public Health & Framingham Heart Study, United states
Disclosures: Amanda Lorbergs, None

SARCOPENIA, MUSCLE AND FALLS: MUSCLE REHABILITATION AND EXERCISE

SA0345 **Targeted Spine Strengthening Exercise Program to Reduce Hyperkyphosis in Older Adults: Preliminary Results from the SHEAF Study**
Wendy B. Katzman*[1], Deborah M. Kado[2], Eric Vittinghoff[1], Anne Schafer[1], Roger K. Long[1], Shirley Wong[1], Amy Gladin[3], Nancy E. Lane[4], Feng Lin[1]. [1]UCSF, United states, [2]UCSD, United states, [3]Kaiser Permanente Northern CA, United states, [4]UCDavis, United states
Disclosures: Wendy B. Katzman, None

SARCOPENIA, MUSCLE AND FALLS: SARCOPENIA DEFINITION, ASSESSMENT AND EPIDEMIOLOGY

SA0346 **Postmenopausal Women with Sarcopenia have Higher Prevalence of Fragility Fractures**
Maria Belen Zanchetta*[1], ruben abdala[1], vanesa carla longobardi[2], fabio massari[1], Fernando silveira[3], Rodolfo spivacow[1], Paula rey[1], Cesar Bogado[4], jose r. zanchetta[1]. [1]md, Argentina, [2]mb, Argentina, [3]b, Argentina, [4]PHD, Argentina
Disclosures: Maria Belen Zanchetta, None

SA0347 **The difference in association of vitamin D with body composition between men and women**
Woong Hwan Choi*. Division of Endocrinology, Department of Internal Medicine, College of Medicine, Hanyang University, Korea, republic of
Disclosures: Woong Hwan Choi, None

SKELETAL DEVELOPMENT: GROWTH AND DEVELOPMENT

SA0348 **A Sumo peptidase, SENP6, promotes KAP1-mediated p53 suppression to maintain osteochondroprogenitor dynamics**
Jianshuang Li*[1], Di Lu[1], Hong Dou[2], Huadie Liu[1], Kevin Weaver[1], Wenjun Wang[3], Jiada Li[4], Edward Yeh[2], Bart Williams[1], Ling Zheng[3], Tao Yang[1]. [1]Van Andel institute, United states, [2]MD Anderson Cancer Center, United states, [3]College of Life Sciences, Wuhan University, China, [4]State Key Laboratory of Medical Genetics & School of Life Sciences, Central South University, China
Disclosures: Jianshuang Li, None

SA0349 **Ablation of IGF-1R Signaling in Osteochondroprogenitor Cells Induces a Substantial and Persistent Attenuation of Skeletal Development**
Alessandra Esposito*, Joseph Temple, Tieshi Li, Lai Wang, Anna Spagnoli. Rush University Medical Center, United states
Disclosures: Alessandra Esposito, None

SA0350 **Actin Filament Associated Protein 1 (AFAP1) is a Novel Regulator of Bone Formation**
Holly Corkill*[1], Albena Gesheva[2], Kier Blevins[1], Broc Wenrich[1], Evan Frigoletto[1], Jess Cunnick[1], John Arnott[1], Youngjin Cho[1]. [1]The Commonwealth Medical College, United states, [2]University of Scranton, United states
Disclosures: Holly Corkill, None

SA0351 **Dysregulated murine bone osteogenesis and adipogenesis upon loss of chemokine Cxcl12/Sdf1 in the osteoprogenitor cells**
Yi-Shiuan Tzeng*[1], Ni-Chun Chung[2], Hsiang-Ru Huang[2], Yu-Ren Chen[1], Dar-Ming Lai[2]. [1]Graduate Institute of Oncology, National Taiwan University College of Medicine, Taiwan, province of china, [2]Department of Surgery, National Taiwan University Hospital, Taiwan, province of china
Disclosures: Yi-Shiuan Tzeng, None

SA0352 **GATA4 Regulates RUNX2 expression in osteoblasts**
Susan Miranda, Aysha Khalid*, Gustavo Miranda-Carboni. University of Tennessee, United states
Disclosures: Aysha Khalid, None

SA0353 **Gut Microbiota Induce IGF-1 and Promote Bone Formation and Growth**
Jing Yan*[1], Jeremy Herzog[2], Kelly Tsang[1], Maureen Bower[2], Balfour Sartor[2], Antonios Aliprantis[2], Julia Charles[1]. [1]Brigham & Women's Hospital & Harvard Medical School, United states, [2]University of North Carolina at Chapel Hill, United states
Disclosures: Jing Yan, None

SA0354 **Impact of Maternal Myostatin and the Uterine Environment on Offspring Bone Strength in Wildtype and Osteogenesis Imperfecta Model (oim) Mice**
Arin Oestreich*[1], William Kamp[2], Marcus McCray[2], Stephanie Carleton[2], Natalia Karasseva[3], Kristin Lenz[2], Youngjae Jeong[2], Salah Daghlas[2], Xiaomei Yao[4], Yong Wang[5], Ferris Pfeiffer[6], Laura Schulz[1], Charlotte Phillips[7]. [1]Department of Ob, Gyn & Women's Health, University of Missouri School of Medicine, United states, [2]Department of Biochemistry, University of Missouri, United states, [3]Transgenic Research Core, University of Missouri, United states, [4]Department of Restorative Clinical Sciences, Univerisity of Missouri- Kansas City, United states, [5]Department of Oral & Craniofacial Sciences, University of Missouri - Kansas City, United states, [6]Department of Orthopaedic Surgery, University of Missouri, United states, [7]Departments of Biochemistry & Child Health, University of Missouri School of Medicine, United states
Disclosures: Arin Oestreich, None

SA0355 **The RhoGAP Myo9b is Essential for Normal Bone Growth and Osteoblast Responsiveness to IGF-1**
Brooke McMichael[1], Yong-Hoon Jeong[2], Justin Auerbach[1], Cheol-Min Han[2], Ryan Sedlar[2], Martin Baehler[3], Sudha Agarwal[2], Do-Gyoon Kim[2], Beth Lee*[1]. [1]The Ohio State University College of Medicine, United states, [2]The Ohio State University College of Dentistry, United states, [3]Institut fur Molekulare Zellbiologie, Universitat Muenster, Germany
Disclosures: Beth Lee, None

LATE-BREAKING POSTERS I

12:30 pm - 2:30 pm **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

ADULT METABOLIC BONE DISORDERS: OTHER ADULT METABOLIC BONE DISORDERS

LB-SA0356 **Case report of hypercalciuria and markedly elevated 1,25-dihydroxyvitamin D in a patient with Diamond Blackfan Anemia: Could 24 hydroxylase enzyme deficiency be the cause?**
Caitlin White*[1], Farzana Sayani[2], Ravinder J Singh[3], Dawn Milliner[4], Alan Wasserstein[5], Mona Al Mukaddam[1]. [1]University of Pennsylvania, Division of Endocrinology, United states, [2]University of Pennsylvania, Division of Hematology, United states, [3]Mayo Clinic, Department of Lab Medicine, United states, [4]Mayo Clinic, Division of Nephrology, United states, [5]University of Pennsylvania, Division of Nephrology, United states
Disclosures: Caitlin White, None

BIOMECHANICS AND BONE QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

LB-SA0357 BORON SUPPLEMENTATION IMPROVES BONE HEALTH OF NON-OBESE DIABETIC MICE

Renata Dessordi*[1], Adriano Levi Spirlandeli[2], Ariane Zamarioli[3], José Batista Volpon[3], Anderson Marliere Navarro[2]. [1]Department of Food & Nutrition, Faculty of Pharmaceutical Sciences, State University of São Paulo - UNESP, Brazil, [2]Department of Clinical Medicine, Ribeirão Preto Medical School, University of São Paulo - FMRP/USP, Brazil, [3]Biomechanics, Medicine & Rehabilitation, School of Medicine of Ribeirão Preto, University of São Paulo, Brazil

Disclosures: Renata Dessordi, None

BIOMECHANICS AND BONE QUALITY: GENERAL

LB-SA0358 The Effects of Experimental Periodontitis on Alveolar Bone Mass and Mineralization

Mandee Yang*[1], Grace Eun Nam[1], Michael Baldwin[2], Atriya Salamati[2], Zi-Jun Liu[1]. [1]Dept of Orthodontics, School of Dentistry, University of Washington, Seattle, United states, [2]Dept of Oral Health Sciences, School of Dentistry, University of Washington, Seattle, United states

Disclosures: Mandee Yang, None

BONE TUMORS AND METASTASIS: BONE TUMOR MICROENVIRONMENT

LB-SA0359 Prevention of Breast Cancer Skeletal Metastases with Parathyroid Hormone

Srilatha Swami*[1], Joshua Johnson[1], Lance Bettinson[1], Megan Albertelli[2], Joy Wu[1]. [1]Division of Endocrinology, Department of Medicine, Stanford University School of Medicine, United states, [2]Department of Comparative Medicine, Stanford University School of Medicine, United states

Disclosures: Srilatha Swami, None

CHONDROCYTES AND CARTILAGE MATRIX: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

LB-SA0360 Crucial role of Elovl6 in chondrocyte growth and differentiation during growth plate development in mice

Masako Shimada*[1], Manami Kikuchi[2], Takashi Matsuzaka[2], Yoshimi Nakagawa[2], Hitoshi Shimano[2]. [1]Graduate School of Nutritional Science, Sagami Women's University, Japan, [2]Department of Internal Medicine, Faculty of Medicine, University of Tsukuba, Japan

Disclosures: Masako Shimada, None

ENERGY METABOLISM AND BONE: FAT AND BONE

LB-SA0361 Cold stress in mice requires Nerve Growth Factor activity in brown fat and increases Osteocalcin expression in bone

Claudia Camerino*, Elena Conte, Adriano Fonzino, Kejla Musaraj, Roberta Caloiero, Domenico Tricarico. University of Bari, Italy

Disclosures: Claudia Camerino, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE: GENE EXPRESSION

LB-SA0362 Genetic Risk of Hip Fracture Due to Bone Quality Deficit

Daniel Evans[1], Tamara Alliston[2], Bin Zhang[3], Jack Youngren[2], Robert Recker[4], Joan Lappe[4], Sjur Reppe[5], Thomas Lang*[2]. [1]California Pacific Medical Center, United states, [2]University of California, San Francisco, United states, [3]Mount Sinai School of Medicine, United states, [4]Creighton University, United states, [5]Oslo University Hospital, Norway

Disclosures: Thomas Lang, None

HORMONAL REGULATORS: FGF23 AND OTHER PHOSPHATONINS

LB-SA0363 Effect of iron deficient diet on Fetuin A, calciprotein particle and FGF23 levels in an adriamycin-induced early CKD model mouse

Masanori Takaiwa*[1], Kosei Hasegawa[2], Takayuki Miyai[2], Hirokazu Tsukahara[2]. [1]Department of Pediatrics, Matsuyama Red Cross Hospital, Japan, [2]Department of Pediatrics, Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan

Disclosures: Masanori Takaiwa, None

HORMONAL REGULATORS: PARATHYROID HORMONE AND CALCIUM SENSING RECEPTORS

LB-SA0364 The Calcium-Sensing Receptor Supports the Growth and Survival of Breast Cancer Cells By Stimulating Parathyroid Hormone-related Protein Production

Wonnam Kim*, Miralireza Takyar, Jaekwang Jeong, Pamela Dann, John Wysolmerski. Yale School of Medicine, United states

Disclosures: Wonnam Kim, None

MECHANOBIOLOGY: GENERAL

LB-SA0365 Isometric Force Training Enhances Bone Density in Aged and ALS Rat Forelimbs

Ajay K. Patel*[1], Mark Dallas[2], Yixia Xie[2], Kimberly G. Stanford[3], John A. Stanford[3], Lynda Bonewald[2]. [1]University of Missouri-Kansas City School of Medicine, United states, [2]University of Missouri-Kansas City School of Dentistry, United states, [3]University of Kansas Medical Center, United states

Disclosures: Ajay K. Patel, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS: GENERAL

LB-SA0366 Subchondral Tibial Bone Texture Predicts Incident Radiographic Knee Osteoarthritis: Data From The Osteoarthritis Initiative

Thomas Janvier*[1], Rachid Jennane[1], Hechmi Toumi[1], Eric Lespessailles[2]. [1]Univ. Orléans, I3MTO - EA 4708, France, [2]CHR Orléans, Service de Rhumatologie, France

Disclosures: Thomas Janvier, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: SIGNAL TRANSDUCTION AND TRANSCRIPTIONAL REGULATION

LB-SA0367 miR-9-5p targets LRP5 to inhibit beta-catenin mediated osteogenesis

Tianhao Sun*[1], Frankie Leung[1], Songlin Peng[2], William W. Lu[1]. [1]University of Hong Kong, Hong kong, [2]Department of Spine Surgery, Shenzhen People's Hospital, Jinan University Second College of Medicine, China

Disclosures: Tianhao Sun, None

OSTEOCLASTS - FUNCTION: SIGNAL TRANSDUCTION

LB-SA0368 NUMBL Negatively Regulates NF-κB Signaling via Interaction with TAK1/TRAF6 During Osteoclastogenesis

Gaurav Swarnkar*, Kannan Karuppaiah, Gabriel Mbalaviele, Yousef Abu-Amer. Washington University School of Medicine, United states

Disclosures: Gaurav Swarnkar, None

OSTEOCLASTS - FUNCTION: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

LB-SA0369 RBP-J-Regulated miR-182 Promotes TNF-α-Induced Osteoclastogenesis and bone resorption

Kazuki Inoue*[1], Christine Miller[1], Mahmoud Elguindy[1], Xiaoyu Hu[2], Lionel Ivashkiv[3], Baohong Zhao[4]. [1]Arthritis & Tissue Degeneration Program, David Z. Rosensweig Genomics Research Center, Hospital for Special Surgery, United states, [2]Institute for Immunology & School of Medicine, Tsinghua University, China, [3]Arthritis & Tissue Degeneration Program, David Z. Rosensweig Genomics Research Center, Hospital for Special Surgery & Weill Cornell Graduate School of Medical Sciences, United states, [4]Arthritis & Tissue Degeneration Program, David Z. Rosensweig Genomics Research Center, Hospital for Special Surgery & Department of Medicine, Weill Cornell Medical College, United states

Disclosures: Kazuki Inoue, None

OSTEOPOROSIS - ASSESSMENT: OTHER IMAGING TECHNIQUES

LB-SA0370 Office-based prescreening of cortical bone thickness in female hip arthroplasty patients

Sanaz Nazari-Farsani[1], Kari Peura[1], Mia Vuopio[2], Jessica Alm[2], Hannu Aro*[2]. [1]University of Turku, Finland, [2]Turku University Hospital, Finland

Disclosures: Hannu Aro, None

OSTEOPOROSIS - EPIDEMIOLOGY: BONE MINERAL DENSITY

LB-SA0371 Health literacy and the agreement between osteoporosis defined by self-report versus bone mineral density results in older women

Sarah M Hosking*[1], Rachelle Buchbinder[2], Amanda L Stuart[1], Julie A Pasco[1], Natalie K Hyde[1], Lana J Williams[1], Sharon L Brennan-Olsen[1]. [1]School of Medicine, Deakin University, Australia, [2]Department of Epidemiology & Preventive Medicine, Monash University, Australia

Disclosures: Sarah M Hosking, None

OSTEOPOROSIS - EPIDEMIOLOGY: RISK FACTORS

LB-SA0372 Association of Musculoskeletal Health Score with Fracture Risk in the MrOS cohort

Bjoern Buehring*[1], Brian Lewis[1], Karen Hansen[2], Steven Cummings[3], Nancy Lane[4], Neil Binkely[1], Kristine Ensrud[5], Peggy Cawthon[6]. [1]Osteoporosis Clinical Research Program, University of Wisconsin-Madison, United states, [2]Department of Medicine, UW-Madison, United states, [3]California Pacific Medical Center Research Institute, United states, [4]University of California Davis, United states, [5]Department of Medicine, University of Minnesota, United states, [6]California Pacific Medical Center, United states

Disclosures: Bjoern Buehring, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: CALCIUM AND VITAMIN D

LB-SA0373 Dietary Calcium Intake and Cardiovascular Health: Is there any relationship?

Shubhabrata Das*[1], David Goltzman[2], Angel M. Ong[3], Jessica Gorgui[4], Michelle Wall[5], Suzanne N. Morin[6], Stella S. Daskalopoulou[7]. [1]Division of Experimental Medicine, Department of Medicine, McGill University, Montreal, Canada; McGill University Health Centre Research Institute, Montreal, Canada, Canada, [2]Departments of Medicine & Physiology, McGill University, Montreal, Canada, Canada, [3]School of Dietetics & Human Nutrition, McGill University, Sainte-Anne-de-Bellevue, Canada; McGill University Health Centre Research Institute, Montreal, Canada, Canada, [4]Department of Pharmaceutical Science, Faculty of Pharmacy, Université de Montréal, Montreal, Canada, Canada, [5]McGill University Health Centre Research Institute, Montreal, Canada, Canada, [6]Division of Internal Medicine, Department of Medicine, McGill University, Montreal, Canada; McGill University Health Centre Research Institute, Montreal, Canada, Canada, [7]Divisions of Internal & Experimental Medicine, Department of Medicine, McGill University, Montreal, Canada; McGill University Health Centre Research Institute, Montreal, Canada, Canada

Disclosures: Shubhabrata Das, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: EXERCISE

LB-SA0374 Is sitting time (sedentary behaviour) associated with Bone Mineral density? Results from the CaMos population-based cohort

Jerilynn C. Prior*[1], Bradley Drayton[2], Zeljko Pedisic[3], Claudie Berger[4], David Goltzman[5], Adrian Bauman[2]. [1]UBC, Canada, [2]Sydney University, Australia, [3]Victoria University, Australia, [4]CaMos, RI-MUHC, McGill University, Canada, [5]McGill University, Canada

Disclosures: Jerilynn C. Prior, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GENERAL

LB-SA0375 **Oxidative stress impairs the expression levels of of *Lgr4* in osteoblastic cells**

Chantida Pawaputanon Na Mahasarakham*[1], Yoichi Ezura[1], Yayoi Izu[2], Katsuhiko Nishimori[3], Yuichi Izumi[4], Masaki Nada[5]. [1]Department of Molecular Pharmacology, Medical Research Institute, Tokyo Medical & Dental University, Japan, [2]Department of Animal Risk Management, Chiba Institute of Science, Japan, [3]Laboratory of Molecular Biology, Department of Molecular & Cell Biology, Graduate School of Agricultural Science, Tohoku University, Japan, [4]Department of Periodontology, Graduate School of Medical & Dental Sciences, Tokyo Medical & Dental University, Japan, [5]Yokohama City Minato Red Cross Hospital, Japan

Disclosures: Chantida Pawaputanon Na Mahasarakham, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: GLUCOCORTICOIDS

LB-SA0376 **POTENTIAL RISK FACTORS FOR VERTEBRAL FRACTURES IN SURVIVORS OF CHILDHOOD ACUTE LYMPHOBLASTIC LEUKEMIA**

Melissa Fiscaletti*[1], Josée Dubois[1], Marie-Claude Miron[1], Mariia Samoilenko[2], Geneviève Lefebvre[3], Renaud Winzenrieth[4], Maja Krajinovic[1], Caroline Laverdière[1], Daniel Sinnett[1], Nathalie Alos[1]. [1]Sainte Justine University Health Center, Canada, [2]Université de Montréal, Canada, [3]Université de Québec à Montréal, Canada, [4]Medimaps Group, France

Disclosures: Melissa Fiscaletti, None

OSTEOPOROSIS - TREATMENT: ANTIRESORPTIVE AGENTS

LB-SA0377 **Are the cracks starting to appear in bisphosphonate therapy?**

Shaocheng Ma, Andi Jin, Justin Cobb, Rajarshi Bhattacharya, Ulrich Hansen, Richard Abel*. Imperial College, United Kingdom

Disclosures: Richard Abel, None

OSTEOPOROSIS - TREATMENT: QUALITY OF LIFE

LB-SA0378 **Pain, quality of life and safety outcomes of kyphoplasty for vertebral compression fractures**

Alexander Rodriguez*[1], Howard Fink[2], Lynn Mirigian[3], Nuria Guañabens[4], Richard Eastall[5], Kristina Akesson[6], Robert Wermers[7], Douglas Bauer[8], Peter Ebeling[1]. [1]Monash University, Australia, [2]Minneapolis VA Health Care System, United states, [3]American Society for Bone & Mineral Research, United states, [4]University of Barcelona, Spain, [5]University of Sheffield, United states, [6]Lunds University, Sweden, [7]Mayo Clinic, United states, [8]University of California San Francisco, United states

Disclosures: Alexander Rodriguez, None

PRECLINICAL MODELS – NUTRITION: GENERAL

LB-SA0379 **Blackberry, blueberry, and strawberry polyphenol-rich extracts attenuate osteoclast differentiation in LPS-stimulated RAW264.7 macrophages**

Rafaela Feresin*[1], Yitong Zhao[2], Marcus Elam[3], Bahram Arjmandi[4]. [1]Department of Dietetics & Nutrition, University of Arkansas for Medical Sciences, United states, [2]Department of Nutrition, Food & Exercise Sciences, Florida State University, United states, [3]Department of Human Nutrition & Food Science, California State Polytechnic University, United states, [4]Department of Nutrition, Food & Exercise Sciences & Center for Advancing Exercise & Nutrition Research on Aging, Florida State University, United states

Disclosures: Rafaela Feresin, None

RARE BONE DISEASES: OSTEOGENESIS IMPERFECTA

LB-SA0380 **TGF-β Signaling in a Mouse Model of Severe Osteogenesis Imperfecta**

Josephine Tauer*, Sami Abdullah, Frank Rauch. Shriners Hospital for Children & McGill University, Canada

Disclosures: Josephine Tauer, None

SKELETAL DEVELOPMENT: GROWTH AND DEVELOPMENT

LB-SA0381 **Two-Year, School-Based Resistance Band Exercise Increases Bone Acquisition in Adolescent Girls**
Deena Weiss*[1], Jodi Dowthwaite[2], Jill Thein-Nissenbaum[1], Tamara Scerpella[1]. [1]University of Wisconsin, United states, [2]SUNY Upstate Medical University, United states
Disclosures: Deena Weiss, None

CONCURRENT ORALS: BONE MARROW FAT

2:30 pm - 4:00 pm **Georgia World Congress Center**
Room A411

Moderators:
Christa Maes, Ph.D.
KU Leuven, Belgium
Disclosures: Christa Maes, None

Maria Jose Almeida, Ph.D.
Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Maria Jose Almeida, None

2:30 pm **1043** **Marrow Adipose Tissue is Distinct from White and Brown Fat and Does Not Beige**
Ryan Berry[1], Brandon Holtrup[1], Julie Hens[2], Gene Ables[2], Tracy Nelson[1], Rose Webb[1], Clifford Rosen[3], Matthew Rodeheffer[1], Mark Horowitz*[1]. [1]Yale School of Medicine, United states, [2]Orentreich Foundation, United states, [3]Maine Medical Center Research Institute, United states
Disclosures: Mark Horowitz, None

2:45 pm **1044** **Phosphate Restriction Promotes the Differentiation of Multipotent Marrow Stromal Cells into Marrow Adipose Tissue**
Frank Ko*, Marie Demay. Massachusetts General Hospital, United states
Disclosures: Frank Ko, None

3:00 pm **1045** **Bone Marrow Adiposity is Induced by the Osteocyte Derived Factor Sclerostin**
Michaela Reagan*, Heather Fairfield, Carolyne Falank, Clifford Rosen. Maine Medical Center Research Institute, United states
Disclosures: Michaela Reagan, None

3:15 pm **1046** **Critical Function Of PTH1R In Regulation Of Mesenchymal Cell Fate And Bone Resorption**
Yi Fan*[1], Phuong Le[2], Jun-ichi Hanai[3], Ruiye Bi[4], Clifford Rosen[2], Beate Lanske[1]. [1]Department of Oral Medicine, Infection & Immunity, Harvard School of Dental Medicine, United states, [2]Maine Medical Center Research Institute, United states, [3]Renal Division, Beth Israel Deaconess Medical Center & Harvard Medical School, United states, [4]Endocrine Unit, Massachusetts General Hospital & Harvard Medical School, United states
Disclosures: Yi Fan, None

3:30 pm **1047** **Leptin-induced loss of marrow adipose tissue is mediated by sympathetic and sensory neurotransmission**
Brian S Learman[1], Tezin Walji[2], Shaima Khandaker[1], Kayla Moller[2], Ben Schell[1], Clarissa S Craft[2], Ormond A MacDougald[1], Erica L Scheller*[2]. [1]University of Michigan, United states, [2]Washington University, United states
Disclosures: Erica L Scheller, None

3:45 pm **Marrow adipose tissue expansion coincides with insulin resistance in MAGP1-deficient mice**
1048 Tezin Walji[1], Sarah Turecamo[1], Alejandro Coca Sanchez[2], Bryan Anthony[3], Grazia Abou Ezzi[3], Erica Scheller[4], Daniel Link[4], Robert Mecham[5], Clarissa Craft*[5]. [1]Department of Cell Biology & Physiology, Washington University School of Medicine, United states, [2]Department of Medicine & Medical Specialties, Faculty of Medicine & Health Sciences, University of Alcala de Henares, Spain, [3]Oncology Division, Department of Medicine, Washington University School of Medicine, United states, [4]Bone & Mineral Diseases Division, Department of Internal Medicine; Washington University School of Medicine, United states, [5]Department of Cell Biology & Physiology, Washington University School of Medicine, St. Louis, United states
Disclosures: Clarissa Craft, None

CONCURRENT ORALS: MUSCULOSKELETAL DEVELOPMENT

2:30 pm - 4:00 pm **Georgia World Congress Center**
Room A402/403

Moderators:
Yingzi Yang, Ph.D.
Harvard University, USA
Disclosures: Yingzi Yang, None

Angela Bruzzaniti, Ph.D.
Indiana University School of Dentistry, USA
Disclosures: Angela Bruzzaniti, None

2:30 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1049 **Over-expression of HES1 in skeletogenic mesenchyme results in preaxial polydactyly**
Deepika Sharma*[1], Timothy Rutkowski[2], Anthony Mirando[3], Matthew Hilton[3]. [1]University of Rochester School of Medicine, Duke University School of Medicine, United states, [2]Emory University, United states, [3]Duke University, United states
Disclosures: Deepika Sharma, None

2:45 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1050 **The Impact and Mechanism of *Tsc1* Deletion in Craniofacial Bone Development**
Xiaoxi Wei*[1], Min Hu[2], Brannon Cavanaugh[3], Andrea Alford[3], Rachel Merzel[3], Mark Banaszak Holl[3], Fei Liu[4]. [1]Jilin University School & Hospital of Stomatology & University of Michigan School of Dentistry, United states, [2]Jilin University School & Hospital of Stomatology, China, [3]University of Michigan, United states, [4]University of Michigan School of Dentistry, United states
Disclosures: Xiaoxi Wei, None

3:00 pm **How do Osteoclasts Shape the Cranial Base Bones During Development?**
1051 Mio Edamoto*, Yukiko Kuroda, Koichi Matsuo. Keio University School of Medicine, Japan
Disclosures: Mio Edamoto, None

3:15 pm ***Smpd3* Expression in Both Chondrocytes and Osteoblasts Is Required for Normal**
1052 **Endochondral Bone Development**
Garthiga Manickam*[1], Jingjing Li[1], Chun-do Oh[2], Hideyo Yasuda[3], Pierre Moffatt[1], Monzur Murshed[1]. [1]McGill University, Canada, [2]Rush University Medical Center, United states, [3]Konkuk University, Korea, democratic people's republic of
Disclosures: Garthiga Manickam, None

3:30 pm **Compensatory roles of osteoprogenitor YAP and TAZ in skeletal development**
1053 Christopher Kegelman*, James Dawahare, Joel Boerckel. University of Notre Dame, United states
Disclosures: Christopher Kegelman, None

3:45 pm **Runx2 Activity in Mature Osteoblast is Essential for Postnatal Bone Acquisition and to**
1054 **Prevent Premature Ageing**
Haiyan Chen*[1], Harunur Rashid[1], Kayla King[1], Ying Liu[2], Jerry Feng[2], Amjad Javed[1]. [1]Department of Oral & Maxillofacial Surgery, School of Dentistry, University of Alabama at Birmingham, United states, [2]Department of Biomedical Sciences, Baylor College of Dentistry, Texas A&M University, United states
Disclosures: Haiyan Chen, None

CONCURRENT ORALS: OSTEOCLASTOGENESIS AND BONE RESORPTION

2:30 pm - 4:00 pm **Georgia World Congress Center**
Room A404/405

Moderators:
Roberta Faccio, Ph.D.
Washington University in St Louis School of Medicine, USA
Disclosures: Roberta Faccio, None

Charles O'Brien, Ph.D.
Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Charles O'Brien, None

2:30 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1055 **Osteoclast Precursor Cells That Form Osteoclasts In Vivo Under Homeostatic Conditions Express CX3CR1, Form Osteoclasts Within 5 Days And Rarely Derive From Circulating Cells**
Emilie Roeder*, Judith Kalinowski, Sandra Jastrzebski, Christian Jacome Galarza, H. Leonardo Aguila, Sun-Kyeong Lee, Ivo Kalajzic, Joseph Lorenzo. UConn Health, United states
Disclosures: Emilie Roeder, None

2:45 pm **Synchronized fusion of osteoclast precursors involves syncytin 1, phosphatidylserine and**
1056 **annexins at the surface of the cells**
Santosh Verma*[1], Evgenia Leikina[1], Kamran Melikov[1], Claudia Gebert[1], Vardit Kram[2], Marian Young[2], Leonid Chernomordik[1]. [1]NICHD, NIH, United states, [2]NIDCR, NIH, United states
Disclosures: Santosh Verma, None

3:00 pm **A novel role of c-FMS Intracellular cytoplasmic domain (FICD) as a transcriptional regulator**
1057 **in osteoclastogenesis**
Kyung-Hyun Park-Min, Seyeon Bae, Min Joon Lee, Koichi Murata, Se Hwan Mun*. Hospital for Special Surgery, United states
Disclosures: Se Hwan Mun, None

3:15 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1058 **ASXL1 epigenetically suppresses osteoclast formation by methylating NFATc1**
Nidhi Rohatgi*, Wei Zou, Timothy Hung-Po Chen, Yousef Abu-Amer, Steven Teitelbaum. Washington University in St. Louis, United states
Disclosures: Nidhi Rohatgi, None

3:30 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1059 **COMMD1 negatively regulates osteoclastogenesis and pathologic bone resorption via pRB-E2F1-CKB pathway and is inactivated by hypoxia**
Koichi Murata*, Min Joon Lee, Seyeon Bae, Sehwan Mun, Kyung-Hyun Park-Min, Lionel Ivashkiv. Hospital for special surgery, United states
Disclosures: Koichi Murata, None

3:45 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1060 **Absence of the VDR in Osteoclasts Results in Increased Bone Resorption and Osteoclast Survival**
Yolandi Starczak*[1], Daniel Reinke[2], Michele V. Clarke[3], Patricia K. Russell[3], Katherine R. Barratt[1], Rachel A. Davey[3], Howard A. Morris[1], Gerald J. Atkins[2], Paul H. Anderson[1]. [1]School of Pharmacy & Medical Sciences, University of South Australia, Australia, [2]Centre for Orthopaedics & Trauma Research, Faculty of Health Sciences, University of Adelaide, Australia, [3]Department of Medicine, Austin Health, University of Melbourne, Australia
Disclosures: Yolandi Starczak, None

CONCURRENT ORALS: RARE BONE DISEASES (CLINICAL)

2:30 pm - 4:00 pm **Georgia World Congress Center**
Room A412

Moderators:
Michael Whyte, M.D.
Shriners Hospital for Children, USA
Disclosures: Michael Whyte, None

Michael Econs, M.D.
Indiana University School of Medicine, USA
Disclosures: Michael Econs, None

2:30 pm **First X-linked Form of Osteogenesis Imperfecta, Caused by Mutations in *MBTPS2*,**
1061 **Demonstrates a Fundamental Role for Regulated Intramembrane Proteolysis in Normal Bone Formation**
Wayne Cabral*[1], Uschi Lindert[2], Surasawadee Ausavarat[3], Siraprapa Tongkobpetch[4], Katja Ludin[5], Aileen Barnes[1], Patra Yeetong[3], Maryann Weis[6], Birgit Krabichler[7], Chalurmpon Srichomthong[3], Elena Makareeva[8], Andreas Janecke[7], Sergey Leikin[8], Benno Röthlisberger[5], Marianne Rohrbach[2], Ingo Kennerknecht[9], David Eyre[6], Kanya Suphapeetiporn[3], Cecilia Giunta[2], Vorasuk Shotelersuk[3], Joan Marini[10]. [1]Section on Heritable Disorders of Bone & Extracellular Matrix, NICHD, National Institutes of Health, United states, [2]Division of Metabolism, Connective Tissue Unit & Children's Research Center, University Children's Hospital Zurich, Switzerland, [3]Center of Excellence for Medical Genetics, Department of Pediatrics, Faculty of Medicine, Chulalongkorn University & Excellence Center for Medical Genetics, King Chulalongkorn Memorial Hospital, the Thai Red Cross Society, Thailand, [4]Center of Excellence for Medical Genetics, Department of Pediatrics, Faculty of Medicine, Chulalongkorn University, & Thai Excellence Center for Medical Genetics, King Chulalongkorn Memorial Hospital, the Thai Red Cross Society, Thailand, [5]Center for Laboratory Medicine, Department of Medical Genetics, Kantonsspital Aarau, Switzerland, [6]Department of Orthopedics & Sports Medicine, University of Washington, United states, [7]Division of Human Genetics, Medical University of Innsbruck, Austria, [8]Section on Physical Biochemistry, National Institute of Child Health & Human Development, National Institutes of Health, United states, [9]Institute of Human Genetics, Westfälische Wilhelms University, Germany, [10]Bone & Extracellular Matrix Branch, National Institute of Child Health & Human Development, National Institutes of Health, United states
Disclosures: Wayne Cabral, None

2:45 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1062 **Transient Receptor Potential Melastatin 6 (TRPM6) as a Channel-Kinase Regulator of Mineral Metabolism**
Nora Renthal*, David Clapham. Boston Children's Hospital, United states
Disclosures: Nora Renthal, None

3:00 pm **ASBMR 2016 Annual Meeting Young Investigator Award**

1063 **Vitamin D Deficiency Due to a Recurrent Gain-of-Function Mutation in *CYP3A4* Causes a Novel Form of Vitamin D Dependent Rickets**

Jeffrey Roizen*[1], Dong Li[2], Lauren O'Lear[3], Muhammad K Javaid[4], Nicholas Shaw[5], Peter Ebeling[6], Hanh Nguyen[7], Christine Rodda[8], Kenneth Thummel[9], Hakon Hakonarson[2], Michael Levine[3]. [1]Division of Endocrinology & Diabetes The Children's Hospital of Philadelphia, Philadelphia, PA, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA, United States, United states, [2]Center for Applied Genomics, The Children's Hospital of Philadelphia, Philadelphia, PA, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA, United States, United states, [3]Division of Endocrinology & Diabetes, The Children's Hospital of Philadelphia, Philadelphia, PA, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA, United States, United states, [4]National Institute for Health Research (NIHR) Musculoskeletal Biomedical Research Unit, University of Oxford, Oxford, UK, United Kingdom, [5]Birmingham Children's Hospital & University of Birmingham, Birmingham, UK, United Kingdom, [6]Monash University, Monash Medical Centre, Clayton, Victoria, Australia, [7]Monash University, Monash Medical Centre, Clayton, Victoria, Australia, Australia, [8]NorthWest Academic Centre, University of Melbourne, Australia, Australia, [9]Department of Pharmaceutics, University of Washington, Seattle, WA, USA, United states

Disclosures: Jeffrey Roizen, None

3:15 pm **Feingold syndrome skeletal dysplasia, type 1 and 2 are caused by distinct molecular**

1064 **mechanisms**

Fatemeh Mirzamohammadi*, Garyfallia Papaioannou, Elena Paltrinieri, Tatsuya Kobayashi. Endocrine Unit, Massachusetts General Hospital & Harvard Medical School, United states

Disclosures: Fatemeh Mirzamohammadi, None

3:30 pm **Relationship between parathyroid hormone levels and treatment response in patients with**

1065 **hypophosphatasia treated with asfotase alfa**

Andrew Denker*, Hui Zhang, Rajendra Pradhan. Alexion Pharmaceuticals, Inc, United states

Disclosures: Andrew Denker, Alexion Pharmaceuticals, Inc, 103; Alexion Pharmaceuticals, Inc, 104

3:45 pm **Metabolic Expressivity and Clinical Significance of Genotype-Variations in**

1066 **Hypophosphatasia**

Lothar Seefried*, Franz Jakob, Franca Genest. Wuerzburg University, Germany

Disclosures: Lothar Seefried, Alexion Pharmaceuticals, Inc, 13

NETWORKING BREAK

4:00 pm - 4:30 pm **ASBMR Discovery Hall - Expo Hall A1**

CONCURRENT ORALS: BONE ACQUISITION AND PEDIATRIC BONE DISORDERS

4:30 pm - 6:00 pm **Georgia World Congress Center Room A404/405**

Moderators:

Thierry Chevalley, M.D.

University Hospitals of Geneva Division of Bone Diseases, Switzerland

Disclosures: Thierry Chevalley, None

4:30 pm **ASBMR 2016 President's Award**

1067 **IGF-I-Dependent Musculoskeletal Development is Blunted in Adolescents with Insulin Resistance: A 5-Year Prospective Study**

Joseph Kindler*[1], Norman Pollock[2], Emma Laing[2], Carlos Isales[2], Mark Hamrick[2], Ke-Hong Ding[2], Richard Lewis[1]. [1]The University of Georgia, United states, [2]Augusta University, United states

Disclosures: Joseph Kindler, None

4:45 pm **Are Sex Differences in Fracture Incidence During Adolescence due to Factors Other than**
1068 **Bone Quality? A Longitudinal HR-pQCT Study**
Leigh Gabel*[1], Heather M. Macdonald[2], Heather A. McKay[1]. [1]University of British Columbia & Centre for Hip Health & Mobility, Vancouver Coastal Research Institute, Canada, [2]Centre for Hip Health & Mobility, Vancouver Coastal Health Research Institute, Canada
Disclosures: Leigh Gabel, None

5:00 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1069 **Impaired Cortical and Trabecular Microarchitecture at the Tibia in Adolescents with Anorexia Nervosa**
Vibha Singhal*[1], Shreya Tulsiani[2], Meghan Slattery[2], Madhusmita Misra[2], Anne Klibanski[1]. [1]Massachusetts General Hospital, United states, [2]MGH, United states
Disclosures: Vibha Singhal, None

5:15 pm **Dietary Factors during Early Life Program Bone Formation**
1070 Jin-Ran Chen*, Oxana P. Lazarenko, Michael L. Blackburn, Aline Andres, Thomas M. Badger. Arkansas Children's Nutrition Center & the Department of Pediatrics, University of Arkansas for Medical Sciences, United states
Disclosures: Jin-Ran Chen, None

5:30 pm **Prepubertal Impact of Environmental Factors on Proximal Femur Peak Bone Mass : the Key**
1071 **Role of Protein Intake on the Response to Physical Activity in the Skeletal Development of Healthy Male Subjects**
Thierry Chevalley*[1], Jean-Philippe Bonjour[1], Marie-Claude Audet[1], Fanny Merminod[1], Bert van Rietbergen[2], Rene Rizzoli[1], Serge Ferrari[1]. [1]Division of Bone Diseases, Switzerland, [2]Eindhoven University of Technology, Netherlands
Disclosures: Thierry Chevalley, None

5:45 pm **Decreased bone turnover in HIV-infected children on antiretroviral therapy**
1072 Stephen Arpadi*[1], Stephanie Shiau[1], Renate Strehlau[2], Faeezah Patel[2], Ndileka Mbete[2], Donald McMahon[1], Louise Kuhn[1], Ashraf Coovadia[2], Michael Yin[1]. [1]Columbia University, United states, [2]University of the Witwatersrand, South africa
Disclosures: Stephen Arpadi, None

CONCURRENT ORALS: FRACTURE EPIDEMIOLOGY

4:30 pm - 6:00 pm **Georgia World Congress Center**
Sidney Marcus Auditorium - Building A

Moderators:
Lora Giangregorio, Ph.D.
University of Waterloo, Canada
Disclosures: Lora Giangregorio, None

4:30 pm **Hospital based Fracture Liaison Service reduces re-fracture rate and is cost-effective and cost**
1073 **saving**
Charles Inderjeeth*[1], Warren Raymond[2], Elizabeth Geelhoed[3], Andrew BRIGGS[4], Kathy Briffa[5], David Oldham[6], Jean McQuade[7], David MOUNTAIN[6]. [1]University of Western Australia & North Metropolitan Health Service, Australia, [2]The University of Western Australia & Sir Charles Gairdner Hospital, Australia, [3]University of Western Australia, Australia, [4]Department of Health, Australia, [5]Curtin University, Australia, [6]Sir Charles Gairdner Hospital, Australia, [7]Arthritis & Osteoporosis WA, Australia
Disclosures: Charles Inderjeeth, None

4:45 pm **Spine Fracture Prevalence in US Women and Men Aged 40 years and older: NHANES 2013-**
1074 **2014**
Felicia Cosman*[1], John Krege[2], Anne Looker[3], John Schousboe[4], Bo Fan[5], Neda Sarafrazi Isfahani[3], John Shepherd[5], Kelly Krohn[2], Peter Steiger[6], Kevin Wilson[7], Harry Genant[5]. [1]Helen Hayes Hospital, United states, [2]Eli Lilly & Company, United states, [3]National Center for Health Statistics, Centers for Disease Control & Prevention, United states, [4]Park Nicollet Clinic & HealthPartners Institute, United states, [5]University of California, United states, [6]Parexel International, United states, [7]Hologic, Inc., United states
Disclosures: Felicia Cosman, EliLilly and Company, 104

5:00 pm 1075 **Longer Duration of Diabetes Strongly Impacts Fracture Risk Assessment: The Manitoba BMD Cohort**

William Leslie*[1], Suzanne Morin[2], Sumit Majumdar[3], Lisa Lix[1], Helena Johansson[4], Anders Oden[4], Eugene McCloskey[4], John Kanis[4]. [1]University of Manitoba, Canada, [2]McGill University, Canada, [3]University of Alberta, Canada, [4]Centre for Metabolic Bone Diseases, University of Sheffield Medical School, United Kingdom

Disclosures: William Leslie, None

5:15 pm 1076 **Measurement of Cortical and Trabecular Deterioration Identifies Postmenopausal Women at Imminent Risk for Fracture: the OFELY Study**

Stephanie Boutroy*[1], Roger Zebaze[2], Elisabeth Sornay-Rendu[1], Ego Seeman[2], Roland Chapurlat[1]. [1]INSERM UMR 1033, University of Lyon, France, [2]Austin Health, University of Melbourne, Australia

Disclosures: Stephanie Boutroy, None

5:30 pm 1077 **Hip Fractures and Declining DXA Testing: At a Breaking Point?**

E. Michael Lewiecki*[1], Robert Adler[2], Jeffrey Curtis[3], Robert Gagel[4], Kenneth Saag[5], Andrea Singer[6], Ethel Siris[7], Nicole C. Wright[8], Huifeng Yun[9], Peter M. Steven[10]. [1]UNM Health Sciences Center, United states, [2]VA Medical Center, United states, [3]University of Alabama at Birmingham, Division of Clinical Immunology & Rheumatology, United states, [4]MD Anderson, United states, [5]University of Alabama Birmingham Medical College, United states, [6]MedStar Georgetown University Hospital, United states, [7]New York-Presbyterian Hospital, United states, [8]University of Alabama at Birmingham, United states, [9]University Alabama Birmingham School of Public Health, United states, [10]ISCD, United states

Disclosures: E. Michael Lewiecki, Shire, 15; Eli Lilly, Amgen, Merck, Radius Health, 13; Eli Lilly, Amgen, Merck, 13

5:45 pm 1078 **Falls Predict Fractures Independently of FRAX Probability: The Osteoporotic Fractures in Men (MrOS) Study**

Nicholas Harvey*[1], Anders Odén[2], Eric Orwoll[3], Jodi Lapidus[4], Timothy Kwok[5], Magnus Karlsson[6], Björn Rosengren[6], Östen Ljunggren[7], Cyrus Cooper[1], Eugene McCloskey[8], John Kanis[9], Claes Ohlsson[2], Dan Mellström[2], Helena Johansson[2]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [2]Centre for Bone & Arthritis Research (CBAR), Sahlgrenska Academy, University of Gothenburg, Sweden, [3]Oregon Health & Science University, United states, [4]Department of Public Health & Preventive Medicine, Division of Biostatistics, Oregon Health & Science University, United states, [5]Department of Medicine & Therapeutics & School of Public Health, The Chinese University of Hong Kong, Hong kong, [6]Clinical & Molecular Osteoporosis Research Unit, Department of Clinical Sciences Malmo, Lund University & Department of Orthopedics, Skane University Hospital, Sweden, [7]Department of Medical Sciences, University of Uppsala, Sweden, [8]Centre for Metabolic Bone Diseases, & Centre for Integrated research in Musculoskeletal Ageing (CIMA), Mellanby Centre for Bone Research, University of Sheffield, United Kingdom, [9]Centre for Metabolic Bone Diseases, University of Sheffield, United Kingdom

Disclosures: Nicholas Harvey, None

CONCURRENT ORALS: OSTEOBLAST BIOLOGY AND PATHOPHYSIOLOGY

4:30 pm - 6:00 pm **Georgia World Congress Center**
Room A411

Moderators:
Rene St-Arnaud, Ph.D.
Shriners Hospital for Children and McGill University, Canada
Disclosures: Rene St-Arnaud, None

James Gallagher, Ph.D.
University of Liverpool, United Kingdom
Disclosures: James Gallagher, None

4:30 pm **Intravital Imaging of Osteoblast, Osteocyte and GFP-Collagen Dynamics**
1079 Lora McCormick*[1], Michael Grillo[1], LeAnn Tiede-Lewis[2], Kun Wang[2], Hong Zhao[2], Sarah Dallas[2]. [1]University of Missouri-Kansas City, United states, [2]University of Missouri, Kansas City, United states
Disclosures: Lora McCormick, None

4:45 pm **Induction of the Hajdu Cheney Syndrome Mutation in Osteoblasts Causes Severe Osteopenia**
1080 Stefano Zanotti*[1], Jungeun Yu[1], Archana Sanjay[1], Lauren Schilling[1], Christopher Schoenherr[2], Aris Economides[2], Ernesto Canalis[1]. [1]UConn Health, United states, [2]Regeneron Pharmaceuticals, United states
Disclosures: Stefano Zanotti, None

5:00 pm **Novel Role for Claudin-11 in the Regulation of Osteoblasts via Modulation of ADAM10-**
1081 **mediated Notch Signaling**
Richard Lindsey*[1], Shaohong Cheng[2], Weirong Xing[1], Catrina Alarcon[2], Sheila Pourteymoor[2], Alexander Gow[3], Subburaman Mohan[1]. [1]VA Loma Linda Healthcare System; Loma Linda University, United states, [2]VA Loma Linda Healthcare System, United states, [3]Wayne State University, United states
Disclosures: Richard Lindsey, None

5:15 pm **Double Knockout of Osteopontin and Bone Sialoprotein Genes Results in High Cortical**
1082 **Porosity and Hypomineralization**
Wafa Bouleftour*[1], Laura Juignet[1], Léa Verdière[1], Irma Machuca[2], Mireille Thomas[1], Norbert Laroche[1], Arnaud Vanden-Bossche[1], Jean-Paul Concordet[3], Denise Aubert[4], Marie Teixeira[4], Laurence Vico[1], Marie-Hélène Lafage-Proust[1], Luc Malaval[1]. [1]INSERM U1059-SAINBIOSE, Université de Lyon, France, [2]INSERM U1033, Université de Lyon, France, [3]INSERM U565/CNRS UMR7196/Muséum National d'Histoire, France, [4]AniRa PBES, France
Disclosures: Wafa Bouleftour, None

5:30 pm **Ca^{2+} signaling through the $Ca_V1.2$ L-type Ca^{2+} channel regulates bone formation**
1083 Chike Cao*[1], Anthony Mirando[2], Amy McNulty[2], Farshid Guilak[2], Matthew Hilton[2], Geoffery Pitt[1]. [1]Ion Channel Research Unit; Department of Medicine, Duke University Medical Center, United states, [2]Department of Orthopaedic Surgery, Duke University Medical Center, United states
Disclosures: Chike Cao, None

5:45 pm **Osteoblasts Mediate Immunosuppression During Sepsis by Regulating Lymphopoiesis**
1084 Asuka Terashima*[1], Kazuo Okamoto[1], Tomoki Nakashima[2], Koichi Ikuta[3], Hiroshi Takayanagi[1]. [1]Department of Immunology, Graduate School of Medicine & Faculty of Medicine, The University of Tokyo, Japan, [2]Department of Cell Signaling, Graduate School of Medical & Dental Sciences, Tokyo Medical & Dental Universit, Japan, [3]Laboratory of Biological Protection, Department of Biological Responses, Institute for Virus Research, Kyoto University, Japan
Disclosures: Asuka Terashima, None

CONCURRENT ORALS: PRECLINICAL MODELS: GENETICS AND PHARMACOLOGY

4:30 pm - 6:00 pm **Georgia World Congress Center**
Room A412

Moderators:
Bart Williams, Ph.D.
Van Andel Research Institute, USA
Disclosures: Bart Williams, None

Valerie Geoffroy, Ph.D.
INSERM, France
Disclosures: Valerie Geoffroy, None

4:30 pm
1085 **Crispr-Cas9 Engineered Mouse Model for Osteogenesis Imperfecta Type V**
Pierre Moffatt*[1], Janice Penney[1], Lisa Lamplugh[2], Yeqing Geng[2], Marie-Helene Gaumond[2], Frank Rauch[2], Yojiro Yamanaka[1]. [1]McGill University, Canada, [2]Shriners Hospitals for Children, Canada
Disclosures: Pierre Moffatt, None

4:45 pm
1086 **ASBMR 2016 Annual Meeting Young Investigator Award**
A Loss of Function Mutation in *DDRGK1* Causes Shohat Type SEMD Via Increased SOX9 Ubiquitination
Adetutu Egunsola*[1], Yangjin Bae[1], Ming-Ming Jiang[2], David Liu[1], Daniel Cohn[3], Eric Swindell[4], Yuqing Chen-Evenson[2], Terry Bertin[2], Lisette Nevarez[5], Richard Gibbs[6], Philippe Campeau[1], Mordechai Shohat[7], Brendan Lee[1]. [1]Molecular & Human Genetics at Baylor College of Medicine, United states, [2]Department of Molecular & Human Genetics at Baylor College of Medicine, United states, [3]Department of Molecular Cell & Developmental Biology; Department of Orthopaedic Surgery International Skeletal Dysplasia Registry University of California, Los Angeles, United states, [4]Department of Pediatrics The University of Texas Medical School at Houston, United states, [5]department of molecular cell developmental biology, University of California Los Angeles, United states, [6]Department of Molecular & Human Genetics; Human Genome Sequencing Center at Baylor College of Medicine, United states, [7]Recanati Institute For Medical Genetics, Rabin & Schneider Medical Centers; Departments of Pediatrics & Medical Genetics, Sackler School of Medicine, Tel Aviv University, Israel
Disclosures: Adetutu Egunsola, None

5:00 pm
1087 **Sclerostin antibody administration converts bone lining cells into active osteoblasts**
Marc Wein*[1], Yanhui Lu[1], Elizabeth Williams[1], Sang Wan Kim[2], Tetsuya Enishi[1], Michael Ominsky[3], H.Z. Ke[4], Henry Kronenberg[1]. [1]Massachusetts General Hospital, United states, [2]Seoul National University College of Medicine, Korea, democratic people's republic of, [3]Amgen, United states, [4]UCB, United Kingdom
Disclosures: Marc Wein, Amgen, 13

5:15 pm
1088 **Dose-response Relationship of Palovarotene in the ALK2 (Q207D) Cre-Inducible Transgenic Mouse Model of HO Under Mild and Severe Injury Conditions**
Isabelle Lemire*[1], Dominic Poulin[2], Philippe Colucci[3], Michael Harvey[1]. [1]Clementia Pharmaceuticals Inc., Canada, [2]Charles River Montreal ULC, CR-MTL, Canada, [3]Learn & Confirm, Inc., Canada
Disclosures: Isabelle Lemire, None

5:30 pm
1089 **ASBMR 2016 Annual Meeting Young Investigator Award**
The Role of Canonical Wnt Signaling in the Development of Spondyloarthritis
Wanqing Xie*[1], Tianqian Hui[1], Lifan Liao[2], Shan Li[2], Chundo Oh[2], Qiming Fan[1], Jeffrey S Kroin[2], Hee-Jeong Im[2], Di Chen[2]. [1]Rush University Medical Center, China, [2]Rush University Medical Center, United states
Disclosures: Wanqing Xie, None

5:45 pm
1090 **Differential effects of the cathepsin K inhibitor, MK-0674, and alendronate on bone mass, remodeling, and strength of cortical bone in cynomolgus monkeys with established osteopenia**
Maureen Pickarski*, Brenda Pennypacker, Le Duong. Merck & Co., Inc, United states
Disclosures: Maureen Pickarski, Merck & Co., Inc, 17

BASIC SCIENCE EVENING-BRAIN SIGNALING TO BONE

6:30 pm - 8:30 pm **Georgia World Congress Center**
Room A305

Space is limited and available on a first-come, first-served basis. Attendees must be registered for the ASBMR 2016 Annual Meeting.

Co-Chairs
Patricia Ducy, Ph.D.
Columbia University, USA
Disclosures: Patricia Ducy, None

Florent Elefteriou, Ph.D.
Baylor College of Medicine, USA
Disclosures: Florent Elefteriou, None

6:30 pm **Reception**

7:00 pm **Vestibular Signals and Bone Remodeling**
Florent Elefteriou, Ph.D.
Baylor College of Medicine, USA
Disclosures: Florent Elefteriou, None

7:30 pm **The Sympathetic Nervous System and Bone**
Clifford Rosen, M.D.
Maine Medical Center, USA
Disclosures: Clifford Rosen, None

8:00 pm **Energy Expenditure, Bone Formation and the Hypothalamus**
Roland Baron, DDS, PhD
Harvard Medical School and School of Dental Medicine, USA
Disclosures: Roland Baron, None

CLINICAL EVENING-CAN WE CLOSE THE TREATMENT GAP FOR OSTEOPOROSIS?

Supported by Educational Grants from Merck & Co., Inc., Radius Health, and Amgen, Inc.

6:30 pm - 8:30 pm **Georgia World Congress Center**
Thomas B. Murphy Ballroom - Building B Level 5

Space is limited and available on a first-come, first-served basis. Attendees must be registered for the ASBMR 2016 Annual Meeting.

Co-Chairs
Felicia Cosman, M.D.
Helen Hayes Hospital, USA
Disclosures: Felicia Cosman, None

Socrates Papapoulos, M.D.
Leiden University Medical Center, The netherlands
Disclosures: Socrates Papapoulos, Merck & Co 14; UCB 14; Amgen 14; Axsome 14

6:30 pm **Dinner**

7:00 pm **Revisiting the Screening Recommendations for Osteoporosis in Men and Women**
Juliet Compston, M.D., FRCP
University of Cambridge School of Clinical Medicine, United Kingdom
Disclosures: Juliet Compston, None

7:30 pm **What Are the Real Reductions with Treatments and What Are the Risks: How Do They Compare?**
Dennis Black, Ph.D.
UC San Francisco, USA
Disclosures: Dennis Black, Merck 14; Asahi-Kasei 14; Alexion 13; Radius 14

8:00 pm **What are the Outstanding Needs for Overcoming the Barriers to Treating Individuals with Osteoporosis, and How Does the Future Look?**
Susan Greenspan, M.D.
University of Pittsburgh, USA
Disclosures: Susan Greenspan, None

ASBMR NETWORKING EVENT

Supported in part by a donation from Lilly

8:30 pm - 11:30 pm **Omni Atlanta Hotel at CNN Center**
Grand Ballroom

Join us for an evening of food, drinks and dancing at the ASBMR Networking Event! Enjoy the company of colleagues, both old and new, while reveling in a fun and relaxed atmosphere. Admission is included with Annual Meeting registration.

Sunday, September 18, 2016

Day-At-A-Glance

Time/Event/Location **All locations in the Georgia World Congress Center unless otherwise noted**

INDUSTRY SUPPORTED SYMPOSIUM (ISS): NEW HORIZONS IN OSTEOPOROSIS: BUILDING A STRONG FOUNDATION FOR EVIDENCE BASED DIAGNOSIS AND TREATMENT

Supported by an educational grant from Radius Health, Inc. Jointly provided by Potomac Center for Medical Education and Rockpointe

5:30 am - 7:45 am **Omni Atlanta Hotel at CNN Center**
Grand Ballroom ABC

5:30 am **Registration**

6:00 am **Introduction**

6:10 am **Strategies to Improve the Detection and Diagnosis of Osteoporosis**
Paul D. Miller, MD, Colorado Center for Bone Research at Centura Health, USA

6:35 am **Challenges in Identification of Patients in Need**
E. Michael Lewiecki, MD, New Mexico Clinical Research & Osteoporosis Center, USA

7:00 am **New Treatment Options for Building Better Bone**
John Bilezikian, MD, Columbia University, USA

7:30 am **Conclusion and Q & A Session**

Accreditation This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Potomac Center for Medical Education and Rockpointe. The Potomac Center for Medical Education is accredited by the ACCME to provide continuing medical education for physicians.

Designation Statement The Potomac Center for Medical Education designates this live activity for a maximum of 1.75 *AMA PRA Category 1 Credits*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

For questions regarding CME credit, the post-test, evaluation, please email contact@potomacme.org.

ASBMR REGISTRATION OPEN

7:00 am - 5:00 pm **Georgia World Congress Center**
Registration Hall - Main Entrance

PLENARY SYMPOSIUM-GUT MICROBIOME AND BONE HOMEOSTASIS & PRESENTATION OF THE FULLER ALBRIGHT AND STEPHEN KRANE AWARDS

Supported by an Educational Grant from Merck & Co., Inc.

8:00 am - 9:30 am **Georgia World Congress Center**
Thomas B. Murphy Ballroom - Building B Level 5

Co-Chairs
Laura McCabe, Ph.D.
Michigan State University, USA
Disclosures: Laura McCabe, None

Eric Orwoll, M.D.
Oregon Health and Science University, USA
Disclosures: Eric Orwoll, None

8:00 am **Overview of the Field and Interaction Between Human Genome and Gut Microbiome**
Andre Uitterlinden, Ph.D.
Rm Ee 575, Genetic Laboratory, The Netherlands
Disclosures: Andre Uitterlinden, None

8:25 am **Interaction Between Nutrition and Microbiome**
Rene Rizzoli, M.D.
Geneva University Hospitals and Faculty of Medicine, Switzerland
Disclosures: Rene Rizzoli, Nestlé 14; Labatec 14; Danone 15; Radius 14

8:50 am **Experimental Approach of Bone and the Microbiome**
Roberto Pacifici, M.D.
Emory University School of Medicine, USA
Disclosures: Roberto Pacifici, None

POSTERS OPEN

9:30 am - 4:30 pm **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

DISCOVERY HALL OPEN

9:30 am - 4:30 pm **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

NETWORKING BREAK

9:30 am - 9:45 am **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

PLENARY ORALS: BONE TUMORS AND METASTASIS I

9:45 am - 11:00 am **Georgia World Congress Center**
Room A411/412

Moderators:
Claire Edwards, Ph.D.
University of Oxford, United Kingdom
Disclosures: Claire Edwards, None

Florent Elefteriou, Ph.D.
Baylor College of Medicine, USA
Disclosures: Florent Elefteriou, None

9:45 am **ASBMR 2016 Most Outstanding Translational Abstract Award**
1091 **Genetic Sost Deletion or Pharmacological Inhibition of Sclerostin Prevents Bone Loss and Decreases Osteolytic Lesions in Immunodeficient and Immunocompetent Preclinical Models of Multiple Myeloma**
Jesus Delgado-Calle*[1], Judith Anderson[2], Meloney D Cregor[1], Dan Zhou[2], Lilian I Plotkin[1], Teresita Bellido[1], G David Roodman[2]. [1]Department of Anatomy & Cell Biology, Indiana University School of Medicine, United states, [2]Department of Medicine, Indiana University School of Medicine, United states
Disclosures: Jesus Delgado-Calle, None

10:00 am **Molecular Mechanisms of Breast Cancer Cellular Dormancy in the Bone Marrow**
1092 Mattia Capulli*[1], Dayana Hristova[2], Ronak Arjan[2], Alfredo Cappariello[1], Antonio Maurizi[1], Argia Ucci[1], Nadia Rucci[1], Anna Teti[1]. [1]University of L'Aquila, Italy, [2]University of Manchester, United Kingdom
Disclosures: Mattia Capulli, None

10:15 am **ASBMR 2016 Annual Meeting Young Investigator Award**
1093 **Targeting TRPV1 on sensory neurons as a potential therapy for breast cancer in bone**
Tatsuo Okui*[1], Masahiro Hiasa[1], Fletcher White[2], G David Roodman[1], Toshiyuki Yoneda[1]. [1]Department of Medicine, Hematology Oncology, Indiana University School of Medicine, United states, [2]Department of Anesthesia, Paul & Carole Stark Neurosciences Research Institute, United states
Disclosures: Tatsuo Okui, None

10:30 am **Myeloid-Derived Suppressor Cells (MDSC) Mediate Prostate Cancer-Bone Interactions**
1094 Serk In Park*, Hye Eun Kim, Hyo Min Jeong, Geurim Son. Korea University College of Medicine, Korea, republic of
Disclosures: Serk In Park, None

10:45 am **MicroRNA-30 Family Reduces Skeletal Lesions in Tumor Bearing Mice by Targeting**
1095 **Osteomimicry**
Martine Croset[1], Francesco Pantano[2], Casina Kan[1], Françoise Descotes[3], Edith Bonnelye[1], Saw-See Hong[4], Philippe Clezardin*[1]. [1]INSERM, UMR_S1033, UFR de médecine Lyon-Est, University of Lyon, France, [2]Medical Oncology Dept./Translational Oncology Laboratory, Italy, [3]Service biochime biologie moléculaire Hospices civils de Lyon, France, [4]Université Claude Bernard Lyon 1 UMR754 INRA-UCBL-EPHE, France
Disclosures: Philippe Clezardin, None

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

9:45 am - 11:00 am **Georgia World Congress Center**
Sidney Marcus Auditorium - Building A

Moderators:
Socrates Papapoulos, M.D.
Leiden University Medical Center, The Netherlands
Disclosures: Socrates Papapoulos, None

Kenneth G. Saag, M.D., MSc
University of Alabama at Birmingham, USA
Disclosures:
Kenneth G. Saag, None

9:45 am **ASBMR 2016 Most Outstanding Clinical Abstract Award**
1096 **Fracture Risk Reduction With Romosozumab: Results of the Phase 3 FRAME Study (FRActure study in postmenopausal woMen with ostEoporosis)**
F Cosman*[1], Db Crittenden[2], Jd Adachi[3], N Binkley[4], E Czerwinski[5], S Ferrari[6], Lc Hofbauer[7], E Lau[8], Em Lewiecki[9], A Miyauchi[10], Caf Zerbini[11], L Chen[2], J Maddox[2], Pd Meisner[12], Ce Milmont[2], C Libanati[12], A Grauer[2]. [1]Helen Hayes Hospital, West Haverstraw, & Columbia University, United states, [2]Amgen Inc., United states, [3]McMaster University, Canada, [4]University of Wisconsin–Madison Osteoporosis Clinical Center & Research Program, United states, [5]Krakow Medical Centre, Poland, [6]Geneva University Hospital, Switzerland, [7]Division of Endocrinology, Diabetes, & Bone Diseases, TU Dresden Medical Center, Germany, [8]Center for Clinical & Basic Research, China, [9]New Mexico Clinical Research & Osteoporosis Center, United states, [10]Miyauchi Medical Center, Japan, [11]Centro Paulista de Investigação Clinica, Brazil, [12]UCB Pharma, Belgium
Disclosures: F Cosman, Amgen, Eli Lillly, Merck, Radius, Tarsa, 14; Amgen, Eli Lilly, 15; Amgen, Eli Lilly, 13

10:00 am 1097 **Effects of Odanacatib on Transilial Cortical Remodeling/Modeling and Microarchitecture in Postmenopausal Women with Osteoporosis: 5-Year Data from the Extension of the Phase 3 Long-Term Odanacatib Fracture Trial (LOFT)**

Robert Recker*[1], David Dempster[2], Bente Langdahl[3], Graham Ellis[4], Tobie de Villiers[5], Dosinda Cohn[6], Steven Doleckyj[7], Hilde Giezek[8], Arthur Santora[6], Le T Duong[6]. [1]Creighton University, United states, [2]Helen Hayes Hospital, United states, [3]Aarhus University Hospital, Denmark, [4]Synexus Helderberg Clinical Research Centre, South africa, [5]University of Stellenbosch, South africa, [6]Merck & Co., Inc., United states, [7]Formerly Merck & Co., Inc., United states, [8]MSD Europe Inc., Belgium

Disclosures: Robert Recker, Merck, Lilly, Amgen, 13; Merck, Lilly, 14

10:15 am 1098 **Effects of KRN23, an Anti-FGF23 Antibody, in Patients With Tumor Induced Osteomalacia and Epidermal Nevus Syndrome: Results from an Ongoing Phase 2 Study**

Thomas Carpenter*[1], Paul Miller[2], Thomas Weber[3], Munro Peacock[4], Mary Ruppe[5], Karl Insogna[1], Suzette Osei[6], Diana Luca[6], Alison Skrinar[6], Javier San Martin[6], Suzanne Jan de Beur[7]. [1]Yale 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]Houston Methodist Hospital, United states, [6]Ultragenyx Pharmaceutical Inc., United states, [7]Johns Hopkins University School of Medicine, United states

Disclosures: Thomas Carpenter, Ultragenyx, 13; Ultragenyx, 17

10:30 am 1099 **Odanacatib Efficacy and Safety in Postmenopausal Women with Osteoporosis: 5-Year Data from the Extension of the Phase 3 Long-Term Odanacatib Fracture Trial (LOFT)**

Michael R. McClung*[1], Bente Langdahl[2], Socrates Papapoulos[3], Kenneth G. Saag[4], Henry Bone[5], Douglas P. Kiel[6], Kurt Lippuner[7], Toshitaka Nakamura[8], Ian Reid[9], Norman Heyden[10], Carolyn DaSilva[10], Boyd B. Scott[10], Rachid Massaad[11], Keith D. Kaufman[10], S. Aubrey Stoch[10], Arthur Santora[10], Antonio Lombardi[10]. [1]Oregon Osteoporosis Center, United states, [2]Aarhus University Hospital, Denmark, [3]Leiden University Medical Center, Netherlands, [4]University of Alabama at Birmingham, United states, [5]Michigan Bone & Mineral Clinic & The Osteoporosis Center at St. Luke's Hospital, United states, [6]Institute for Aging Research, Hebrew Senior Life, Harvard Medical School, United states, [7]Bern University Hospital, Switzerland, [8]University of Occupational & Environmental Health, Japan, [9]University of Auckland, New zealand, [10]Merck & Co., Inc., United states, [11]MSD Europe Inc., Belgium

Disclosures: Michael R. McClung, Amgen, Merck, 14

10:45 am 1100 **Discontinuation of Denosumab and Associated Fracture Incidence: Analysis From FREEDOM and its Extension**

Jacques P Brown*[1], Serge Ferrari[2], Nigel Gilchrist[3], Jens-Erik Beck Jensen[4], Nico Pannacciulli[5], Chris Recknor[6], Christian Roux[7], Shawna Smith[5], Ove Törring[8], Ivo Valter[9], Rachel B Wagman[5], Andrea T Wang[5], Steven R Cummings[10]. [1]Laval University & CHU de Québec (CHUL), Canada, [2]Geneva University Hospital, Switzerland, [3]The Princess Margaret Hospital, New zealand, [4]Hvidovre University Hospital, Denmark, [5]Amgen Inc., United states, [6]United Osteoporosis Centers, United states, [7]Paris Descartes University, France, [8]Karolinska Institutet, Södersjukhuset, Sweden, [9]Center for Clinical & Basic Research, Estonia, [10]San Francisco Coordinating Center, CPMC Research Institute, United states

Disclosures: Jacques P Brown, Amgen, Eli Lilly, Merck, 14; Amgen, Eli Lilly, 13; Amgen, Eli Lilly, 17

MEET-THE-PROFESSOR SESSIONS

11:00 am - 12:00 pm **Georgia World Congress Center**

Rooms A311-316

Meet the Professor: A Guide to Basic Scientist and Clinician Collaboration
Room A311

Larry Suva, Ph.D.
Texas Veterinary Medical Center, USA

Disclosures: Larry Suva, None

Marie-Hélène LAFAGE-PROUST,
University St Etienne, France

Disclosures: Marie-Hélène LAFAGE-PROUST, None

Meet the Professor: Fracture Risk Off Osteoporosis Therapy
Room A313

Supported by an Educational Grant from Merck & Co., Inc.
Michael McClung, M.D.
Oregon Osteoporosis Center, USA
Disclosures: Supported by an Educational Grant from Merck & Co., Inc. Michael McClung, Merck 14; Amgen 14; Radius 14

Meet the Professor: Hypophosphatasia
Room A312

Michael Whyte, M.D.
Shriners Hospital for Children, USA
Disclosures: Michael Whyte, Alexion Pharmaceuticals, Inc., Cheshire, CT 13; Alexion Pharmaceuticals, Inc.; Cheshire, CT 14

Jose Luis Millan, Ph.D.
Sanford Burnham Prebys Medical Discovery Institute, USA
Disclosures: Jose Luis Millan, Alexion 13; AM Pharma 14

Meet the Professor: Skeletal Development and Mineral Metabolism in the Fetus and Newborn: Insights from Animal Models and Limited Human Data
Room A314

Christopher Kovacs, M.D.
Memorial University of Newfoundland, Canada
Disclosures: Christopher Kovacs, None

Deborah Krakow, M.D.
David Geffen School of Medicine At UCLA, USA
Disclosures: Deborah Krakow, None

Meet the Professor: Bone Marrow Microenvironment and Myeloma
Room A315

Claire Edwards, Ph.D.
University of Oxford, United Kingdom
Disclosures: Claire Edwards, None

G. David Roodman, M.D., Ph.D.
Indiana University, USA
Disclosures: G. David Roodman, None

Meet the Professor: Pathogenesis and Treatment of Heterotopic Ossification
Room A316

Benjamin Levi, M.D.
University of Michigan, USA
Disclosures: Benjamin Levi, None

A CRISIS IN THE TREATMENT OF OSTEOPOROSIS

11:00 am - 12:00 pm **Georgia World Congress Center A404/405**

11:00 am Public Health Impact of Hip Fractures
Kenneth Saag, M.D.
University of Alabama at Birmingham, USA
Disclosures: Kenneth Saag, None

11:10 am Undertreatment of Patients at High Risk for Hip Fractures
Juliet Compston, M.D., FRCP
University of Cambridge School of Clinical Medicine, United Kingdom
Disclosures: Juliet Compston, None

11:20 am What Can We Do About It
Sundeep Khosla, M.D.
Mayo Clinic College of Medicine, USA
Disclosures: Sundeep Khosla, None

ASBMR TASK FORCE REPORTS

11:30 am - 12:30 pm **Georgia World Congress Center**
Sidney Marcus Auditorium - Building A

This session will feature presentations from the ASBMR-ORS Task Force on Cell Based Therapies and the ASBMR Task Force on the Long Term Safety and Efficacy of Vertebral Augmentation.

11:30 am **ASBMR Task Force on the Long Term Safety and Efficacy of Vertebral Augmentation**
Mary Bouxsein, Ph.D.
Beth Israel Deaconess Medical Center, Harvard Medical School, USA
Disclosures: Mary Bouxsein, None

Peter Ebeling AO, M.D., FRACP
School of Clinical Sciences, Monash University, Australia
Disclosures: Peter Ebeling AO, None

11:30 am **ASBMR-ORS Task Force on Cell Based Therapies**
Regis O'Keefe, M.D.
Washington University, USA
Disclosures: Regis O'Keefe, None

Rocky Tuan, Ph.D.
Univeristy of Pittsburgh, USA
Disclosures: Rocky Tuan, None

NETWORKING BREAK

12:00 pm - 12:30 pm **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

POSTER SESSION II & POSTER TOURS

12:30 pm - 2:30 pm **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

Odd # Posters will present from 12:30 pm - 1:30 pm
Even # Posters will present from 1:30 pm - 2:30 pm

ADULT METABOLIC BONE DISORDERS: CHRONIC KIDNEY DISEASE – METABOLIC BONE DISORDER

SU0001 **Chronic Kidney Disease and Aging Diminish Bone Quality in C57Bl/6 Mice**
Chelsea Heveran*[1], Eric Livingston[2], Sarah Whetstone[1], Moshe Levi[3], Ted Bateman[2], Karen King[3], Virginia Ferguson[1]. [1]University of Colorado at Boulder, United states, [2]University of North Carolina at Chapel Hill, United states, [3]University of Colorado School of Medicine, United states
Disclosures: Chelsea Heveran, None

SU0002 **FRAX with and without DXA result in prediction of the risk of bone fractures in patients with end-stage renal disease undergoing dialysis - 4-year observational study**
Jerzy Przedlacki*[1], Paweł Żebrowski[1], Ewa Wojtaszek[2], Mariusz Mieczkowski[2], Agnieszka Grzejszczak[2], Monika Staszków[2], Michał Pyrża[2], Małgorzata Kościelska[2], Małgorzata Kępska[2], Joanna Matuszkiewicz-Rowińska[2]. [1]Chair & Department of Nephrology, Dialysis & Internal Diseases, Medical University of Warsaw, Poland, [2]Chair & Department of Nephrology, Dialysis & Internal Medicine, Medical University of Warsaw, Poland
Disclosures: Jerzy Przedlacki, None

ADULT METABOLIC BONE DISORDERS: OSTEONECROSIS

SU0003 **Effect of Bisphosphonates on Cytokine/Chemokine-mediated Angiogenesis in Alveolar Bone**
Mohamed Awad*, Sudha Ananth, Ranya Elsayed, Amany Tawfik, Mohammed Elsalanty. Augusta University, United states
Disclosures: Mohamed Awad, None

ADULT METABOLIC BONE DISORDERS: OTHER ADULT METABOLIC BONE DISORDERS

SU0004 **Serum Osteocalcin Concentration is an Independent Risk for Incident Type 2 Diabetes Mellitus in Japanese Postmenopausal Women**
Tomohiko Urano*[1], Masataka Shiraki[2], Tatsuhiko Kuroda[3], Shiro Tanaka[4], Fumihiko Urano[5], Kazuhiro Uenishi[6], Satoshi Inoue[7]. [1]The University of Tokyo, Japan, [2]Research Institute & Practice for Involutional Diseases, Japan, [3]Public Health Research Foundation, Japan, [4]Kyoto University, Japan, [5]Washington University School of Medicine, United states, [6]Kagawa Nutrition University, Japan, [7]Tokyo Metropolitan Institute of Gerontology, Japan
Disclosures: Tomohiko Urano, None

SU0005 **The majority of adults with persistent hypophosphatasemia harbor mutations in the *ALPL* gene**
Indira Rai*[1], Juan Dong[2], Richard Berg[3], Erica Scotty[3], Fergus McKiernan[4]. [1]Marshfield Clinic, United states, [2]Prevention Genetics, United states, [3]Center for Biomedical Informatics, Marshfield Medical Research Foundation, United states, [4]Marshfield Medical Research Foundation, United states
Disclosures: Indira Rai, None

SU0006 **Vitamin D Levels in Patients with Diabetes Mellitus Type 1 and 2**
Vaclav Vyskocil*, Anna Planickova. Charles University Hospital Metabolic Bone Disease Centre, Czech republic
Disclosures: Vaclav Vyskocil, None

ADULT METABOLIC BONE DISORDERS: PAGET'S DISEASE

SU0007 **Effect of a Rare Genetic Variant of *TM7SF4* Gene on Osteoclast Phenotype in Paget's Disease of Bone**
Emilie Laurier*[1], Nathalie Amiable[2], Edith Gagnon[2], Jacques P. Brown[3], Laetitia Michou[4]. [1]CHU de Québec research centre, Canada, [2]CHU de Quebec research centre, Canada, [3]CHU de Quebec research centre & departement of medicine, division of rheumatology, CHU de Québec-Université Laval, Canada, [4]CHU de Quebec research centre & department of medicine, division of rheumatology, CHU de Quebec-Université Laval, Canada
Disclosures: Emilie Laurier, None

ADULT METABOLIC BONE DISORDERS: PARATHYROID DISORDERS

SU0008 **Comparison of cinacalcet and subtotal parathyroidectomy for treating hypercalcemia in tertiary hyperparathyroidism**
Namki Hong*[1], Hyemin Jo[1], Da Hea Seo[1], Jong Ju Jeong[2], Yumie Rhee[1]. [1]Department of Internal Medicine, Severance Hospital, Endocrine Research Institute, Yonsei University College of Medicine, 120-752, Korea, republic of, [2]Thyroid Cancer Clinic, Yonsei University College of Medicine, Seodaemun-gu, Korea, republic of
Disclosures: Namki Hong, None

SU0009 **Estimated Prevalence of Chronic Hypoparathyroidism Through the Analysis of a Regional Dataset**
Luisella Cianferotti*[1], Simone Parri[1], Giorgio Gronchi[1], Carla Rizzuti[2], Gemma Marcucci[1], Maria Luisa Brandi[1]. [1]Metabolic Bone Diseases Unit, Department of Surgery & Translational Medicine, University of Florence, Italy, [2]Region of Tuscany, Italy
Disclosures: Luisella Cianferotti, None

SU0010 **Occult Nephrolithiasis in Primary Hyperparathyroidism is Associated with Higher Activated Vitamin D Levels and Urinary Calcium Excretion**
Leonardo Bandeira*[1], Diane Cozadd[1], Mariana Bucovsky[1], Donald McMahon[1], James Lee[2], Shonni Silverberg[1], Marcella Walker[1]. [1]Metabolic Bone disease unit, College of Physicians & Surgeons, Columbia University Medical Center, United states, [2]Department of Surgery, Columbia University Medical Center, United states
Disclosures: Leonardo Bandeira, None

SU0011 **Preliminary Biopsy Findings Indicate Opposing Effects of Vitamin D and PTH on Bone Remodeling in PHPT**
Marcella Walker*[1], Hua Zhou[2], Mariana Bucovsky[1], David Dempster[1], Shonni Silverberg[1]. [1]Columbia University, United states, [2]Helen Hayes Hospital, United states
Disclosures: Marcella Walker, None

SU0012 **The Prevalence of Normocalcemic Primary Hyperparathyroidism among Blood Donors Volunteers**
Salvatore MINISOLA*[1], Vittoria DANESE[1], Federica FERRONE[1], Valeria FASSINO[1], Giancarlo FERRAZZA[2], Enrico PANZINI[2], Veronica CECCHETTI[1], Jessica PEPE[1], Frank BLOCKI[3], Cristiana CIPRIANI[1]. [1]Department of Internal Medicine & Medical Disciplines, University of Rome "Sapienza", Policlinico Umberto I, Viale del Policlinico 155, 00161 Rome, Italy, Italy, [2]Department of Immunohematology & Transfusion Medicine, University of Rome "Sapienza" Policlinico Umberto I, Viale del Policlinico 155, 00161 Rome, Italy, Italy, [3]DiaSorin, 1951 Northwestern Avenue, Stilllwater, MN, USA., United states
Disclosures: Salvatore MINISOLA, Dia Sorin, 13

BIOMECHANICS AND BONE QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

SU0013 **Bisphosphonates do not affect collagen-bound water in a rat model of estrogen withdrawal**
Mathilde Granke*[1], Sasidhar Uppuganti[1], Julie Schnur[2], Daniel Perrien[1], Mark Does[2], Jeffry Nyman[1]. [1]Vanderbilt University Medical Center, United states, [2]Vanderbilt University, United states
Disclosures: Mathilde Granke, None

SU0014 **Characterization of High and Low Turnover Bone Disease Associated with Chronic Kidney Disease**
Teppei Ito*[1], Megumi Asai[1], Yuya Kanehira[1], Mitsuru Yashiro[2], Tomohiro Sonou[3], Takashi Shigematsu[3], Hiromi Kimura-Suda[1]. [1]Graduate School of Photonics Science, Chitose Institute of Science & Technology, Japan, [2]Division of Nephrology, Department of Internal Medicine, Wakayama Medical University, Japan, [3]Division of Nephrology, Departmenttof Internal Medicine, Wakayama Medical University, Japan
Disclosures: Teppei Ito, None

SU0015 **Effect of Once-Weekly hPTH(1-34) on Collagen Fiber Orientation in Lumbar Vertebrae of Ovariectomized Monkeys**
Hiromi Kimura-Suda*[1], Teppei Ito[1], Yuya Kanehira[1], Megumi Asai[1], Aya Takakura[2], Ryoko Takao-Kawabata[2], Yukihiro Isogai[2]. [1]Chitose Institute of Science & Technology, Japan, [2]Pharmaceutical Research Center, Asahi Kasei Pharma Corporation, Japan
Disclosures: Hiromi Kimura-Suda, Asahi Kasei Pharma Corporation, 13

SU0016 **Effects of BMU and Lamellar Thickness on Single Osteonal-Unit Fatigue Life**
George Pellegrino*[1], Max Roman[2], J. Christopher Fritton[1]. [1]Rutgers University / NJ Medical School / Orthopaedics, United states, [2]NJ Institute of Technology / BME, United states
Disclosures: George Pellegrino, None

SU0017 **Effects of Ionizing Radiation on *Ex-Vivo* Fatigue Mechanics of Mouse Vertebra**
Megan Pendleton*[1], Joshua Alwood[2], Grace O'Connell[1], Tony Keaveny[1]. [1]University of California Berkeley, United states, [2]NASA Ames Research Center, United states
Disclosures: Megan Pendleton, None

SU0018 **Ribation of Human Cortical Bone decreases Bound water, alters the Secondary structure of Collagen, but does not affect Tissue resistance to Cyclic microindentation**
Sasidhar Uppuganti*[1], Mathilde Granke[1], Amy Creecy[1], Shoshana Hodes[2], Deanna Bradley[1], Mark Does[1], Jeffry Nyman[3]. [1]Vanderbilt University, United states, [2]Lafayette College, United states, [3]Vanderbilt University, VA Tennessee Valley Healthcare System, United states
Disclosures: Sasidhar Uppuganti, None

BIOMECHANICS AND BONE QUALITY: DISUSE OSTEOPOROSIS – ANIMAL MODELS

SU0019 **Differential Response of Trabecular Bone to Unloading in Two Substrains of C57BL/6 Mice**
Jeyantt Srinivas Sankaran*[1], Manasvi Varshney[1], Alyssa Tuthill[1], Leah Rae Donahue[2], Stefan Judex[1]. [1]Stony Brook University, United states, [2]The Jackson Laboratory, United states
Disclosures: Jeyantt Srinivas Sankaran, None

SU0020 **The Effects of Botox-induced Muscle Paralysis on Bone Microporosities in Skeletally Mature Rats**
Vittorio Gatti*, Bishoy Ghobryal, Michelle Gelbs, Michael Gerber, Luis Cardoso, Susannah Fritton. City College of New York, United states
Disclosures: Vittorio Gatti, None

BIOMECHANICS AND BONE QUALITY: GENERAL

SU0021 **Computational Model Development of Spaceflight Bone Physiology**
James Pennline*[1], Christopher Werner[2], Beth Lewandowski[1], Angelo Licata[3]. [1]NASA Glenn Research Center, United states, [2]ZIN Technologies, Inc., United states, [3]Cleveland Clinic, United states
Disclosures: James Pennline, None

SU0022 **Contribution of mineral characteristics to the tissue level material properties in Lrp5 mutant mouse models**
Sabah Nobakhti*[1], Sandra Shefelbine[2], Sandip Basu[3]. [1]Department of Mechanical & Industrial Engineering, Northeastern University, United states, [2]Department of Mechanical & Industrial Engineering, Department of Bioengineering, Northeastern University, United states, [3]Bruker Nano Surfaces Division, United states
Disclosures: Sabah Nobakhti, None

SU0023 **Correlation of DXA Measured on Isolated Femurs by Faxitron and PIXImus Densitometry versus Ashing and MicroCT**
Douglas Adams*[1], Jeffry Nyman[2], Dana Godfrey[3], Renata Rydzik[1], Svetlana Lublinsky[1], David Rowe[1], Cheryl Ackert-Bicknell[3]. [1]University of Connecticut Health, United states, [2]Vanderbilt University Medical Center, United states, [3]University of Rochester, United states
Disclosures: Douglas Adams, None

SU0024 **Determination of Osteocyte Lacunar Strains using Confocal Microscopy and Finite Element Modeling**
Sravan Kola, Mark T. Begonia, Leann Tiede-Lewis, Sarah Dallas, Mark L. Johnson, Ganesh Thiagarajan*. University of Missouri Kansas City, United states
Disclosures: Ganesh Thiagarajan, None

SU0025 **Global Phosphorylation of Human Osteopontin**
Grazyna Sroga*, Deepak Vashishth. Rensselaer Polytechnic Institute, United states
Disclosures: Grazyna Sroga, None

SU0026 **Lacunar Void Properties in Bone Tissue from Women Treated With Alendronate**
Mohammed Akhter*, Brad Hugenroth, Robert Recker. Creighton University, United states
Disclosures: Mohammed Akhter, None

SU0027 **Relationship Between Oxidative Stress And Trabecular Bone Microstructure In Osteoporotic Patients**
Mercè Giner*[1], Cristina Miranda[2], M Jose Montoya[3], Sergio Portal[4], M Angeles Vazquez[3], M Jose Miranda[2], Pedro Esbrit[4], Ramon Perez-Cano[1]. [1]HUV Macarena/ University of Seville, Spain, [2]HUV Macarena, Spain, [3]University of Seville, Spain, [4]IVSF Jimenez Diaz, Spain
Disclosures: Mercè Giner, None

SU0028 **Sex-specific Cellular Differences in Mouse Bone with Moderate Iron Elevations Leads to Differences in Mechanical Properties**
Rihana Bokhari*[1], Corinne Metzger[1], Matthew Allen[2], Scott Lenfest[1], Jennifer Kosniewski[1], Derek Seidel[1], Harry Hogan[1], Nancy Turner[1], Sara Zwart[1], Susan Bloomfield[1]. [1]Texas A&M University, United states, [2]Indiana University, United states
Disclosures: Rihana Bokhari, None

SU0029 **Spinal Loading Estimates from a Detailed Musculoskeletal Model of the Thoracolumbar Spine Explains the High Incidence of Vertebral Fractures at the Thoracolumbar Region**
Katelyn Burkhart*[1], Alexander Bruno[1], Brett Allaire[2], Hossein Mokhtarzadeh[3], Dennis Anderson[3], Mary Bouxsein[4]. [1]Harvard-MIT Division of Health Sciences & Technology; Center for Advanced Orthopaedic Studies, Beth Israel Deaconess Medical Center, United states, [2]Center for Advanced Orthopaedic Studies, Beth Israel Deaconess Medical Center, United states, [3]Center for Advanced Orthopaedic Studies, Beth Israel Deaconess Medical Center; Department of Orthopedic Surgery, Harvard Medical School, United states, [4]Harvard-MIT Division of Health Sciences & Technology; Center for Advanced Orthopaedic Studies, Beth Israel Deaconess Medical Center; Department of Orthopedic Surgery, Harvard Medical School, United states
Disclosures: Katelyn Burkhart, None

BIOMECHANICS AND BONE QUALITY: MECHANICAL LOADING EFFECTS IN INTACT ANIMALS

SU0030 **Exogenous Hedgehog Signal Inhibition Impairs Fracture Healing**
Clayton Maschhoff*[1], Xiaochen Liu[1], Jennifer McKenzie[1], Matthew Silva[1], Michael Gardner[2]. [1]Washington University in St. Louis School of Medicine, United states, [2]Stanford University Medical Center, United states
Disclosures: Clayton Maschhoff, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: ASSESSMENT OF BONE DISEASE IN CHILDREN

SU0031 **Childhood Cancer Survivors (CCS) are at High Risk of Reduced Bone Mass during Bone Mass Accrual**
NATASCIA DI IORGI*[1], VERA MORSELLINO[2], ANNALISA GALLIZIA[1], FEDERICA CERONI[3], ANGELA PISTORIO[4], RICCARDO HAUPT[4], MOHAMAD MAGHNIE[1]. [1]University of Genova, Department of Clinical & Experimental Endocrinology, Giannina Gaslini Hospital, Italy, [2]Department of Hematology, Oncology & Bone Marrow Transplantation, Giannina Gaslini Hospital, Italy, [3]Great Ormond Street Hospital, Pediatric & Neonatal Surgery Department, London, United Kingdom, [4]Epidemiology, Biostatistics & Committees Unit, Giannina Gaslini Institute, Italy
Disclosures: NATASCIA DI IORGI, None

SU0032 **Tmem178 deficiency aggravates macrophage activation syndrome by promoting M1 macrophage polarization**
Sahil Mahajan*[1], Corinne Decker[1], Elizabeth Mellins[2], Roberta Faccio[1]. [1]Department of Orthopaedic Surgery, Washington University, United states, [2]Department of Pediatrics, Stanford University, United states
Disclosures: Sahil Mahajan, None

SU0033 **X-Linked Hypophosphatemic Rickets due to a 112kb deletion of the *PHEX* gene and Mosaic Turner Syndrome (45,X/46 XX)**
Alaina P Vidmar*[1], Pedro A Sanchez-Lara[2], Brian Miyazaki[3], Pisit Pitukcheewanont[4]. [1]Center for Endocrinology, Diabetes & Metabolism Children's Hospital of Los Angeles & Keck School of Medicine of University of Southern California, Los Angeles, California, Unites States, United states, [2]Center for Personalized Medicine, Department of Pathology & Pediatrics Children's Hospital Los Angeles & Keck School of Medicine of University of Southern California, Los Angeles, California, United States., United states, [3]Center for Endocrinology, Diabetes & Metabolism. Children's Hospital Los Angeles & Keck School of Medicine of University of Southern California, Los Angeles, California, United States., United states, [4]Center for Endocrinology, Diabetes & Metabolism Children's Hospital Los Angeles & Keck School of Medicine of University of Southern California, Los Angeles, California, United States., United states
Disclosures: Alaina P Vidmar, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: BONE DEVELOPMENT AND BONE MASS ACCRUAL

SU0034 **An Exploratory Analysis of Modeled Bone Stresses at the Radial Metaphysis in the Context of Circum-menarcheal Gymnastic Loading**
Karen Troy*[1], Tamara Scerpella[2], Jodi Dowthwaite[3]. [1]Worcester Polytechnic Institute, United states, [2]University of Wisconsin - Madison, United states, [3]SUNY Upstate Medical University, United states
Disclosures: Karen Troy, None

SU0035 **DXA Trabecular Bone Score Correlates Poorly with Posteroanterior-Lateral Bone Mineral Apparent Density, Exercise Exposure and Key Diet Variables in Pre-pubertal Girls**
Jodi Dowthwaite*[1], Renaud Winzenrieth[2], Dongliang Wang[1], Paula Rosenbaum[1], Tamara Scerpella[3]. [1]SUNY Upstate Medical University, United states, [2]Med-Imaps SASU, France, [3]University of Wisconsin - Madison, United states
Disclosures: Jodi Dowthwaite, None

SU0036 **Insights from Murine Carpal Bone Development into the Pathogenesis of Human Carpal-Tarsal Osteolysis Syndromes: Is Osteolysis Really the Cause?**
Emma Duncan*[1], Syndia Lazarus[2], Hsu-Wen Tseng[2], Felicity Lawrence[3], Mia Woodruff[3], Allison Pettit[4]. [1]Royal Brisbane & Women's Hospital, The University of Queensland & Queensland University of Technology., Australia, [2]The University of Queensland Diamantina Institute, Australia, [3]Queensland University of Technology, Australia, [4]Mater Research Institute - The University of Queensland, Australia
Disclosures: Emma Duncan, None

SU0037 **The Role and Interactions of 25-OHD, Parathyroid Hormone, and Serum Calcium in Pediatric Patients with Fractures Compared with Healthy Controls**
Rocio Crabb*[1], Selina Poon[2], Ashley Olson[3], Sara Merwin[4], Rachel Gecelter[2], Stephen Wendolowski[2], Jare Philip[2], Joanna Fishbein[5], Jahn Avarello[2]. [1]Hofstra Medical School, United states, [2]Cohen Children's Medical Center, United states, [3]Cohen Children's Medical Cente, United states, [4]Montefiore Medical Center, United states, [5]Feinstein Institute for Medical Research, United states
Disclosures: Rocio Crabb, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: BONE LOSS IN PEDIATRICS

SU0038 **Criteria defining low body weight: Which are the most relevant for predicting low bone mineral density in adolescent females with anorexia nervosa?**
Nurgun Kandemir*, Kendra Becker, Vibha Singhal, Shreya Tulsiani, Ryan Woolley, Meghan Slattery, Kamryn Eddy, Madhusmita Misra, Anne Klibanski. Massachusetts General Hospital, United states
Disclosures: Nurgun Kandemir, None

BONE MARROW MICROENVIRONMENT AND NICHES: BONE AND HEMATOPOIESIS

SU0039 **Osteocytes regulate myelopoiesis via secreted factors**
Ehab Azab*[1], Yuhei Uda[2], Chao Shi[2], Christopher Dedic[2], Forest Lai[2], Ningyuan Sun[2], Majed Alshehri[2], Maureen O'Meara[3], Marc Wein[3], keertik Fulzele[2], Paola Divieti Pajevic[1]. [1]Boston University- Department of Molecular & Cell Biology, United states, [2]Boston University, United states, [3]Massachusetts General Hospital, United states
Disclosures: Ehab Azab, None

BONE MARROW MICROENVIRONMENT AND NICHES: BONE AND VASCULATURE

SU0040 **Conditioned-medium of amniotic fluid-derived stromal cells ameliorate bone mass and bone marrow angiogenesis**
Sun Wook Cho*[1], Hyun Jin Sun[1], JoonHo Lee[2], Eun Sil Koh[3], Chan Soo Shin[1]. [1]Seoul National University Hospital, Korea, republic of, [2]Yonsei University College of Medicine, Korea, republic of, [3]National Medical Center, Korea, republic of
Disclosures: Sun Wook Cho, None

SU0041 **Ossified Bone Marrow Blood Vessel Volume and Short-Term Intermittent PTH (1-34) Administration in Mature and Middle-Aged C57BL/6 Mice**
Seungyong Lee*, Rhonda Prisby. University of Delaware, United states
Disclosures: Seungyong Lee, None

BONE MARROW MICROENVIRONMENT AND NICHES: OSTEOIMMUNOLOGY

SU0042 **Evidence to Support Causality of White Blood Cell Counts on Bone Mineral Density**
John Morris*[1], Stephanie Ross[2], William Astle[3], Heather Elding[4], Tao Jian[5], Dace Ruklisa[3], John Danesh[4], David Roberts[6], Willem Ouwehand[3], Adam Butterworth[5], Nicole Soranzo[3], Brent Richards[1]. [1]Department of Human Genetics, McGill University, Canada, [2]Department of Epidemiology, Biostatistics & Occupational Health, McGill University, Canada, [3]Department of Haematology, University of Cambridge, Cambridge Biomedical Campus, United Kingdom, [4]Department of Human Genetics, The Wellcome Trust Sanger Institute, Wellcome Trust Genome Campus, Hinxton, United Kingdom, [5]Department of Public Health & Primary Care, University of Cambridge, Strangeways Research Laboratory, United Kingdom, [6]Blood Research Group, NHS Blood & Transplant, John Radcliffe Hospital, Headley Way, Headington, United Kingdom
Disclosures: John Morris, None

SU0043 **MFG-E8 Mutant Mice Exhibit Reduced Bone Mass and Enhanced Anabolic Response to Parathyroid Hormone**
Megan Michalski*, Benjamin Sinder, Amy Koh, Hernan Roca, Laurie McCauley. University of Michigan, United states
Disclosures: Megan Michalski, None

BONE TUMORS AND METASTASIS: BONE TUMOR MICROENVIRONMENT

SU0044 **IL-32 is produced by myeloma cells in response to hypoxia: potential role for exosomal IL-32 in multiple myeloma bone disease**
Muhammad Zahoor*[1], Siv Moen[2], Marita Westhrin[3], Katarzyna Maria Psonka-Antonczyk[4], Anders Waage[3], Glenn Buene[3], Anne-Marit Sponaas[3], Therese Standal[5]. [1]Centre of Molecular Inflammation Research, Norwegian University of Science & Technology, Trondheim, Norway & Department of Cancer Research & Molecular Medicine, Norwegian University of Science & Technology, Norway, [2]Centre of Molecular Inflammation Research, Norwegian University of Science & Technology, Trondheim, Norway & Department of Cancer Research & Molecular Medicine, Norwegian University of Science & Technology, Norway, [3]Department of Cancer Research & Molecular Medicine, Norwegian University of Science & Technology, Norway, [4]Biophysics & Medical Technology, Department of Physics, Norwegian University of Science & Technology, Trondheim, Norway, Norway, [5]Centre of Molecular Inflammation Research, Norwegian University of Science & Technology, Trondheim, Norway, 2 Department of Cancer Research & Molecular Medicine, Norwegian University of Science & Technology, Norway
Disclosures: Muhammad Zahoor, None

SU0045 **Involvement of the p62/Gfi1 axis in Multiple Myeloma Bone Disease**
Daniela Petrusca*[1], Cheolkyu Park[1], Rebecca Silbermann[1], Dan Zhou[1], Noriyoshi Kurihara[1], Yasuhisa Ohata[1], Judith Anderson[1], G. David Roodman[2]. [1]Indiana University, Department of Medicine/Hematology-Oncology, United states, [2]Indiana University, Department of Medicine/Hematology-Oncology; Rodebush VA, United states
Disclosures: Daniela Petrusca, None

BONE TUMORS AND METASTASIS: GENERAL

SU0046 **Analysis of osteogenic and adipogenic differentiation potential of osteosarcoma cells transformed by Notch1 oncogene**
Kirby Rickel*, Fang Fang, Jianning Tao. Sanford Research & University of South Dakota, United states
Disclosures: Kirby Rickel, None

SU0047 **The Expression of PTH1 and PTH2 Receptors in Bone Marrow is Associated with the Progression of Newly Diagnosed Myeloma Patients**
Maurizio Zangari*[1], Amy Buros[1], Donghoon Yoon[1], Antonio Branca[1], Carolina Schinke[1], Sharmilan Thanendrarajan[1], Larry Suva[2], Meera Mohan[1], Faith Davies[1], Frits van Rhee[1], Gareth Morgan[1]. [1]University of Arkansas for Medical Sciences, United states, [2]Texas A&M University, United states
Disclosures: Maurizio Zangari, None

BONE TUMORS AND METASTASIS: MECHANISMS OF BONE METASTASIS

SU0048 **Abrogation of prostaglandin E and its receptor EP4 signaling in osteoblasts prevents the bone destruction induced by human prostate cancer**
Kenta Watanabe[1], Michiko Hirata[1], Tsukasa Tominari[1], Takayuki Maruyama[2], Masaki Inada*[1], Chisato Miyaura[1]. [1]Tokyo University of Agriculture & Technology, Japan, [2]Ono Pharmaceutical Co., Ltd., Japan
Disclosures: Masaki Inada, None

BONE TUMORS AND METASTASIS: THERAPEUTIC TARGETS FOR BONE TUMORS

SU0049 **Effects Of P2X7R Activation On Receptor And Cell Functions In Human Myeloma Cell Lines**
Ankita Agrawal*[1], Lars Kruse[1], Annette Vangsted[2], Alison Gartland[3], Niklas Joergensen[1]. [1]The Research Centre for Ageing & Osteoporosis, Department of Clinical Biochemistry, Rigshospitalet, Glostrup, Denmark., Denmark, [2]Department of Haematology, Rigshospitalet, Copenhagen, Denmark, Denmark, [3]The Mellanby Centre for Bone Research, Department on Human Metabolism, The University of Sheffield, Sheffield, UK, United Kingdom
Disclosures: Ankita Agrawal, None

SU0050 **Secreted microRNAs from Prostate Cancer Cells: Novel Therapeutic Targets**
Nicholas Farina*[1], Cody Callahan[1], Coralee Tye[1], Joseph Boyd[1], Gary Stein[2], Janet Stein[3], Jane Lian[4]. [1]University of Vermont, United states, [2]University of Vermont Medical School, United states, [3]Unviersity of Vermont, United states, [4]University opf Vermont, United states
Disclosures: Nicholas Farina, None

SU0051 **The histone methyltransferase EZH2 is a novel therapeutic target in multiple myeloma bone disease**
Juraj Adamik*[1], Peng Zhang[1], Quanhong Sun[1], Rebecca Silbermann[2], G. David Roodman[3], Deborah L. Galson[1]. [1]University of Pittsburgh, United states, [2]Indiana University, United states, [3]University of Indiana, Veterans Administration Medical center, United states
Disclosures: Juraj Adamik, None

CHONDROCYTES AND CARTILAGE MATRIX: ARTICULAR CARTILAGE

SU0052 **Coculture with Adipose Derived Stem Cells Inhibits Inflammation and Improves Differentiation of ATDC5 Chondrogenic Progenitor Cells**
Zhibo Sun*, Xiaoyan Tang, Lakshmi Nair, Cato Laurencin. UConn Health Center, United states
Disclosures: Zhibo Sun, None

SU0053 **Inhibition of Osteoclast-secreted Sphingosine 1 Phosphate reduces chondrocyte catabolism and prevents osteoarthritis in mice**
Chahrazad CHERIFI*[1], Augustin LATOURTE[1], Pascal RICHETTE[2], Eric HAY[3], Martine COHEN-SOLAL[2]. [1]INSERM U1322, UNIVERSITY PARIS 7, France, [2]INSERMu1132, University Paris7, Hopital Lariboisiere, France, [3]INSERMu1132, University Paris7, France
Disclosures: Chahrazad CHERIFI, None

SU0054 **Secreted factors from synovial fibroblasts immediately regulate gene expression in articular chondrocytes**
Anke Jeschke*, Martin Bonitz, Stephanie Peters, Michael Amling, Thorsten Schinke. Department of Osteology & Biomechanics, University Medical Center Hamburg Eppendorf, Germany
Disclosures: Anke Jeschke, None

SU0055 **The role of camk in degenerative cartilage of rats mandibular condylar induced by unilateral anterior crossbite**
Xianghong Wan[1], Mian Zhang[1], Jing Zhang[1], Lei Lu[1], Hongyun Zhang[2], Hongxu Yang[1], Meiqing Wang*[1]. [1]College of Stomatology, Fourth Military Medical University, China, [2]College of Stomatology, Forth Military Medical University, China
Disclosures: Meiqing Wang, None

CHONDROCYTES AND CARTILAGE MATRIX: GENERAL

SU0056 **Changes in the phosphorylation of guanylyl cyclase-B (GC-B) regulates bone growth in a mouse model**
Jerid Robinson*[1], Leia Shuhaibar[2], Siu-Pok Yee[2], Laurinda Jaffe[2], Lincoln Potter[1]. [1]University of Minnesota, United states, [2]University of Connecticut Health Centers, United states
Disclosures: Jerid Robinson, None

SU0057 **Dwarfism in Agc1-Cre Mice is Associated With Decreased Expression of Aggrecan in Chondrocytes**
Harunur Rashid*, Haiyan Chen, Mohammad Hassan, Amjad Javed. Department of Oral & Maxillofacial Surgery, School of Dentistry, University of Alabama at Birmingham, United states
Disclosures: Harunur Rashid, None

SU0058 **Novel Intracellular Function of CCN2 -Role of Interaction Between CCN2 and Rab14 in Vesicle Trafficking in Chondrocytes-**
Mitsuhiro Hoshijima*[1], Takako Hattori[2], Eriko Aoyama[3], Takashi Nishida[2], Satoshi Kubota[2], Hiroshi Kamioka[4], Masaharu Takigawa[3]. [1]Department of Orthodontics Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Advanced Research Center for Oral & Craniofacial Sciences, Japan, [2]Department of Biochemistry & Molecular Dentistry Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan, [3]Advanced Research Center for Oral & Craniofacial SciencesOkayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan, [4]Department of Orthodontics Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan
Disclosures: Mitsuhiro Hoshijima, None

CHONDROCYTES AND CARTILAGE MATRIX: NORMAL AND ECTOPIC MINERALIZATION

SU0059 **Targeting Developmental Phases of Heterotopic Ossification with BMP Receptor Inhibitors Allows for Delayed, Short-term Treatment**
Shailesh Agarwal*[1], Shawn Loder[1], John Li[1], Christopher Breuler[1], James Drake[1], Cameron Brownley[1], Jonathan Peterson[1], Kavitha Ranganathan[1], Oluwatobi Eboda[1], Hsiao Hsin Sung[1], Shuli Li[1], Nabuhiro Kamiya[2], Yuji Mishina[1], Benjamin Levi[1]. [1]University of Michigan, United states, [2]University of Texas - Southwestern, United states
Disclosures: Shailesh Agarwal, None

CHONDROCYTES AND CARTILAGE MATRIX: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

SU0060 **Epigenetic Regulator, Uhrf1, Controls not Only Cell Proliferation but Also Chondrocyte Differentiation During Limb Development**
Michiko Yamashita*, Kazuki Inoue, Iori Sakakibara, Yuuki Imai. Division of Integrative Pathophysiology, Proteo-Science Center, Ehime University, Japan
Disclosures: Michiko Yamashita, None

ENERGY METABOLISM AND BONE: DIABETES AND BONE (ANIMAL MODELS)

SU0061 **Exercise or Caloric Restriction Treatments Beneficially Affect Trabecular Microarchitecture, while Cortical Bone Strength is only Improved with Exercise in Obese, T2D rats**
Laura Ortinau*, Matthew Richard, Rebecca Dirkes, Melissa Linden, R. Scott Rector, Pamela Hinton. University of Missouri, United states
Disclosures: Laura Ortinau, None

ENERGY METABOLISM AND BONE: DIABETES AND BONE (ANIMAL MODELS)

SU0062 **Role of Panx1-P2X7R Signaling in Anabolic Bone Response of Type 1 Diabetic Mice**
Zeynep Seref-Ferlengez*[1], Aylin E. Uyar[1], Marcia Urban-Maldonado[1], Mitchell B. Schaffler[2], Hui B. Sun[1], Sylvia O. Suadicani[1], Mia M. Thi[1]. [1]Albert Einstein College of Medicine, United states, [2]City College of New York, United states
Disclosures: Zeynep Seref-Ferlengez, None

ENERGY METABOLISM AND BONE: FAT AND BONE

SU0063 **Association of Increased Serum Leptin with Ameliorated Anemia and Body Mass Index in Stage 5 Chronic Kidney Disease Patients after Parathyroidectomy**
Yao Jiang[1], Jingjing Zhang[1], Yanggang Yuan[1], Xiaoming Zha[1], Changying Xing[1], Chong Shen[2], Zhixiang Shen[3], Chao Qin[1], Ming Zeng[1], Guang Yang[1], Huijuan Mao[1], Bo Zhang[1], Xiangbao Yu[1], Bin Sun[1], Chun Ouyang[1], Xueqiang Xu[1], Yifei Ge[1], Jing Wang[1], Lina Zhang[1], Chen Cheng[1], Caixia Yin[1], Jing Zhang[1], Huimin Chen[1], Haoyang Ma[1], Ningning Wang*[1]. [1]The First Affiliated Hospital with Nanjing Medical University, China, [2]Nanjing Medical University, China, [3]Jiangsu Province Geriatric Hospital, China
Disclosures: Ningning Wang, None

SU0064 **Does the Adipokine, Adiponectin, play a role in the Coupling between Fat and Bone?**
Jillian Cornish*, David Musson, Dorit Naot. University of Auckland, New zealand
Disclosures: Jillian Cornish, None

SU0065 **High Fat Diet-Induced Maternal Obesity Programs Skeletal Development in Mice**
Jin-Ran Chen*, Oxana P. Lazarenko, Michael L. Blackburn, Kartik Shankar. Arkansas Children's Nutrition Center & the Department of Pediatrics, University of Arkansas for Medical Sciences, United states
Disclosures: Jin-Ran Chen, None

SU0066 **The Relationship between Insulin Resistance and Lipids Overflow with Marrow Adipose Tissue (MAT) and Bone Mineral Density (BMD)**
Iana de Araújo*, Carlos Salmon, Marcello Nogueira Barbosa, Jorge Elias Jr, Francisco de Paula. Ribeirao Preto Medical School, University of São Paulo, Brazil
Disclosures: Iana de Araújo, None

ENERGY METABOLISM AND BONE: GENERAL

SU0067 **Glucose intolerance induced by persistent activation of calcium-sensing receptor**
Kiyoe Kurahashi*[1], Itsuro Endo[1], Mayuko Nakamura[1], Yukiyo Ohnishi[1], Takeshi Kondo[1], Shinichi Aizawa[2], Toshio Matsumoto[3], Seiji Fukumoto[3], Masahiro Abe[1]. [1]Department of Medicine & Bioregulatory Sciences, University of Tokushima Graduate School of Medical Sciences, Japan, [2]Genetic Engineering Team, RIKEN Center for Life Science Technologies, Japan, [3]Fujii Memorial Institute of Medical Sciences, Tokushima University, Japan
Disclosures: Kiyoe Kurahashi, None

SU0068 **No Association Between the Bone Turnover Markers CTX and P1NP and Insulin Sensitivity or Beta-cell Function in Healthy men**
Morten Frost*, Kurt Højlund, Jens-Jacob Lauterlein, Henning Beck-Nielsen. Department of Endocrinology, Denmark
Disclosures: Morten Frost, None

SU0069 **Regulation of Mitochondrial Uniporter Expression by 1,25-Dihydroxyvitamin D_3 in Human Muscle Cells**
Zachary Ryan, Xuewei Wang, Rajiv Kumar*. Mayo Clinic, United states
Disclosures: Rajiv Kumar, None

SU0070 **Role of Phosphate in the Central Ox/Phos Metabolic Processes and Its Linkage to Collagen Production**
Amira Hussein*, Kevin Blank, Deven Carroll, Kyle Lybrand, Margaret Cooke, Heather Matheny, Brenna Hogue, Serkalem Demissie, Louis Gerstenfeld. Boston University, United states
Disclosures: Amira Hussein, None

SU0071 **Treatment with soluble activin type IIB receptor rescues ovariectomy-induced bone loss and fat gain in mice**
Tero Puolakkainen*[1], Petri Rummukainen[1], Olli Ritvos[2], Eriika Savontaus[1], Riku Kiviranta[1]. [1]University of Turku, Finland, [2]University of Helsinki, Finland
Disclosures: Tero Puolakkainen, None

GENETIC MODELS OF MUSCULOSKELETAL DISEASES: ANIMAL MODELS

SU0072 ***Rhbdf2* knock-out mice display distinct bone phenotypes: a genetic association study with Collaborative Cross mice**
Roei Levy*[1], Clemence Levet[2], Keren Cohen[1], Mathew Freeman[2], Richard Mott[3], Fuad Iraqi[1], Yankel Gabet[1]. [1]Tel Aviv University, Israel, [2]Dunn School of Pathology, United Kingdom, [3]UCL Genetics Institute, United Kingdom
Disclosures: Roei Levy, None

SU0073 **Calcium Metabolism of 6 and 17 Month-old Vitamin D Receptor Knockout Mice: A Pilot Study**
Yu-ra Choi*[1], Clara Yongjoo Park[1], Xiangguo Che[1], Na-Rae Park[1], Da-In Yeo[1], Shigeaki Kato[2], Je-Yong Choi[1]. [1]Kyungpook National University, Korea, republic of, [2]Soma Central Hospital, Japan
Disclosures: Yu-ra Choi, None

SU0074 **Characterization of a Mouse Model with a cMET Mutation-Causing Osteofibrous Dysplasia**
Ralph Zirngibl*[1], Andrew Wang[1], Simon Kelley[2], Raymond Poon[2], Benjamin Alman[3], Peter Kannu[2], Irina Voronov[1]. [1]University of Toronto, Canada, [2]Hospital for Sick Children, Canada, [3]Duke University, United states
Disclosures: Ralph Zirngibl, None

SU0075 **Differential Roles of Runx2 Deficiency in Chondrocytes and Osteoblasts for Cleidocranial Dysplasia**
Kayla King*[1], Harunur Rashid[1], Mitra Adhami[1], Haiyan Chen[1], Yang Yang[2], Amjad Javed[1]. [1]Department of Oral & Maxillofacial Surgery, School of Dentistry, University of Alabama at Birmingham, United states, [2]Department of Pathology, School of Dentistry, University of Alabama at Birmingham, United states
Disclosures: Kayla King, None

SU0076 **P2X7 receptor inhibition reduces bone resorption in vivo**
Solveig Petersen*[1], Maria Ellegaard[1], Susanne Syberg[1], Peter Schwarz[2], Michael Boes[3], Niklas Rye Jørgensen[4]. [1]Copenhagen University Hospital Rigshospitalet, Denmark, [2]Copenhagen University Hospital Rigshospitalet & Faculty of Health & Medical Sciences, University of Copenhagen, Denmark, [3]Affectis Pharmaceuticals AG, Martinsried, Germany, Germany, [4]Copenhagen University Hospital Rigshospitalet & University of Southern Denmark, Denmark
Disclosures: Solveig Petersen, None

SU0077 **Phenotypic Severity of Autosomal Dominant Osteopetrosis Type II (ADO2) Mice on Different Genetic Backgrounds Recapitulates the Features of Human Disease**
Imranul Alam*, Dana Oakes, Amie McQueen, Dena Acton, Austin Reilly, Rita Gerard-O'Riley, Michael Econs. Indiana University School of Medicine, United states
Disclosures: Imranul Alam, None

SU0078 **Spatiotemporal Regulation of Osteogenesis and Angiogenesis in Autograft and Allograft Repair**
Tao Wang, Xinping Zhang*. University of Rochester Medical Center, United states
Disclosures: Xinping Zhang, None

SU0079 **Transcriptomic Analysis of Osteoclasts from Autosomal Dominant Osteopetrosis type2 (ADO2) Mice harboring the G213R Mutation of the Chloride-Proton Antiporter type 7 (ClC7)**

Antonio Maurizi*[1], Nadia Rucci[1], Tina Schleicher[2], Yadhu Kumar[2], Anna Teti[1], Mattia Capulli[1]. [1]Dept. of Biotechnological & Applied Clinical Sciences, University of L'Aquila, Italy, [2]GATC Biotech AG, Germany

Disclosures: Antonio Maurizi, None

GENETIC MODELS OF MUSCULOSKELETAL DISEASES: MONOGENIC BONE DISEASES

SU0080 **CNP/NPRB Signaling Expands the Hypertrophic Zone in the Growth Plate Cartilage by Modulating Cell Cycle**

Keiko Yamamoto*[1], Masanobu Kawai[1], Miwa Yamazaki[2], Kanako Tachikawa[1], Wei Wang[3], Takuo Kubota[3], Keiichi Ozono[3], Toshimi Michigami[1]. [1]Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [2]Osaka Medical Center & Research Institute for Maternal Child Health, Japan, [3]Osaka University Graduate School of Medicine, Japan

Disclosures: Keiko Yamamoto, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE: GENE EXPRESSION

SU0081 **Femoral Geometry Parameters Correlate to Bone Bene Expression Levels and Differ Between Osteoporotic and Healthy Postmenopausal Women**

Sjur Reppe*[1], Yi-Hsiang Hsu[2], Thomas Beck[3], Ole K. Olstad[1], Vigdis T. Gautvik[4], David Karasik[5], Kaare M. Gautvik[6]. [1]Oslo University Hospital, Norway, [2]Harvard Medical School, Institute of Aging research, United states, [3]Beck Radiological Innovations, United states, [4]University of Oslo, Institute of Basic Medical Sciences, Norway, [5]Bar-Ilan University, Faculty of Medicine, Israel, [6]University of Oslo, Norway

Disclosures: Sjur Reppe, None

SU0082 **Unique transcriptomic signatures in the mouse skull vault**

Yong Wan, Matthew Rogers, Brian Cusack, Heather Szabo-Rogers*. University of Pittsburgh, United states

Disclosures: Heather Szabo-Rogers, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE: GENETIC ASSOCIATION STUDIES

SU0083 **A haplotype in the CYP19A1 gene is associated with variable musculoskeletal response to testosterone therapy in men with hypogonadism**

Georgia Colleluori*[1], Lina Aguirre[2], Richard Dorins[2], David Robbins[2], Clifford Qualls[3], Dean Blevins[1], Dean Blevins[1], Dennis Villareal[4], Reina Villareal[4]. [1]Baylor College of Medicine, United states, [2]New Mexico VA Health Care System, United states, [3]University of New Mexico School of Medicine, United states, [4]Michael E. DeBakey VA Medical Center, United states

Disclosures: Georgia Colleluori, None

SU0084 **Comparative Gene-based Analysis for Consecutive Studies of GEFOS**

Wei Zhu*[1], Hong-wen Deng[1], Kehao Wu[2], Hao He[1], Lan Zhang[1], Yong Zeng[1]. [1]Tulane University, United states, [2]Tulane, United states

Disclosures: Wei Zhu, None

SU0085 **The Human P2X7 Receptor Single-Nucleotide Polymorphism 853G>A Is Associated With Fracture Prevalence**
Lars Kruse*[1], Maria Ellegaard[1], Magnus Karlsson[2], Björn Rosengren[2], Mattias Lorentzon[3], Claes Ohlsson[3], Dan Mellström[3], Peter Schwarz[4], Niklas Rye Jørgensen[5]. [1]Research Centre of Ageing & Osteoporosis, Departments of Biochemistry & Endocrinology, Rigshospitalet, Copenhagen, Denmark, Denmark, [2]Clinical & Molecular Osteoporosis Research Unit, Department of Clinical Sciences & Orthopaedics, Skåne University Hospital, Lund University, Malmö, Sweden, [3]Center for Bone & Arthritis Research, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden, [4]Research Centre of Ageing & Osteoporosis, Departments of Biochemistry & Endocrinology, Rigshospitalet, Copenhagen, Denmark & Faculty of Health & Medical Sciences, University of Copenhagen, Denmark, Denmark, [5]Research Centre of Ageing & Osteoporosis, Departments of Biochemistry & Endocrinology, Rigshospitalet, Copenhagen, Denmark & Institute of Clinical Research, University of Southern Denmark, Odense, Denmark, Denmark
Disclosures: Lars Kruse, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE: PROTEOMICS

SU0086 **Network Based Subcellular Proteomics in Monocyte Membrane Revealed Novel Candidate Genes Involved in Osteoporosis**
Yong Zeng*[1], Lan Zhang[2], Wei Zhu[2], Hui Sheng[2], Hao He[2], Yu Zhou[2], Qing Tian[2], Fei-Yan Deng[3], Li-Shu Zhang[1], Hong-Gang Hu[1], Hong-Wen Deng[2]. [1]Beijing Jiaotong University, China, [2]Tulane University, United states, [3]Soochow University, China
Disclosures: Yong Zeng, None

HORMONAL REGULATORS: FGF23 AND OTHER PHOSPHATONINS

SU0087 **FGF23 Neutralizing Antibody Ameliorates Hypophosphatemia and Impaired FGF Receptor Signaling in Kidneys of FGF2 High Molecular Weight Isoform Transgenic Mice**
erxia du*, Liping Xiao, Marja Hurley. Uconn Health, United states
Disclosures: erxia du, None

SU0088 **Klotho Lacks a Fgf23 Independent Role in Mineral Homeostasis**
Olena Andrukhova*[1], Jessica Bayer[2], Ute Zeitz[2], Sathish Kumar Murali[2], Reinhold Gottfried Erben[2]. [1]Department of Biomedical Sciences University of Veterinary Medicine, Austria, [2]Department of Biomedical Sciences University of Veterinary Medicine, Austria
Disclosures: Olena Andrukhova, None

SU0089 **Regulation of FGF23 Production by Extra-Long Gsα Variant XLαs in Acute Kidney Injury**
Qing He*[1], Marc Wein[1], Jordan Spatz[1], Antonius Plagge[2], Paola Divieti Pajevic[3], Harald Jüppner[1], Murat Bastepe[1]. [1]Endocrine Unit, Department of Medicine, Massachusetts General Hospital & Harvard Medical School, Boston, MA, USA, United states, [2]Department of Cellular & Molecular Physiology, Institute of Translational Medicine University of Liverpool, Liverpool, United Kingdom, United Kingdom, [3]Department of Molecular & Cell Biology, Goldman School of Dental Medicine, Boston University, Boston, MA, USA, United states
Disclosures: Qing He, None

SU0090 **The Regulatory Mechanisms of FGF23 Activity via *GALNT3* by Phosphate**
Yuichi Takashi*[1], Yuka Kinoshita[2], Nobuaki Ito[2], Maria Tsoumpra[1], Shun Sawatsubashi[1], Toshio Matsumoto[1], Seiji Fukumoto[1]. [1]Tokushima University, Japan, [2]The University of Tokyo Hospital, Japan
Disclosures: Yuichi Takashi, None

HORMONAL REGULATORS: OTHER HORMONES

SU0091 **Does the lactation/low Ca model of induced bone remodeling affect circulating mineral metabolism markers?**
Ryan Ross*, Brittany Wilson, Rick Sumner. Rush University Medical Center, United states
Disclosures: Ryan Ross, None

SU0092 **H4(99-103) is an Endogenous Peptide that Signals via the CB2 Cannabinoid Receptor**
Bitya Raphael*[1], Natalya Kogan[2], Malka Attar-Namdar[2], mukesh Chourasia[3], Avital Shurki[3], Roger G. Pertwee[4], Maria G. Cascio[5], Andreas Zimmer[6], Itai Bab[2], Yankel Gabet[1]. [1]Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel, Israel, [2]Bone Laboratory, Institute of Dental Sciences, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, Israel, Israel, [3]Institute for Drug Research, Faculty of Medicine, Hebrew University of Jerusalem, Jerusalem, Israel, Israel, [4]Institute of Medical Sciences, University of Aberdeen, Aberdeen, Scotland, United Kingdom, United Kingdom, [5]Institute of Medical Sciences, University of Aberdeen, Aberdeen, Scotland, United Kingdom, United Kingdom, [6]Institute of Molecular Psychiatry, University of Bonn, Bonn, Germany, Germany
Disclosures: Bitya Raphael, None

HORMONAL REGULATORS: PARATHYROID HORMONE AND CALCIUM SENSING RECEPTORS

SU0093 **Calcium fluxes at the bone-plasma interface: effects of parathyroid hormone**
Christopher Dedic*[1], Jacky T. Hung[2], Alan M. Shipley[3], Andrew L. Miller[2], Joseph G. Kunkel[4], Paola Divieti Pajevic[1], Alessandro Rubinacci[5]. [1]Goldman School of Dental Medicine, Boston University, United states, [2]HKUST, Division of Life Science, China, [3]Applicable Electronics LLC, United states, [4]Marine Science Center, University of New England, United states, [5]Bone Metabolism Unit, Scientific Institute San Raffaele, Italy
Disclosures: Christopher Dedic, None

SU0094 **Novel BAT precursor-derived cell lines with normal *Gnas* methylation maintain predominantly maternal Gsα expression: new tools for studying paternal Gsα regulation**
Olta Tafaj*[1], Harald Jüppner[1], Steven Hann[2], Matthew Warman[2], Lee S. Weinstein[3]. [1]MGH, United states, [2]Boston Children's Hospital, United states, [3]National Institutes of Health, United states
Disclosures: Olta Tafaj, None

HORMONAL REGULATORS: SEX HORMONES AND GLUCOCORTICOIDS

SU0095 **Comparison of Frequency of Glucocorticoid-induced Osteoporosis and Osteonecrosis in Three Different Mice Strains**
Geetha Mohan*[1], Kie Shidara[1], Evan Lay[1], Alexander Kot[1], Hongliang Zhang[1], Tara Rogers[1], Karl Jepsen[2], Wei Yao[1], Nancy Lane[1]. [1]UC Davis Medical Center, United states, [2]University of Michigan, United states
Disclosures: Geetha Mohan, None

HORMONAL REGULATORS: OTHER HORMONES

SU0096 **Opposing Actions of SHH and IHH Control Transition of Proliferating Immature Chondrocytes into Mature Hypertrophic Chondrocytes during Secondary Center Ossification**
Patrick Aghajanian*, Weirong Xing, Shaohong Cheng, Sheila Pourteymoor, Subburaman Mohan. VA Loma Linda Healthcare System, United states
Disclosures: Patrick Aghajanian, None

HORMONAL REGULATORS: SEX HORMONES AND GLUCOCORTICOIDS

SU0097 **Glucocorticoids suppress OPG expression in vivo and negatively affect cortical bone by acting directly on osteoblast-lineage cells**
Marilina Piemontese*, Yu Liu, Jinhu Xiong, Yuko Fujiwara, Priscilla Baltz, Charles OBrien. University of Arkansas for Medical Sciences, United states
Disclosures: Marilina Piemontese, None

SU0098 **Optimal dose of tamoxifen for inducible Cre recombinase technology in male mouse bone**
Ferran Jardi*[1], Michael Laurent[1], Vanessa Dubois[2], Rougin Khalil[1], Ludo Deboel[1], Brigitte Decallone[1], Geert Carmeliet[1], Ludo Van den Bosch[3], Frank Claessens[1], Dirk Vanderschueren[1]. [1]KU Leuven, Belgium, [2]Institut Pasteur de Lille, France, [3]VIB, Belgium
Disclosures: Ferran Jardi, None

SU0099 **Phosphorylation of S122 in ERα is Important for the Skeletal Response to Estrogen Treatment**
Karin Gustafsson[1], Sofia Movérare-Skrtic*[1], Vikte Lionikaite[1], Helen Farman[1], Jianyao Wu[1], Petra Henning[1], Annica Andersson[1], Ulrika Islander[1], Angelina Bernardi[1], Sara Windahl[1], Klara Sjögren[1], Antti Koskela[2], Juhu Tuukkanen[2], Andree Krust[3], Pierre Chambon[3], Claes Ohlsson[1], Marie Lagerquist[1]. [1]Centre for Bone & Arthritis Research, Sahlgrenska Academy at University of Gothenburg, Sweden, [2]Department of Anatomy & Cell Biology, University of Oulu, Finland, [3]Institut de Génétique et de Biologie Moléculaire et Cellulaire (CNRS, INSERM, ULP, Collège de France), France
Disclosures: Sofia Movérare-Skrtic, None

SU0100 **Sex Differences in the Regulation of Circadian Genes by Glucocorticoid Treatment**
Tara Rogers*, Sidhartha Hazari, Evan Lay, Geetha Mohan, Aris Alexandrou, Wei Yao, Nancy Lane. UC Davis Medical Center, United states
Disclosures: Tara Rogers, None

HORMONAL REGULATORS: VITAMIN D AND ANALOGS

SU0101 **1,25-dihydroxyvitamin D treatment leads to FGF23 resistance in the Hyp mouse model of XLH**
Janaina Da Silva Martins*, Eva Liu, Marie Demay. Massachusetts General Hospital, United states
Disclosures: Janaina Da Silva Martins, None

SU0102 **Automated ELISA For Direct Measurement of Free 25OH Vitamin-D**
Ernst Lindhout*[1], Leon Swinkels[1], Marloes Geurts[1], Mike Martens[1], Nicolas Heureux[2]. [1]Future Diagnostics, Netherlands, [2]DIAsource Immunoassays, Belgium
Disclosures: Ernst Lindhout, None

SU0103 **Vitamin D deficiency disrupts male gonadal function through extensive changes in both reproductive and hormone producing cells**
Jiarong Li*[1], Xiuying Bai[2], Andrew Karaplis[2], Richard Kremer[1]. [1]MUHC, Canada, [2]Lady Davis Institute, Canada
Disclosures: Jiarong Li, None

MECHANOBIOLOGY: CELLULAR AND MOLECULAR EFFECT OF MECHANICAL LOADING AND UNLOADING

SU0104 **Ablation of proliferating osteoblasts reduces loading-induced bone formation**
Heather Zannit*, Michael Brodt, Matthew Silva. Washington University in St. Louis, United states
Disclosures: Heather Zannit, None

SU0105 **IL-17R and RANKL Expression Following In Vivo Fatigue Loading**
Michael Turturro*[1], Travis McCumber[1], John Billheimer[2], Mohammed Akhter[2], Diane Cullen[1]. [1]Creighton University School of Medicine, United states, [2]Creighton University, United states
Disclosures: Michael Turturro, None

SU0106 **Unique Osteon Patterns Form in Response to Loading and Intermittent PTH Injections**
Ke Wang*[1], Yuan Hui[2], Yinshi Ren[3], Ying Liu[4], Xianglong Han[5], Jianquan Feng[4]. [1]Department of Biomedical Science, Texas A&M Health Science Center, Baylor College of Dentistry, United states, [2]Department of Orthodontics, Fourth Military Medical of University, China, [3]Cellular, Developmental, & Genome Laboratories, Musculoskeletal Research Center, Duke University, United states, [4]Department of Biomedical Science, Texas A&M Health Science Center, Baylor College of Dentistry, Dallas, United states, [5]State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, China
Disclosures: Ke Wang, None

MECHANOBIOLOGY: CELLULAR AND MOLECULAR MECHANOSENSING

SU0107 **Myosin Motors Direct mTORC2 Recruitment to the Cell Membrane to Regulate MSC Lineage Fate**
William Thompson*[1], Yong Li[1], Gunes Uzer[2], Janet Rubin[2]. [1]Indiana University, United states, [2]University of North Carolina, United states
Disclosures: William Thompson, None

SU0108 **Taxol-induced stabilization of the microtubule network blunts the osteoblast/osteocyte response to fluid flow shear stress**
James Lyons*, Jaclyn Kerr, Christopher Ward, Joseph Stains. University of Maryland Baltimore, United states
Disclosures: James Lyons, None

MECHANOBIOLOGY: GENERAL

SU0109 **Collagen Fibers in Human Osteons are Visible by Green Polarization Interference Color Staining**
Santiago Gomez*. Departamento de Anatomía Patológica, University of Cadiz, Spain
Disclosures: Santiago Gomez, None

MUSCLE BIOLOGY AND BONE-MUSCLE CROSSTALK: AGING MECHANISMS

SU0110 **Prostaglandin E2 signaling through EP4 receptor interacts with Keap1/Nrf-2 pathway in myogenesis and aging**
Chenglin Mo*[1], Lynda Bonewald[2], Marco Brotto[1]. [1]University of Texas-Arlington, United states, [2]University of Missouri-Kansas City, United states
Disclosures: Chenglin Mo, None

MUSCLE BIOLOGY AND BONE-MUSCLE CROSSTALK: CELLULAR AND MOLECULAR INTERACTIONS

SU0111 **Differential Effects of the Muscle Factors, Irisin and BAIBA on Osteoblasts and Osteocytes**
Tsutomu Matsumoto*[1], Yukiko Kitase[1], Bruce Spiegelman[2], Lynda Bonewald[1], Christiane Wrann[2]. [1]university of missouri-kansas city school of dentistry, department of oral & craniofacial science, United states, [2]Dana-Farber Cancer Institute,and Department of Cell Biology Harvard Medical School, United states
Disclosures: Tsutomu Matsumoto, None

SU0112 **Therapeutic Effect of Alendronate on Skeletal Muscle Atrophy *in vitro* and *in vivo***
Shing-Hwa Liu*, Rong-Sen Yang, Chen-Yuan Chiu. National Taiwan University, Taiwan, province of china
Disclosures: Shing-Hwa Liu, None

MUSCLE BIOLOGY AND BONE-MUSCLE CROSSTALK: GENERAL

SU0113 **The Role of a Novel Gene, Fam210a (family with sequence similarity 210, member a) in Bone and Muscle**
Ken-ichiro Tanaka*[1], Yingben Xue[1], J Brent Richards[2], David Goltzman[1]. [1]Calcium Research Laboratory, McGill University Health Centre, & Division of Endocrinology, Department of Medicine, McGill University, Montreal, Quebec, Canada, Canada, [2]Departments of Medicine, Human Genetics, Epidemiology & Biostatistics, McGill University, Montreal, Quebec, Canada, Canada
Disclosures: Ken-ichiro Tanaka, None

MUSCULOSKELETAL AGING: BONE

SU0114 **Age Affects Bone Regeneration in the Murine Rib Resection Model**
Katelyn Malchester*[1], Peter Fung[1], Cindy Choi[1], Payal Verma[1], Denise Liberton[1], Murat Sincan[1], Danielle Donahue[1], Brenda Klaunberg[1], Tina Kilts[1], Marian Young[1], Stephanie Kuwahara[2], Francesca Mariani[2], Janice Lee[1]. [1]NIDCR, United states, [2]USC, United states
Disclosures: Katelyn Malchester, None

SU0115 **Association of Magnesium with Blood and Urinary Bone Biomarkers in Osteopenic Postmenopausal Women**
Kelli George*, Neda Akhavan, Shirin Pourafshar, Negin Navaei, Elizabeth Foley, Elizabeth Clark, Bahram Arjmandi. Florida State University, United states
Disclosures: Kelli George, None

SU0116 **Blood flow regulates function of endothelium in the skeletal system**
Saravana Ramasamy*[1], Anjali Kusumbe[2], Ralf Adams[1]. [1]Max Planck Institute for Molecular Biomedicine, Germany, [2]Max Planck Institute for Molecular Biomedicine, India
Disclosures: Saravana Ramasamy, None

SU0117 **Is Age-Related Bone Loss Microbiota Dependent?**
Jing Yan*[1], Jeremy Herzog[2], Kelly Tsang[1], Maureen Bower[2], Balfour Sartor[2], Antonios Aliprantis[1], Julia Charles[1]. [1]Brigham & Women's Hospital, United states, [2]University of North Carolina at Chapel Hill, United states
Disclosures: Jing Yan, None

SU0118 **Loss of the Longevity Gene SirT1 Dysregulates Chondrocytes and Leads to an Arthritic Phenotype In Vivo, Via Impaired Autophagy**
Pradeep Kumar Sacitharan*[1], Tonia Vincent[1], James R Edwards[2]. [1]Kennedy Institute of Rheumatology, University of Oxford, United Kingdom, [2]The Botnar Research Centre, University of Oxford, United Kingdom
Disclosures: Pradeep Kumar Sacitharan, None

SU0119 **The intracortical accumulation of enlarged lacunae is a key contributor to the increased cortical porosity and trabecularization during aging**
Christina Møller Andreasen*[1], Jean-Marie Delaisse[2], Bram C. J. van der Eerden[3], Dorie Birkenhäger-Frenkel[3], Johannes P. T. M. van Leeuwen[3], Ming Ding[1], Thomas Levin Andersen[2]. [1]Orthopaedic Research Laboratory, Department of Orthopaedic Surgery & Traumatology, Odense University Hospital, Institute of Clinical Research, University of Southern Denmark, Denmark, [2]Department of Clinical Cell Biology, Vejle Hospital/ Lillebaelt Hospital, Institute of Regional Health Research, University of Southern Denmark, Denmark, [3]Laboratory for Calcium & Bone Metabolism, Department of Internal Medicine, Erasmus MC, Netherlands
Disclosures: Christina Møller Andreasen, None

MUSCULOSKELETAL AGING: BONE AND MUSCLE INTERACTIONS

SU0120 **Body Composition Phenotype of Osteosarcopenia, Osteoporosis and Sarcopenia: SARCOS Study**
Alberto Frisoli Jr*, Fabiola Martin, Sheila Ingham, Antonio Carlos Carvalho. Universidade Federal de São Paulo, Brazil
Disclosures: Alberto Frisoli Jr, None

SU0121 **HISTORY OF FALLS, SUBJECTIVE WELL-BEING, HEALTH BEHAVIOR AND OTHER HEALTH FACTORS AS PREDICTORS OF FALLS IN POSTMENOPAUSAL WOMEN**
Risto Honkanen[1], Nadia Afrin*[1], Pyry Lykkala[1], Päivi Rauma[1], Heikki Kröger[2], Toni Rikkonen[1], Lana Williams[3], Heli Koivumaa-Honkanen[4]. [1]University of Eastern Finland, Finland, [2]University of Eastern Finland, Department of Surgery, Finland, [3]Impact Research Centre, Deakin University, Australia, Australia, [4]Department of Psychiatry, Kuopio University Hospital, 5Lapland Hospital District, Rovaniemi, Finland, Finland
Disclosures: Nadia Afrin, None

SU0122 **Poor Physical Fitness is associated with Low Bone Material Strength in Older Adults with Type 2 Diabetes**
Yoann Barnouin*, Sanjay Mediwala, Alessandra Celli, John Wade, Georgia Colleluori, Dean Blevins, Reina Villareal, Dennis Villareal. Baylor College of Medicine/Center for Translational Research on Inflammatory Diseases at MEDVAMC, United states
Disclosures: Yoann Barnouin, None

MUSCULOSKELETAL DEVELOPMENT: BONE MODELING

SU0123 **Silk fibroin nanoparticle enhances stability and sustained release of bone morphogenetic protein-2**
Bong-soo Kim*, Woo-jin Kim, Won-jun Yoon, Hyun-mo Ryoo, Jung-hwa Baek, Kyung-mi Woo. Seoul National University, Korea, republic of
Disclosures: Bong-soo Kim, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION: ADIPOCYTES

SU0124 **Adipose derived mesenchymal stem cells seeded on TiO_2 granules increases osteoblast numbers in vivo**
Morten Dahl*. PhD student, DDS, Denmark
Disclosures: Morten Dahl, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION: MULTI-LINEAGE

SU0125 **Functional Engraftment of Murine Pre-Osteoblastic Cells in a Zebrafish Model of Epimorphic Bone Regeneration**
Barrie Sugarman*, Brandon Douglass, Claire Watson, Christopher Allan, Ronald Kwon. University of Washington, United states
Disclosures: Barrie Sugarman, None

SU0126 **Lin-/Lepr+ Cells are an Important Source of Osteoprogenitors in Adult Life**
Joshua Farr*[1], Megan Weivoda[1], Elizabeth Atkinson[2], Sundeep Khosla[1], David Monroe[1]. [1]Division of Endocrinology; Mayo Clinic College of Medicine, United states, [2]Division of Biomedical Statistics & Informatics; Mayo Clinic College of Medicine, United states
Disclosures: Joshua Farr, None

SU0127 **Multiple Populations of Progenitor Cells Contributes to Post-natal Bone Formation**
Beth Bragdon*, Kyle Lybrand, Louis Gerstenfeld. Boston University School of Medicine, United states
Disclosures: Beth Bragdon, None

SU0128 **Prx1 Ablation Results in Impaired Long Bone Fracture Healing**
Lai Wang*[1], Alessandra Esposito[1], Ping Ye[2], Tieshi Li[1], Joseph Temple[1], Anna Spagnoli[1]. [1]Rush University Medical Center, United states, [2]The University of North Carolina at Chapel Hill, United states
Disclosures: Lai Wang, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION: MUSCLE, TENDON AND LIGAMENT

SU0129 **Combining TGF-β Type II Receptor (Tgfbr2)-expressing Joint Progenitors and Degradable Scaffolds from PLLA Fibers for Tendon-Bone Junction Tissue-Engineering**
Tieshi Li*[1], Harshini Ramakrishna[2], Ting He[2], Joseph Temple[1], Martin King[2], Anna Spagnoli[1]. [1]Rush University Medical Center, United states, [2]North Carolina State University, United states
Disclosures: Tieshi Li, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION: OSTEOBLASTS

SU0130 **An In Vivo Histomorphometric Approach to Monitor Bone Apposition and Differentiation of Skeletal Progenitor Cells into Osteoblasts and Osteocytes**
Shu-Chi A. Yeh*[1], Katarzyna Wilk[1], Charles P. Lin[2], Giuseppe Intini[3]. [1]Department of Oral Medicine, Infection, & Immunity, Harvard School of Dental Medicine, United states, [2]Advanced Microscopy Program, Center for Systems Biology & Wellman Center for Photomedicine, Massachusetts General Hospital, Harvard Medical School, United states, [3]Department of Oral Medicine, Infection, & Immunity, Harvard School of Dental Medicine., United states
Disclosures: Shu-Chi A. Yeh, None

SU0131 **Differentiation of hiPSCs into Osteoblasts by Using Small Molecule Inducers Under Fully Defined Xeno-free Conditions**
Denise C. Zujur*[1], Kosuke Kanke[2], Ung-il Chung[1], Shinsuke Ohba[1]. [1]The University of Tokyo, Department of Bioengineering, Japan, [2]The University of Tokyo, Japan
Disclosures: Denise C. Zujur, None

SU0132 **Engineering MSC to Overexpress bFGF to Accelerate Fracture Healing**
Hongliang Zhang, Evan Lay, Alexander Kot, Nancy Lane, Wei Yao*. UC Davis Medical Center, United states
Disclosures: Wei Yao, None

SU0133 **Osthole promotes osteoporotic fracture repair by augmenting the recruitment, proliferation and differentiation of muscle-derived stem cells**
Dezhi Tang*, Weiwei Da, Yongjian Zhao, Lin Chen, Hao Xu, Bing Shu, Qi Shi, Yongjun Wang. Spine Research Institute, Shanghai University of Traditional Chinese Medicine, Shanghai 200032, China, China
Disclosures: Dezhi Tang, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS: GENERAL

SU0134 **Articular cartilage calcification of the hip and knee is independent of age but associated with histological osteoarthritis: evidence for a systemic disorder**
Thelonius Hawellek[1], Jan Hubert[1], Sandra Hischke[1], Jessica Bertrand[2], Thomas Pap[2], Matthias Krause[1], Klaus Püschel[1], Wolfgang Ruether[1], Andreas Niemeier*[1]. [1]University Medical Center Hamburg-Eppendorf, Germany, [2]University Hospital Münster, Germany
Disclosures: Andreas Niemeier, None

SU0135 **NBQX, an AMPA-kainate glutamate receptor antagonist, alleviates degeneration, bone remodelling and inflammation in a model of post-traumatic osteoarthritis**
Cleo Bonnet[1], Sophie Gilbert[1], Anwen Williams[2], Emma Blain[1], Deborah Mason*[1]. [1]Arthritis Research UK Biomechanics & Bioengineering Centre, Pathophysiology & Repair Division, School of Biosciences, Cardiff University, United Kingdom, [2]Institute of Infection & Immunity, School of Medicine, Cardiff University, United Kingdom
Disclosures: Deborah Mason, None

SU0136 **Obesity and Overweight Exert Specific Effects on Subchondral Bone Structure and Vascularisation in a mouse model of Surgically-Induced Knee Osteoarthritis: Comparing High Fat Diet to Hypergravity**
Damien Cleret*[1], Benoit Dechaumet[1], Bernard Roche[1], Arnaud Vanden Bossche[1], Norbert Laroche[1], Laurence Vico[1], Xavier Houard[2], Marie-Hélène Lafage-Proust[1]. [1]INSERMU1059-Université de Lyon, France, [2]INSERM UMRS938, France
Disclosures: Damien Cleret, None

SU0137 **Osteonecrosis of the femoral head is associated with low bone mass: a controlled prospective study**
Muhammad Soyfoo[1], Valérie Gangji*[1], Audrey Heuschling[1], Céline Gillet[2], Joanne Rasschaert[2], Rodrigo Moreno-Reyes[1], Jean-Philippe Hauzeur[3]. [1]Hôpital Erasme, Université Libre de Bruxelles, Belgium, [2]Faculty of Medicine, Université Libre de Bruxelles, Belgium, [3]CHU Sart Tilman, Belgium
Disclosures: Valérie Gangji, None

SU0138 **Swedish Farmers Have Higher Risk for Knee and Hip Replacement than Other Occupations**
Helena Johansson*[1], Cecilie Hongslo Vala[2], Anders Odén[3], Mattias Lorentzon[2], Eugene McCloskey[3], John Kanis[3], Nicholas C Harvey[4], Stefan Lohmander[5], Johan Kärrholm[6], Dan Mellström[2]. [1]Centre for Bone & Arthritis Research (CBAR), Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Centre for Bone & Arthritis Research (CBAR), Sahlgrenska Academy, University of Gothenburg, Sweden, [3]Centre for Metabolic Bone Diseases, University of Sheffield, United Kingdom, [4]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [5]Department of Orthopedics, Clinical Sciences Lund, Lund University, Sweden, [6]Department of Orthopedics, Clinical Sciences, University of Gothenburg, Sweden
Disclosures: Helena Johansson, None

SU0139 **Trabecular Rod and Plate Deficiencies are Distinctly Different in Subchondral Bone in Human Osteoarthritic Knees**
Xingjian Zhang*[1], Yan Chen[2], Yizhong Hu[1], Y. Eric Yu[1], Ting Wang[2], Frankie K. L. Leung[2], Xu Cao[3], William X. Lu[2], X. Edward Guo[1]. [1]Columbia University, United states, [2]The University of Hong Kong, Hong kong, [3]Johns Hopkins University School of Medicine, United states
Disclosures: Xingjian Zhang, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS: RHEUMATOID ARTHRITIS AND INFLAMMATORY ARTHRITIS

SU0140 **A Novel Bisphosphonate ^{18}F-PET Probe for Early Detection of Rheumatoid Arthritis**
Shuting Sun*[1], Zibo Li[2], Eric Richard[1], Mark Lundy[1], Mengzhe Wang[2], Hui Wang[2], Charles McKenna[3], Frank Ebetino[1]. [1]BioVinc LLC, United states, [2]Department of Radiology & Biomedical Research Imaging Center, University of North Carolina, Chapel Hill, United states, [3]Department of Chemistry, USC Dornsife College of Letters, Arts & Sciences, United states
Disclosures: Shuting Sun, BioVinc, 16

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: ADHESION, MOTILITY AND CELL-CELL COMMUNICATION

SU0141 **Mechanisms of human mesenchymal stromal cells during bone regeneration are impacted by the associated biomaterial**
Miryam Mebarki[1], Laura Coquelin[1], Marine Tossou[2], Julie Leotot[3], Philippe Hernigou[4], Hélène Rouard[1], Nathalie Chevallier*[1]. [1]IMRB U955-E10, INSERM, Creteil, France, France, [2]Faculty of Medicine, Paris Est University, Creteil, France, France, [3]Engineering & cellular therapy unit, French Blood Service, Creteil, France, France, [4]Orthopaedic Surgery Departement, Henri-Mondor AP-HP Hospital, Creteil, France, France
Disclosures: Nathalie Chevallier, None

SU0142 **The Mineral Component of Bone Controls Gene Expression in Migrating Osteoblasts**
Johannes Wischmann*, Philipp Mayer-Kuckuk. Technical University Munich, Germany
Disclosures: Johannes Wischmann, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: BONE FORMATION MECHANISMS

SU0143 **Dispensability of Stabilin-1 to the Bone Development and Bone Cell Function**
Seong-Hwan Kim*[1], Soon-Young Kim[1], Eun-Hye Lee[1], Suk-Hee Lee[1], Yeon-Ju Lee[1], Yeo Hyang Kim[2], Seung-Yoon Park[3], Jung-Eun Kim[1]. [1]Department of Molecular Medicine, CMRI, BK21 Plus KNU Biomedical Convergence Program, Kyungpook National University School of Medicine, Korea, republic of, [2]Department of Pediatrics, Kyungpook National University Hospital, Korea, republic of, [3]Department of Biochemistry, School of Medicine, Dongguk University, Korea, republic of
Disclosures: Seong-Hwan Kim, None

SU0144 **Involvement of the Aryl hydrocarbon receptor in cigarette smoke-induced inhibition of bone regeneration**
Chawon Yun, Michael Schallmo, Ryan Freshman, Andrew George, Joseph Weiner, Danielle Chun, Ralph Cook, Jonghwa Yun, Anjan Ghosh, Erin Hsu*, Wellington Hsu. Department of Orthopaedic Surgery, Northwestern University Feinberg School of Medicine, United states
Disclosures: Erin Hsu, None

SU0145 **Jun N-terminal Kinases (JNKs) Act in Osteoblasts to Control Adolescent Bone Formation**
Ren Xu*[1], Yeon Suk Yang[2], Sarfaraz Lalani[2], Na Li[3], Roger Davis[4], Jae-Hyuck Shim[3], Matthew Greenblatt[3]. [1]Dept of Medicine & Dept of Pathology, Weill Cornell Medical College, Cornell University, United states, [2]Department of Medicine, Weill Cornell Medical College, Cornell University, United states, [3]Department of Pathology & Laboratory Medicine, Weill Cornell Medical College, Cornell University, United states, [4]Program in Molecular Medicine, University of Massachusetts Medical School, United states
Disclosures: Ren Xu, None

SU0146 **Pathologic Minerals of Human Penile Tissues Resemble Alveolar Bone**
Lynn Yang*[1], Ling Chen[1], Feifei Yang[1], Amanda Reed-Maldonado[2], Ryan Hsi[2], Marshall Stoller[2], Tom Lue[2], Sunita Ho[1]. [1]Division of Biomaterials & Bioengineering, Department of Preventive & Restorative Dental Sciences, School of Dentistry, United states, [2]Department of Urology, School of Medicine, United states
Disclosures: Lynn Yang, None

SU0147 **Phosphate-Induced Formation of Mineralization-Competent Matrix Vesicles Is Enhanced by Ca^{2+} and cAMP in in vitro Models of Osteogenic and Vascular Mineralization**
Sandeep Chaudhary*[1], Maria Kuzynski[1], Elia Beniash[2], Massimo Bottini[3], Callie Mobley[1], Jose-Luis Millan[4], Dobrawa Napierala[1]. [1]Oral & Maxillofacial Surgery, Institute of Oral Health Research, School of Dentistry, University of Alabama at Birmingham, Birmingham, AL, USA, United states, [2]Department of Oral Biology, University of Pittsburgh, Pittsburgh, PA, USA, United states, [3]Department of Experimental Medicine & Surgery, University of Rome Tor Vergata, Rome, Italy, & Inflammatory & Infectious Disease Center, Sanford Burnham Prebys Medical Discovery Institute, La Jolla, CA, USA, United states, [4]Sanford Children's Health Research Center, Sanford Burnham Prebys Medical Discovery Institute, La Jolla, CA, USA, United states
Disclosures: Sandeep Chaudhary, None

SU0148 **Transdifferentiation of MSC-derived osteoblasts following co-culture with MSC-derived adipocytes**
Aline Clabaut*. PMOI lab, France
Disclosures: Aline Clabaut, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: HORMONAL AND LOCAL REGULATION

SU0149 **A gram positive bacteria membrane component derived lipoteichoic acid induces PGE_2-mediated inflammatory periodontal bone resorption**
Tsukasa Tominari*, Kenta Watanabe, Michiko Hirata, Chisato Miyaura, Masaki Inada. Tokyo university of agriculture & technology, Japan
Disclosures: Tsukasa Tominari, None

SU0150 **Inhibition of Neuropeptide Y Y1 Receptor Induces Osteoblastic Differentiation in MC3T3-E1 Cells**
Motoki Yahara*[1], Mari Sato[2], Kiyomi Tsuji-Tamura[2], Kanchu Tei[1], Masato Tamura[2]. [1]Oral & Maxillofacial Surgery, Grad. Sch. Dent. Med., Hokkaido University, Japan, [2]Biochemistry & Molecular Biology, Grad. Sch. Dent. Med., Hokkaido University, Japan
Disclosures: Motoki Yahara, None

SU0151 **Neuropeptide Y Induces Hematopoietic Stem/Progenitor Cell Mobilization by Regulating Matrix Metalloproteinase-9 Activity Through Y1 Receptor in Osteoblasts**
Woo-Kie Min*[1], Jae-sung Bae[2]. [1]Department of Orthopaedic Surgery, Kyungpook National University Hospital, Korea, republic of, [2]Department of Physiology, Cell & Matrix Research Institute, School of Medicine, Kyungpook National University, Korea, republic of
Disclosures: Woo-Kie Min, None

SU0152 **PTH-Stimulated Osteogenesis in Human Bone Marrow Stromal Cells Is Inhibited by SAA1 and SAA2 Secreted by Preosteoclasts in a Prostaglandin-Dependent Manner**
Shilpa Choudhary*, Elizabeth Santone, Mary Beth McCarthy, Michael Francke, Augustus Mazzocca, Carol Pilbeam. UConn Musculoskeletal Institute, UConn Health, United states
Disclosures: Shilpa Choudhary, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: SIGNAL TRANSDUCTION AND TRANSCRIPTIONAL REGULATION

SU0153 **Beneficial Effects of Low Doses of the Phytoestrogen Quercetin on Osteoblastic Cells**
Virginia Lezcano*[1], Lilian I Plotkin[2], Susana Morelli[3]. [1]INBIOSUR UNS, Argentina, [2]Department of Anatomy & Cell Biology, Indiana University School of Medicine, Indianapolis, IN, Roudebush Veterans Administration Medical Center, Indianapolis, IN., United states, [3]INBIOSUR (UNS-CONICET) Departamento de Biol., Bioq. y Fcia., Universidad Nacional del Sur, Bahía Blanca, Argentina., Argentina
Disclosures: Virginia Lezcano, None

SU0154 **Decreased bone density and osteoblast activity in Rad-null mice**
Catherine Withers*, Jonathan Satin, Douglas Andres. University of Kentucky, United states
Disclosures: Catherine Withers, None

SU0155 **Identification of a chemical compound that stimulates osteoblast differentiation and inhibits osteoclast differentiation**
Ju Ang Kim*, Young-Ae Choi, Yong Chul Bae, Hong-In Shin, Eui Kyun Park. Kyungpook National University School of Dentistry, Korea, republic of
Disclosures: Ju Ang Kim, None

SU0156 **Igfbp2, Inhbb and Sema4f are Wnt3a-inducible in Osteoblasts, Independent of Lrp5/6 receptors**
Aimy Sebastian*[1], Nicholas R. Hum[2], Deepa K. Murugesh[2], Sarah Hatsell[3], Aris N. Economides[3], Gabriela G. Loots[2]. [1]UC Merced, School of Natural Sciences, United states, [2]Lawrence Livermore National Laboratories, Physical & Life Sciences Directorate, United states, [3]Regeneron Pharmaceuticals, United states
Disclosures: Aimy Sebastian, None

SU0157 **Sexual Dimorphism in the Endothelin Signaling Axis in Bone**
Michael Johnson*[1], Luisa Meyer[1], Heidi-lynn Ploeg[1], Everrett Smith[2], Karen Hansen[1], Robert Blank[3]. [1]University of Wisconsin-Madison, United states, [2]University of Wisconsin, United states, [3]Medical College of Wisconsin, United states
Disclosures: Michael Johnson, None

SU0158 **The plant-derived metabolite sulforaphane promotes osteoblastic differentiation by epigenetically reprogramming the phenotypic memory of human mesenchymal stromal cells**
Roman Thaler*[1], Farzaneh Khani[1], Xianhu Zhou[1], Markus Schreiner[1], Amel Dudakovic[1], Allan B. Dietz[2], Andre J. van Wijnen[3]. [1]Department of Orthopedic Surgery, Mayo Clinic, United states, [2]Department of Laboratory Medicine & Pathology, Mayo Clinic, United states, [3]Departments of Orthopedic Surgery, Biochemistry & Molecular Biology, Mayo Clinic, United states
Disclosures: Roman Thaler, None

OSTEOCLASTS - FUNCTION: BONE RESORPTION MECHANISMS

SU0159 **A Small Molecular Inhibitor of Lrrk1 Identified by Homology Modeling and Virtual Screening Suppresses Osteoclast Activity but Not Osteoclast Formation**
Helen Goodluck*, Canjun Zeng, Subburaman Mohan, weirong xing. Musculoskeletal Disease Center, Jerry L .Pettis Memorial VA Medical Center, United states
Disclosures: Helen Goodluck, None

SU0160 **Alveolar Bone Loss is Significantly Diminished in the SH3BP2 Loss-of-function Mouse Model of Periodontitis**
Mizuho Kittaka*, Collin Schlosser, Kotoe Mayahara, Yasuyoshi Ueki. University of Missouri-Kansas City, School of Dentisitry, United states
Disclosures: Mizuho Kittaka, None

SU0161 **Bone-Targeted Chloroquine Inhibits Osteoclastogenesis and Bone Resorption More Effectively Than Chloroquine**
Zhenqiang Yao*[1], Xiaodong Hou[2], Wei Lei[2], Lifeng Xiao[3], Frank H. Ebetino[4], Robert K. Boeckman[3], Brendan Boyce[1]. [1]University of Rochester Medical Center, United states, [2]Henan University First Affiliated Hospital, China, [3]University of Rochester, United states, [4]BioVinc LLC, United states
Disclosures: Zhenqiang Yao, None

SU0162 **Osteoclasts from L-plastin Null Mice are Defective in Sealing Ring Formation and Bone Resorption**
Meenakshi Chellaiah*[1], Tao Ma[1], Celeste Morley[2], Sunipa Majumdar[3]. [1]University of Maryland, Dental School, United states, [2]Washington University School of Medicine, Pediatric Research, United states, [3]University of Maryland Dental School, United states
Disclosures: Meenakshi Chellaiah, None

SU0163 **Slow and Fast Bone Resorption Modes of Human Osteoclasts Revealed by Time-lapse Recording**
Kent Soe*, Jean-Marie Delaisse. Vejle Hospital/University of Southern Denmark, Denmark
Disclosures: Kent Soe, None

SU0164 **TGF-β1 Liberated through Osteoclast-mediated Bone Resorption Regulates Odontoblast Differentiation and Tooth Root Formation**
Jue Wang*[1], Li Cao[2], Wei Chen[2], Hongbing Jiang[2], Zheng Zhu[2], Zhihe Zhao[3], Yi-Ping Li[2]. [1]Department of Pathology, University of Alabama at Birmingham; State Key Laboratory of Oral Diseases, Department of Orthodontics, West China Hospital of Stomatology, Sichuan University, United states, [2]Department of Pathology, University of Alabama at Birmingham, United states, [3]State Key Laboratory of Oral Diseases, Department of Orthodontics, West China Hospital of Stomatology, Sichuan University, China
Disclosures: Jue Wang, None

OSTEOCLASTS - FUNCTION: SIGNAL TRANSDUCTION

SU0165 **4-phenylbutyric Acid Decreases Osteoclastogenesis via Modulating Autophagy**
Hs Choi*. University of Ulsan, Korea, republic of
Disclosures: Hs Choi, None

SU0166 **Follistatin-like 1 promotes osteoclast formation via RANKL-mediated NF-κB activation and M-CSF-induced precursor proliferation**
Hyun-Ju Kim*[1], Woo Youl Kang[1], Sook Jin Seong[1], Shin-Yoon Kim[2], Young-Ran Yoon[1]. [1]Department of Biomedical Science, Cell & Matrix Research Institute, BK21 Plus KNU Biomedical Convergence Program, Clinical Trial Center, School of Medicine, Kyungpook National University & Hospital, Korea, republic of, [2]Skeletal Diseases Genome Research Center, School of Medicine, Kyungpook National University, Korea, republic of
Disclosures: Hyun-Ju Kim, None

SU0167 **Functional Role of Hedgehog Signaling in Osteoclast Lineage**
Ryuma Haraguchi*[1], Riko Kitazawa[2], Yuuki Imai[3], Sohei Kitazawa[1]. [1]Ehime University Graduate School of Medicine, Japan, [2]Ehime University Hospital, Japan, [3]Ehime University Proteo-Science Center, Japan
Disclosures: Ryuma Haraguchi, None

SU0168 **Integrin αvβ3 Signaling is not Required for TNF-α Mediated L-plastin Phosphorylation and Nascent Sealing Zones Formation in Osteoclasts**
Sunipa Majumdar*, Meenakshi Chellaiah. University of Maryland, Dental School, United states
Disclosures: Sunipa Majumdar, None

SU0169 **Role of CrkII Signaling in RANKL-Induced Osteoclast Differentiation and Function**
Byung Chul Jeong*[1], Inyoung Kim[2], Jung Ha Kim[2], Kabsun Kim[2], Semun Seong[3], Nacksung Kim[1]. [1]Department of Pharmacology, Medical Research Center for Gene Regulation & BK21plus, Chonnam National University Medical School, Korea, republic of, [2]Department of Pharmacology, Medical Research Center for Gene Regulation, Chonnam National University Medical School, Korea, republic of, [3]Department of Biomedical Sciences, Chonnam National University Medical School, Korea, republic of
Disclosures: Byung Chul Jeong, None

SU0170 **The Role of the V-ATPases and Lysosomal Positioning in mTORC1 Signaling in Osteoclasts**
Andrew Wang[1], Danielle Johnson[2], Luciene Lacroix[1], Celeste Owen[3], Bowen Gao[4], Paul Corey[5], John Brumell[2], Irina Voronov*[1]. [1]Faculty of Dentistry, University of Toronto, Canada, [2]Cell Biology Program, Hospital for Sick Children, Canada, [3]Mount Sinai Hospital, Canada, [4]University of Toronto, Canada, [5]Dalla Lana School of Public Health, University of Toronto, Canada
Disclosures: Irina Voronov, None

OSTEOCLASTS - FUNCTION: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

SU0171 **Functional analysis of Cadm1 gene, involved in epigenetic regulation during osteoclastogenesis**
Shinya Nakamura*[1], Naohiro Izawa[1], Hiroyuki Aburatani[2], Takeshi Miyamoto[1], Sakae Tanaka[1]. [1]Orthopaedic Surgery & Spinal Surgery, The University of Tokyo, Tokyo, Japan, Japan, [2]Genome Science Division, Research Center for Advanced Science & Technology, The University of Tokyo, Tokyo, Japan, Japan
Disclosures: Shinya Nakamura, None

SU0172 **Osteoclasts are Deficient in the Expression of Osteogenic Coupling Factors Following Ischemic Osteonecrosis Of The Femoral Head**
Naga Suresh Adapala*[1], Harry K.W. Kim[1], Ryosuke Yamaguchi[1], Hicham Drissi[2]. [1]Texas Scottish Rite Hospital for Children, United states, [2]University of Connecticut Health Center, United states
Disclosures: Naga Suresh Adapala, None

SU0173 **Supportive Role of CD44-ICD in RUNX2- Mediated Transcriptional Regulations in Prostate Cancer Cells**
Linda Senbanjo*, Meenakshi Chellaiah. University of Maryland Baltimore, United states
Disclosures: Linda Senbanjo, None

OSTEOCLASTS - ORIGIN AND CELL FATE: APOPTOSIS

SU0174 **Conditional Abrogation of *Atm* in Osteoclasts Leads to Reduced Bone Mass and Extended Osteoclast Lifespan**
Toru Hirozane*, Takahide Tohmonda, Masaki Yoda, Masayuki Shimoda, Yae Kanai, Morio Matsumoto, Hideo Morioka, Masaya Nakamura, Keisuke Horiuchi. Keio University School of Medicine, Japan
Disclosures: Toru Hirozane, None

OSTEOCLASTS - ORIGIN AND CELL FATE: GENERAL

SU0175 **Changes in Wnt Receptor Expression Accompany Altered Canonical Wnt Signaling in Osteoclast Progenitors with Aging or Ovariectomy**
Stephanie Youssef*, Ming Ruan, Christine Hachfeld, Glenda Evans, Joshua Farr, David Monroe, Sundeep Khosla, Jennifer Westendorf, Merry Jo Oursler, Megan Weivoda. Mayo Clinic, United states
Disclosures: Stephanie Youssef, None

SU0176 **TMEM178 is a novel negative regulator of store operated calcium entry in osteoclasts**
Zhengfeng Yang*, Corrine Decker, Roberta Faccio. Department of Orthopaedic Surgery, Musculoskeletal Research Center, Washington University School of Medicine, United states
Disclosures: Zhengfeng Yang, None

OSTEOCYTES: BONE REMODELING REGULATION

SU0177 **24-Hour Profile of Serum Sclerostin and Its Association With Bone Biomarkers in Men**
Christine Swanson*[1], Orfeu Buxton[2], Steven Shea[3], Sheila Markwardt[3], Eric Orwoll[3]. [1]University of Colorado, United states, [2]Pennsylvania State University, United states, [3]Oregon Health & Science University, United states
Disclosures: Christine Swanson, None

SU0178 **Activation of AMP-activated Protein Kinase Decreases RANKL Expression and Increases Sclerostin Expression by Inhibiting the Mevalonate Pathway in Osteocytic MLO-Y4 Cells**
Ippei Kanazawa*, Maki Yokomoto-Umakoshi, Ayumu Takeno, Ken-ichiro Tanaka, Masakazu Notsu, Toshitsugu Sugimoto. Shimane University Faculty of Medicine, Japan
Disclosures: Ippei Kanazawa, None

SU0179 **Alternation in Gap-junctional Intercellular Communication Capacity During the Ex Vivo Transformation of Osteocytes in the Embryonic Chick Calvaria**
Ziyi Wang, Naoya Odagaki, Tomoyo Tanaka, Mana Hashimoto, Hiroshi Kamioka*. Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Department of Orthodontics, Japan
Disclosures: Hiroshi Kamioka, None

SU0180 **Analysis of Intracellular Ca^{2+} Mobilization by 3D Time-lapse Imaging in Bone**
Tomoyo Tanaka*[1], Mitsuhiro Hoshijima[2], Junko Sunaga[3], Takashi Nishida[2], Taiji Adachi[3], Hiroshi Kamioka[1]. [1]Department of Orthodontics, Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Okayama University, Japan, [2]Advanced Research Center for Oral & Craniofacial Sciences, Dental School, Okayama University, Japan, [3]Department of Biomechanics, Institute for Frontier Medical Sciences, Kyoto University, Japan
Disclosures: Tomoyo Tanaka, None

SU0181 **Elevated Bone Resorption and Pro-Inflammatory Cytokines are Mitigated by a Soy Protein Diet in a Rodent Model of Inflammatory Bowel Disease**
Corinne Metzger*[1], Anand Narayanan[2], David Zawieja[2], Susan Bloomfield[1]. [1]Texas A&M University, United states, [2]Texas A&M Health Science Center, United states
Disclosures: Corinne Metzger, None

SU0182 **How the European eel (Anguilla anguilla) loses its skeletal framework across lifetime**
Tim Rolvien*[1], Florian Nagel[2], Petar Milovanovic[3], Sven Wuertz[4], Robert Percy Marshall[1], Felix N. Schmidt[1], Michael Hahn[1], Paul Eckhard Witten[5], Michael Amling[1], Bjoern Busse[1]. [1]Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, [2]Gesellschaft für Marine Aquakultur mbh, Germany, [3]Laboratory for Anthropology, Institute of Anatomy, School of Medicine, University of Belgrade, Serbia, [4]Leibnitz Institute Freshwater Ecology & Inland Fisheries, Germany, [5]Department of Biology, Research Group Evolutionary Developmental Biology, Ghent University, Germany
Disclosures: Tim Rolvien, None

SU0183 **Mineral matrix carbonate ion substitution returns to baseline levels in both HYP and wild-type mice one month after lactation**
Kunal Agarwal*[1], Carolyn Macica[2], Steven Tommasini[1]. [1]Yale University, United states, [2]Frank H. Netter, M.D., School of Medicine at Quinnipiac University, United states
Disclosures: Kunal Agarwal, None

SU0184 **RNA Sequencing Reveals Common Gene Expression Patterns in Osteocyte-Enriched Bone of Two Osteogenesis Imperfecta Mouse Models**
Sarah Zimmerman*, Melissa Heard, Milena Dimori, Roy Morello. University of Arkansas for Medical Sciences, United states
Disclosures: Sarah Zimmerman, None

OSTEOCYTES: ORIGIN, CELL CYCLE AND APOPTOSIS

SU0185 **The Osteocyte Network Formation is Influenced by the Thick Collagen Bundle Formation during Bone Modeling**
Mana Hashimoto*[1], Noriyuki Nagaoka[2], Tadahiro Iimura[3], Toru Hara[4], Hiroshi Kamioka[1]. [1]Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Department of Orthodontics, Japan, [2]Okayama University Dental School, Advanced Research Center for Oral & Craniofacial Sciences, Japan, [3]Proteo-Science Center, Ehime University, Japan, [4]National Institute for Materials Science, Japan
Disclosures: Mana Hashimoto, None

OSTEOCYTES: PARACRINE AND ENDOCRINE FUNCTION

SU0186 **Induced Sclerostin Expression in Human Dermal Fibroblasts is Positively Regulated by Prostaglandin E2 via EP1 Receptor**
Makoto Fujiwara*[1], Shinji Takeyari[1], Mohammad Saiful Islam[1], Chiho Nakano[2], Kenichi Yamamoto[1], Hirofumi Nakayama[1], Satoshi Takakuwa[1], Taichi Kitaoka[1], Takuo Kubota[1], Keiichi Ozono[1]. [1]Department of Pediatrics, Osaka University Graduate School of Medicine, Japan, [2]The First Department of Oral & Maxillofacial Surgery, Osaka University Graduate School of Dentistry, Japan
Disclosures: Makoto Fujiwara, None

OSTEOPOROSIS - ASSESSMENT: BIOCHEMICAL TESTS

SU0187 **Association of Circulating Dipeptidyl-peptidase 4 Levels with Osteoporotic Fracture in Postmenopausal Women**

Hyeonmok Kim*[1], Ki Hyun Baek[2], Sun-Young Lee[3], Seong Hee Ahn[4], Seung Hun Lee[1], Jung-Min Koh[1], Yumie Rhee[5], Chong Hwa Kim[6], Deog-Yoon Kim[7], Moo-Il Kang[2], Beom-Jun Kim[1], Yong-Ki Min[8]. [1]Asan Medical Center, University of Ulsan College of Medicine, Korea, republic of, [2]Seoul St. Mary's Hospital, The Catholic University of Korea College of Medicine, Korea, republic of, [3]Asan Institute for Life Science, Korea, republic of, [4]Inha University School of Medicine, Korea, republic of, [5]Severance Hospital, Yonsei University College of Medicine, Korea, republic of, [6]Sejong General Hospital, Korea, republic of, [7]Kyunghee University School of Medicine, Korea, republic of, [8]Sungkyunkwan University School of Medicine, Korea, republic of

Disclosures: Hyeonmok Kim, None

SU0188 **High Prevalence (64%) of Mutations in the LRP5 and/or COLIA1 Genes in Male & Juvenile Female Patients with Osteoporosis**

Christian Wüster*[1], Susanne Thomczyk[2], Wolfgang Höppner[3], Klaus Edgar Roth[2], Philipp Drees[2]. [1]Center for Hormones & Metabolism Prof. Wüster, Germany, [2]Orthopaedics, Orthopaedic & Rheumatoid Surgery, University Mainz, Germany, [3]Bioglobe GmbH Hamburg, Germany

Disclosures: Christian Wüster, None

SU0189 **ASBMR 2016 Annual Meeting Young Investigator Award**
Serum Carboxy-terminal Telopeptide of Type 1 Collagen (1CTP) is the Strongest Predictor of Survival Among Bone Turnover Markers in a Cohort of Japanese Subjects Undergoing Coronary Angiography: CHIBA (Coronary Heart Disease of Ischemia and Bone Association) Study

Nobuyuki Tai*, Reiko Watanabe, Junko Hirano, Toshihiro Amaki, Fumitaka Nakamura, Ryo Okazaki, Daisuke Inoue. Teikyo University Chiba Medical Center, Japan

Disclosures: Nobuyuki Tai, None

SU0190 **Validation of a Novel, Rapid, High Precision Sclerostin Assay Which is Not Confounded by Sclerostin Fragments**

Matthew Drake*, Sundeep Khosla. Mayo Clinic College of Medicine, United states

Disclosures: Matthew Drake, None

OSTEOPOROSIS - ASSESSMENT: BONE QUALITY

SU0191 **Assessment of Mineral Micro-Structure Related Cortical Bone Quality - A Clinical Study in Post-Menopausal Women and Dialysis Patients Using Ultrasounds**

Kosei Yoh*[1], Ryoichi Suetoshi[2], Tatsuo Arai[3], Dorian Cretin[3], Akira Okayama[4], Hiroyuki Ogura[4], Shotaro Tsuji[4]. [1]Faculty of Health Science, Aino University, Japan, [2]Furuno Electric Co., Ltd., Japan, [3]Furuno Erecrtic. Co., Ltd., Japan, [4]Sasayama Medical Center, Hyogo College Of Medicine, Japan

Disclosures: Kosei Yoh, None

SU0192 **Early Cortical, but not Trabecular, Microarchitectural Changes by HRpQCT Identify Postmenopausal Women at Risk for Rapid Bone Loss at the hip or Spine**

Sundeep Khosla*[1], Kristy Nicks[1], Andrew Burghardt[2], Elizabeth Atkinson[1], Louise McCready[3], Matthew Drake[1], Shreyasee Amin[1]. [1]Mayo Clinic College of Medicine, United states, [2]University of California, San Francisco, United states, [3]Mayo Clinic College of Medine, United states

Disclosures: Sundeep Khosla, None

SU0193 **Longitudinal changes of bone microstructure in men with osteopenia and osteoporosis**

Kiyoshi Sada*[1], Andrew Burghardt[1], Anne Schafer[2], Galateia Kazakia[1], Ko Chiba[3], Narihiro Okazaki[3], Sharmila Majumdar[1]. [1]Musculoskeletal Quantitative Imaging Research Group, Department of Radiology & Biomedical Imaging, University of California, San Francisco, United states, [2]Endocrine Research Unit, San Francisco Veterans Affairs Medical Center, San Francisco, United states, [3]Department of Orthopaedic Surgery, Nagasaki University Hospital, Japan

Disclosures: Kiyoshi Sada, None

SU0194 **Peri- and Post- Menopause Bone Microarchitecture: Accelerated Changes are Marked by Increasing Cortical Porosity**
Jennifer Bhatla*[1], Lauren Burt[1], David Hanley[2], Steven Boyd[1]. [1]McCaig Institute for Bone & Joint Health, Department of Radiology, Cumming School of Medicine, University of Calgary, Calgary, Canada, Canada, [2]McCaig Institute for Bone & Joint Health, Departments of Community Health Sciences & Oncology, Cumming School of Medicine, University of Calgary, Calgary, Canada, Canada
Disclosures: Jennifer Bhatla, None

SU0195 **Reproducibility of Bone Mineral Density and Microstructural Parameters Measured by Second Generation HR-pQCT**
Ko Chiba*[1], Narihiro Okazaki[1], Ayako Kurogi[1], Yusaku Isobe[2], Shuntaro Sato[3], Kiyoshi Sada[4], Makoto Osaki[5]. [1]Department of Orthopedic Surgery, Nagasaki University Hospital, Japan, [2]Nagasaki University School of Medicine, Japan, [3]Clinical Research Center, Nagasaki University Hospital, Japan, [4]Department of Radiology & Biomedical Imaging, University of California, San Francisco, Japan, [5]Department of Orthopedic Surgery, Nagasaki University Hospital, Japan
Disclosures: Ko Chiba, None

OSTEOPOROSIS - ASSESSMENT: DXA

SU0196 **A Population-Based Assessment of the Performance of FRAX in Celiac Disease: The Manitoba BMD Cohort**
William Leslie*[1], Donald Duerksen[1], Lisa Lix[1], Suzanne Morin[2], Sumit Majumdar[3], Helena Johansson[4], Anders Oden[4], Eugene McCloskey[4], John Kanis[4]. [1]University of Manitoba, Canada, [2]McGill University, Canada, [3]University of Alberta, Canada, [4]Centre for Metabolic Bone Diseases, University of Sheffield Medical School, United Kingdom
Disclosures: William Leslie, None

SU0197 **The Effect of White vs Asian Ethnicity on the Performance of FRAX in Canadian Women: The Manitoba BMD Cohort**
William Leslie*[1], Sumit Majumdar[2], Suzanne Morin[3], Lisa Lix[1], Helena Johansson[4], Anders Oden[4], Eugene McCloskey[4], John Kanis[4]. [1]University of Manitoba, Canada, [2]University of Alberta, Canada, [3]McGill University, Canada, [4]Centre for Metabolic Bone Diseases, University of Sheffield Medical School, United Kingdom
Disclosures: William Leslie, None

SU0198 **FRAX and the Confounding Effect of Hip Area in Canadian White Women: The Manitoba BMD Cohort**
William Leslie*[1], Sumit Majumdar[2], Suzanne Morin[3], Lisa Lix[1], Helena Johansson[4], Anders Oden[4], Eugene McCloskey[4], John Kanis[4]. [1]University of Manitoba, Canada, [2]University of Alberta, Canada, [3]McGill University, Canada, [4]Centre for Metabolic Bone Diseases, University of Sheffield Medical School, United Kingdom
Disclosures: William Leslie, None

SU0199 **Genetic Determinant of Trabecular Bone Score (TBS)**
Lan T Ho-Pham*[1], Didier Hans[2], Linh D Mai[3], Minh C Doan[3], Tuan V Nguyen[4]. [1]Bone & Muscle Research Division, Ton Duc Thang University, Viet nam, [2]Center of Bone disease, Lausanne University Hospital, Switzerland, [3]Department of Internal Medicine, Pham Ngoc Thach University of Medicine, Viet nam, [4]Osteoporosis & Bone Biology Program, Garvan Institute of Medical Research; School of Public Health & Community Medicine, University of New South Wales; Centre for Health Technologies, University of Technology Sydney, Australia
Disclosures: Lan T Ho-Pham, None

SU0200 **Increased Trabecular Bone Score in Kidney Transplant Recipients**
Murtaza Bharmal*[1], Sahithi Jarugula[2], Renaud Winzenrieth[3], Edward Leib[1]. [1]University of Vermont College of Medicine, United states, [2]University of Vermont Medical Center, United states, [3]Med-Imaps, France
Disclosures: Murtaza Bharmal, None

SU0201 **Longitudinal Assessment of Bone Mineral Density in Diabetes and Non-diabetes Subjects: The Chungju Metabolic Disease Cohort(CMC) Study**
Kwanhoon Jo[1], Ki-Hyun Baek*[2], Je-ho Han[3], Mooil Kang[4]. [1]Seoul St. Mary Hospital, Korea, republic of, [2]Yeouido St. Mary Hospital, Korea, republic of, [3]Incheon St. Mary Hospital, Korea, republic of, [4]Seoul St.Mary Hospital, Korea, republic of
Disclosures: Ki-Hyun Baek, None

SU0202 **Preliminary Comparison Between Normative Spine TBS Data for Moroccans Men and Women**
Abdellah El Maghraoui[1], Doris Tran[2], Renaud Winzenrieth*[2], Aziza Mounach[1]. [1]Rheumatology Department, Military Hospital Mohammed V, Rabat, Morocco, Morocco, [2]R & D Department, Med-Imaps, Bordeaux, France, France
Disclosures: Renaud Winzenrieth, None

SU0203 **TBS Measurements May be Less Impacted by Differences in Age, BMI and Body Composition than BMD**
Diane Krueger[1], Jessie Libber[1], Renaud Winzenrieth*[2], Neil Binkely[1]. [1]University of Wisconsin, United states, [2]Medimaps Group, France
Disclosures: Renaud Winzenrieth, None

SU0204 **African American Men and Women have lower TBS than Caucasians**
Rajesh Jain*, Tamara Vokes. University of Chicago Department of Endocrinology, Diabetes, & Metabolism, United states
Disclosures: Rajesh Jain, None

OSTEOPOROSIS - ASSESSMENT: OTHER IMAGING TECHNIQUES

SU0205 **3D-DXA analysis of the changes in cortical and trabecular bone in patients with celiac disease after 1-year on gluten-free diet**
María Belen Zanchetta*[1], Ludovic Humbert[2], Martelli Yves[2], Vanesa Longobardi[1], Mariela Sesta[3], cesar bogado[4], Jose Zanchetta[1]. [1]MD, Argentina, [2]MD, Spain, [3]PH, Argentina, [4]PHD, Argentina
Disclosures: María Belen Zanchetta, None

SU0206 **Analysis of the Change in the Superior and Inferior Cortical Structure of the Female Femoral Neck Between 19 and 97 Years**
Benjamin Khoo*[1], Keenan Brown[2], Richard Prince[3]. [1]Medical Technology & Physics, Sir Charles Gairdner Hospital, Australia, [2]Mindways Software Inc, United states, [3]School of Medicine & Pharmacology, University of Western Australia, Australia
Disclosures: Benjamin Khoo, None

SU0207 **Comparison of the bone geometry, volumetric density, and microstructure between the standard fixed offset and the relative offset method of HR-pQCT**
Narihiro Okazaki*[1], Ko Chiba[1], Ayako Kurogi[1], Yusaku Isobe[2], Shuntaro Sato[3], Kiyoshi Sada[4], Makoto Osaki[1]. [1]Department of Orthopaedic Surgery, Nagasaki University Hospital, Japan, [2]Nagasaki University School of Medicine, Japan, [3]Clinical Research Center, Nagasaki University Hospital, Japan, [4]Department of Radiology & Biomedical Imaging, University of California, San Francisco, United states
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SU0208 **Estimation of cortical thickness: the effect of two reconstruction kernels on two different segmentation methods**
Oleg Museyko, Klaus Engelke*. IMP, University of Erlangen-Nuremberg, Germany
Disclosures: Klaus Engelke, None

SU0209 **In Vivo Bone Microstructure Analysis of Fracture Healing by HR-pQCT**
Kazuaki Yokota*[1], Ko Chiba[1], Narihiro Okazaki[1], Ayako Kurogi[1], Makoto Era[2], Yuichiro Nishino[3], Takashi Miyamoto[4], Makoto Osaki[1]. [1]Department of Orthopedic Surgery, Nagasaki University Hospital, Japan, [2]Department of Orthopedic Surgery, Mitsubishi Nagasaki Hospital, Japan, [3]Department of Orthopedic Surgery, Saisekai Nagasaki Hospital, Japan, [4]Trauma Center, Nagasaki University Hospital, Japan
Disclosures: Kazuaki Yokota, None

SU0210 **In Vivo Evaluations of MRI Bound and Pore Water Measures of Cortical Bone in Osteoporotic Patients**
Mary Kate Manhard*, S. Bobo Tanner, Jeffry Nyman, Mark Does. Vanderbilt University, United states
Disclosures: Mary Kate Manhard, None

SU0211 **Poor Trabecular Microarchitecture at Distal Radius Predicts Fractures in Older men – the Prospective STRAMBO Study**
Pawel Szulc*, Stéphanie Boutroy, Roland Chapurlat. INSERM UMR 1033, University of Lyon, Hôpital Edouard Herriot, France
Disclosures: Pawel Szulc, None

SU0212 **Sensitivity and specificity of osteoporosis diagnostics at primary healthcare with Bindex**
Janne Karjalainen*[1], Ossi Riekkinen[1], John Schousboe[2], Heikki Kröger[3]. [1]Bone Index Finland, Finland, [2]Park Nicollet Institute, United states, [3]Kuopio University Hospital, Finland
Disclosures: Janne Karjalainen, Bone Index Finland, 16

SU0213 **Sexual and Racial Dimorphism in bone microarchitecture requires adjustment of the region of interest for skeleton dimensions**
Ali Ghasem-Zadeh*, XiaoFang Wang, Roger Zebaze, Ego Seeman. Austin Health, University of Melbourne, Australia
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SU0214 **Spinal Bone Density Assessment on Virtual Non-contrast images**
James Leake, MD*[1], Xinhui Duan[1], Keenan Brown[2], Orhan Oz[1]. [1]UT Southwestern Medical Center, United states, [2]MIndways Software, United states
Disclosures: James Leake, MD, None

SU0215 **Three-dimension Assessment of Spinal and Pelvic Parameters in Patients with Vertebral Fractures and High Risk of Falls**
Marie Fechtenbaum*[1], Jacques Fechtenbaum[2], Adrien Etcheto[2], Antoine Feydy[3], Christian Roux[2], Karine Briot[2]. [1]Rehabilitation department, Cochin hospital, Paris, France, France, [2]Rheumatology department, Cochin hospital, Paris, France, France, [3]Radiology Department, Cochin Hospital, Paris, France, France
Disclosures: Marie Fechtenbaum, None

SU0216 **Trabecular Bone Score in Type 2 Diabetes Mellitus: Preliminary Data of Cross-sectional Case-control Study**
Manuel Muñoz Torres*[1], Maria Dolores Avilés Perez[2], Antonia García Martin[2], Cristina Novo Rodriguez[2], Rossana Manzanares Córdova[2], Rafael Nieto Serrano[3]. [1]Bone Metabolic Unit, Endocrinology Division. Complejo Hospitalario Universitario de Granada (ibs.Granada). Spain., Spain, [2]Bone Metabolic Unit, Endocrinology Division. Complejo Hospitalario Universitario de Granada (ibs.Granada). Spain, Spain, [3]Nuclear Medicine Unit. Complejo Hospitalario Universitario de Granada (ibs.Granada). Spain., Spain
Disclosures: Manuel Muñoz Torres, None

OSTEOPOROSIS - EPIDEMIOLOGY: BONE MINERAL DENSITY

SU0217 **Complications and Skeletal Health in Long Duration Type 1 Diabetes**
Hillary Keenan*[1], Ernesto Maddaloni[2], Varant Kupelian[3], Liane Tinsley[1], Maya Khatri[1]. [1]Joslin Diabetes Center, United states, [2]University Bio-Medica Roma, Italy, [3]Alexion Pharmaceuticals, United states
Disclosures: Hillary Keenan, None

SU0218 **Estimating the Prevalence of Osteoporosis Among Adults in the United States Using the National Bone Health Alliance Diagnostic Criteria**
Nicole Wright*[1], Kenneth Saag[2], Bess Dawson-Hughes[3], Sundeep Khosla[4], Ethel Siris[5]. [1]Department of Epidemiology, University of Alabama at Birmingham, United states, [2]Division of Clinical Immunology & Rheumatology, University of Alabama at Birmingham, United states, [3]USDA Human Nutrition Research Center at Tufts University, United states, [4]Division of Endocrinology, Metabolism, Diabetes, Nutrition, & Internal Medicine, Mayo Clinic, United states, [5]Division of Endocrinology, Columbia University Medical Center, United states
Disclosures: Nicole Wright, Amgen, 13

SU0219 **Prevalence of Osteoporosis and Low Bone Mass among Puerto Rican Adults: Results from the Boston Puerto Rican Osteoporosis Study**
Sabrina E. Noel*[1], John L. Griffith[2], Nicole C. Wright[3], Bess Dawson-Hughes[4], Katherine L. Tucker[1]. [1]University of Massachusetts Lowell, United states, [2]Northeastern University, United states, [3]University of Alabama at Birmingham, United states, [4]Jean Mayer USDA Human Nutrition Research Center on Aging, Tufts University, United states
Disclosures: Sabrina E. Noel, None

SU0220 **The Cross-Sectional Survey Study of Osteoporosis in Shanghai Middle-Aged and Elderly People of China**
Jing Wang[1], Bing Shu*[2], Chen-guang Li[1], Xiao-feng Qi[2], Liang Qiao[2], Lin Chen[2], Qiang Wang[2], Xue-jun Cui[2], Yong-jun Wang[2]. [1]Longhua Hospital, Shanghai University of Traditional Chinese Medicine, China, [2]Spine Research Institute, Shanghai University of Traditional Chinese Medicine, China
Disclosures: Bing Shu, None

OSTEOPOROSIS - EPIDEMIOLOGY: ENVIRONMENTAL AND LIFESTYLE FACTORS

SU0221 **Impact of Body Weight Dynamics Following Intentional Weight Loss on Fracture Risk: Results from The Action for Health in Diabetes Study**
Kristen Beavers*[1], Rebecca Neiberg[2], Karen Johnson[3], Ramon Casanova[2], Ann Schwartz[4], Carolyn Crandall[5], Cora Lewis[6], Xavier Pi-Sunyer[7], Stephen Kritchevsky[2]. [1]Wake Forest University, United states, [2]Wake Forest School of Medicine, United states, [3]University of Tennesse, United states, [4]UCSF School of Medicine, United states, [5]David Geffen School of Medicine at UCLA, United states, [6]University of Alabama School of Medicine, United states, [7]Columbia University, United states
Disclosures: Kristen Beavers, None

OSTEOPOROSIS - EPIDEMIOLOGY: FALLS AND FRACTURES

SU0222 **Achieving Freedom from Glucocorticoids Use might Decrease the Risk of Clinical Fractures in Patients with Rheumatoid Arthritis: Five-Year Results of the TOMORROW Study**
Tatsuya Koike*[1], Kenji Mamoto[2], Yuko Sugioka[3], Masahiro Tada[2], Tadashi Okano[2], Kentaro Inui[4]. [1]Search Institute for Bone & Arthritis Disease (SINBAD), Shirahama Foundation for Health & Welfare, Japan, [2]Department of Orthopedic Surgery, Osaka City University Medical School, Japan, [3]Center for Senile Degenerative Disorders (CSDD), Osaka City University Medical School, Japan, [4]Department of Rheumatosurgery, Osaka City University Medical School, Osaka, Japan
Disclosures: Tatsuya Koike, None

SU0223 **EPIDEMIOLOGICAL CHARACTERISTICS OF FEMORAL FRACTURES IN SERGIPE, 2010 - 2015, BRAZIL**
PRISCILA SOARES PEREIRA, FRANCISCO DE ASSIS PEREIRA*, CARLOS UMBERTO PEREIRA, ANNA KLARA BOHLAND, PATRICIA MONIQUE PEREIRA, LARISSA TIZIANE PEREIRA. UNIVERSIDADE FEDERAL DE SERGIPE, Brazil
Disclosures: FRANCISCO DE ASSIS PEREIRA, None

SU0224 **Incident Fracture is Associated with a Period of Accelerated Loss of Hip BMD: The Study of Osteoporotic Fractures**
Blaine Christiansen*[1], Stephanie Litwack Harrison[2], Howard Fink[3], Nancy Lane[1]. [1]University of California Davis Health System, United states, [2]University of California, San Francisco, United states, [3]University of Minnesota, United states
Disclosures: Blaine Christiansen, None

SU0225 **Metabolic Syndrome and Risk of Incident Fall Injury in Community-Dwelling Older Adults: the Health, Aging, and Body Composition Study**
Naoko Sagawa*[1], Brian C. Callaghan[2], Robert M. Boudreau[1], Aaron I. Vinik[3], Ann V. Schwartz[4], Teresa M. Waters[5], Jane A. Cauley[1], Elsa S. Strotmeyer[1]. [1]University of Pittsburgh, United states, [2]University of Michigan, United states, [3]Eastern Virginia Medical School, United states, [4]University of California San Francisco, United states, [5]University of Tennessee, United states
Disclosures: Naoko Sagawa, None

SU0226 **Overall Pediatric Fracture Incidence is Declining and Fracture Etiology is Changing - Trends over Six Decades**
Vasileios Lempesis*[1], Björn Rosengren[1], Jan-Åke Nilsson[1], Lennart Landin[1], Carl-Johan Tiderius[1], Magnus Karlsson[2]. [1]Department of Orthopedics & Clinical Sciences, Skåne University Hospital, Lund University, Sweden, [2]Department och Orthopedics & Clinical Sciences, Skåne University Hospital, Lund University, Sweden
Disclosures: Vasileios Lempesis, None

SU0227 **Predictors of imminent fracture risk in Medicare-enrolled men and women**
Akeem Yusuf*[1], Yan Hu[1], David Chandler[2], Barry Crittenden[2], Richard Barron[2]. [1]Chronic Disease Research Group, United states, [2]Amgen Inc., United states
Disclosures: Akeem Yusuf, None

SU0228 **Rate of Bone Loss Is Not Different Between Females Who Fracture and Those Who Do Not Fracture**
Lauren Burt*[1], Sarah Manske[1], David Hanley[2], Steven Boyd[1]. [1]McCaig Institute for Bone & Joint Health, Department of Radiology, Cumming School of Medicine, University of Calgary, Canada, [2]McCaig Institute for Bone & Joint Health, Departments of Community Health Sciences & Oncology, Cumming School of Medicine, University of Calgary, Canada
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OSTEOPOROSIS - EPIDEMIOLOGY: RISK FACTORS

SU0229 **A Prospective Study of Gout and Risk of Fracture in Women**
Julie M Paik*[1], Seoyoung C Kim[1], Diane Feskanich[1], Hyon K Choi[2], Daniel H Solomon[1], Gary C Curhan[1]. [1]Brigham & Women's Hospital, Harvard Medical School, United states, [2]Massachusetts General Hospital, Harvard Medical School, United states
Disclosures: Julie M Paik, None

SU0230 **Associations of Parity and Breast-feeding with Hip Fracture Incidence in the Women's Health Initiative**
Carolyn Crandall*[1], Jane Cauley[2], Jingmin Liu[3], Polly Newcomb[3], Kelli Ryckman[4], Lisette Jacobson[5], Marcia Stefanick[6], Mara Vitolins[7], JoAnn Manson[8]. [1]University of California, Los Angeles, United states, [2]University of Pittsburgh, United states, [3]Fred Hutchinson Cancer Research Center, United states, [4]The University of Iowa, United states, [5]University of Kansas School of Medicine-Wichita, United states, [6]Stanford University School of Medicine, Stanford University, United states, [7]Wake Forest School of Medicine, United states, [8]Brigham & Women's Hospital, Harvard Medical School, United states
Disclosures: Carolyn Crandall, None

SU0231 **Demographic and clinical patterns in primary fracture prevention**
Annette Adams*[1], David Yi[1], Fang Niu[2], Rita Hui[2], Joan Lo[3]. [1]Dept of Research & Evaluation, Kaiser Permanente Southern California, United states, [2]Pharmacy Outcomes Research Group, Kaiser Permanente California, United states, [3]Division of Research, Kaiser Permanente Northern California, United states
Disclosures: Annette Adams, Merck, 13; Otsuka, 13; Amgen Inc, 13

SU0232 **Effects of Insulin Resistance on Bone Microarchitecture in Non-Diabetic, Older Adults: Framingham HR-pQCT Study**
Elizabeth Samelson*[1], L. Adrienne Cupples[2], Kerry Broe[3], Robert Mclean[4], Marian Hannan[5], Serkalem Demissie[2], Ching-ti Liu[6], Douglas Kiel[3], Mary Bouxsein[7]. [1]Hebrew SeniorLife Harvard Medical School, United states, [2]Boston University, United states, [3]hebrew seniorlife, United states, [4]hebrewseniorlife, United states, [5]hewbrew seniorlife, United states, [6]boston univeristy, United states, [7]Beth Israel Deaconess Medical Center, United states
Disclosures: Elizabeth Samelson, None

SU0233 **Fracture Risk Indices from DXA-Based Finite Element Analysis Stratify Hip Fracture Better Than Femoral Neck BMD: A Cross-Sectional Validation Study**
Shuman Yang*, William Leslie, Yunhua Luo, Andrew Goertzen, Sharif Ahmed, Linda Ward, Lisa Lix. University of Manitoba, Canada
Disclosures: Shuman Yang, None

SU0234 **Parathyroid tumors and hypertension-epidemiology of a neuroendocrine link?**
Carmen Gabriela Barbu*[1], Suzana Florea[2], Amalia Arhire[2], Luminita Cima[1], Anca Sirbu[1], T Radu[3], Alice Albu[1], Olteea Ionescu[2], Sorina Martin[1], Crina Filisan[2], Simona Fica[1]. [1]Carol Davila University, Elias Hospital Endocrine Department Hospital, Bucharest, Romania, [2]Elias University Hospital, Bucharest, Romania, [3]Elias University Emergency Hospital, Bucharest, Romania
Disclosures: Carmen Gabriela Barbu, None

SU0235 **Performance of Predictive Tools to Identify Individuals at Risk of Osteoporotic Fractures: a Systematic Review and Meta-analysis**
Claudia Beaudoin*[1], Lynne Moore[1], Mathieu Gagné[2], Louis Bessette[3], Louis-Georges Ste-Marie[4], Jacques P. Brown[3], Sonia Jean[2]. [1]Université Laval, Canada, [2]Institut national de santé publique du Québec, Canada, [3]CHU de Québec Research Centre, Canada, [4]Université de Montréal, Canada
Disclosures: Claudia Beaudoin, None

SU0236 **Prior Fragility Fracture Predicts Cardiovascular Events in Men: Results from UK Biobank**
Julien Paccou*[1], Stefania D'Angelo[1], Mark Edwards[1], Cyrus Cooper[1], Steffen Petersen[2], Nick Harvey[1]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [2]NIHR Cardiovascular Biomedical Research Unit at Barts, William Harvey Research Institute, Queen Mary University of London, United Kingdom
Disclosures: Julien Paccou, None

SU0237 **Serum Adiponectin Levels and Bone Strength According to Metabolic Health in Korean Adults: The KoGES- ARIRANG Study**
Jung Soo Lim*[1], EunHee Choi[2], Sang Baek Koh[3], Song Vogue Ahn[3]. [1]Department of Internal Medicine, Yonsei University Wonju College of Medicine, Korea, republic of, [2]Institute of Lifestyle Medicine, Yonsei University Wonju College of Medicine, Korea, republic of, [3]Department of Preventive Medicine, Yonsei University Wonju College of Medicine, Korea, republic of
Disclosures: Jung Soo Lim, None

SU0238 **Short-Term Subsequent Fracture Risk in Patients with a Recent History of Low-Trauma Non-Vertebral Fracture**
Aude Deloumeau*, Anna Molto, Maxime Dougados, Christian Roux, Karine Briot. Paris Descartes University, Cochin Hospital, Department of Rheumatology, Paris, France, France
Disclosures: Aude Deloumeau, None

OSTEOPOROSIS - HEALTH CARE DELIVERY: GENERAL

SU0239 **A Demonstration Study of the Fracture Liaison Service (FLS) Model of Care for Patients with Osteoporotic Fractures**
Susan Greenspan[1], Andrea Singer*[2], Robert Recker[3], David Lee[4], Simone Karp[5], Brian Marchand[6], Debbie Zeldow[4], Larry Stern[7]. [1]UPMC, United states, [2]MedStar Georgetown University Hospital, United states, [3]Creighton University, United states, [4]NBHA, United states, [5]CECity, United states, [6]CECity, Inc., United states, [7]Merck, United states
Disclosures: Andrea Singer, Merck, 13

SU0240 **Bone Health ECHO: An Innovative Strategy of Telementoring to Improve Osteoporosis Care in Underserved Communities**
E. Michael Lewiecki*[1], Matthew F. Bouchonville II[2], David H. Chafey[2], Sanjeev Arora[2]. [1]New Mexico Clinical Research & Osteoporosis Center, United states, [2]University of New Mexico School of Medicine, United states
Disclosures: E. Michael Lewiecki, Amgen, 13; Lilly, 13; Merck, 13

SU0241 **Capture the Fracture by SMS**
Robert Theiler[1], Gregor Freystaetter*[1], Heike Bischoff-Ferrari[1], Christian Meier[2], Andreas Platz[3], Hans-Ulrich Mellinghoff[4]. [1]University Hospital Zurich, Switzerland, [2]Universität Basel, Switzerland, [3]Triemli Spital, Switzerland, [4]Kantonsspital St. Gallen, Switzerland
Disclosures: Gregor Freystaetter, None

SU0242 **Closing the Treatment Gap: Establishment of a Fracture Liaison Service in Germany**
Markus Rossmann*[1], Jonas Pommerening[1], Wanja Wolters[1], Georg Dahmen[2], Andreas Schüsseler[2], Catharina Bullmann[2], Wolfgang Lehmann[1], Johannes Rueger[1], Eric Hesse[1]. [1]Department of Trauma, Hand & Reconstructive Surgery, University Medical Center Hamburg-Eppendorf, Germany, [2]Osteoporosis-Network Hamburg, Germany
Disclosures: Markus Rossmann, None

SU0243 **Influence of Gastrointestinal Events on Non-treatment of Asia-Pacific Women with Osteoporosis: Perspectives from Physicians in the MUSIC OS-AP Study**
Ankita Modi[1], Peter Ebeling[2], Mel Lee[3], Yong-Ki Min[4], Ambrish Mithal[5], Xiaoqin Yang*[1], Santwona Baidya[6], Shuvayu Sen[1], Shiva Sajjan[1]. [1]Merck & Co., Inc., United states, [2]Monash University, Australia, [3]Chang Gung Memorial Hospital, Taiwan, province of china, [4]Sungkyunkwan University, Korea, republic of, [5]Medanta the Medicity, India, [6]Optum, Australia
Disclosures: Xiaoqin Yang, Merck & Co., Inc., 17

SU0244 **Secondary Prevention Gap After a Hip Fracture: the SPARE-HIP Prospective Cohort Anti-Osteoporosis Treatment Rates During Hospital Admission and at 1 and 4 Months Post-Fracture**
Daniel Prieto-Alhambra*[1], Ignacio Andrés Cano[2], María Asenjo Cambra[3], Antonio Balfagon Ferrer[4], Alejandro Bañuelos Díaz[5], Fátima Brañas Baztán[6], Manuel Francisco Bravo Bardají[7], José Ramón Caeiro Rey[8], Vicent Climent-Peris[9], Jose Carlos Díaz Miñarro[10], Ángel Díez Rodríguez[11], Emma Escudero Martinez[12], Maria Teresa Espallargas Doñate[13], Iñigo Etxebarría-Foronda[14], Laura Ezquerra Herrando[15], Jesus Fernandez-Lombardia[16], Lara Guardado[17], Miguel Martínez Ros[18], Damián Mifsut Miedes[19], Sarah Mills Gañan[20], José Manuel Olmos Martínez[21], Pilar Sáez López[22], Mònica Salomó Domènech[23], Miguel Sanz Sainz[24], Jorge Juan Sierra Serrano[25], Jordi Teixidor Serra[26], Óscar Tendero Tendero Gómez[27], Óscar Torregrosa Suau[28], Antonio Herrera[29], Adolf Díez-Pérez[30]. [1]NDORMS, University of Oxford, United Kingdom, [2]Orthopaedic Surgey, Traumatology & Rheumatology Department, Hospital Puerta del Mar, Spain, [3]Geriatric Medicine Department, Hospital Universitario de Getafe, Spain, [4]Orthopaedic Surgey & Traumatology Unit, Hospital Universitario y Politécnico La Fe de Valencia, Spain, [5]Department of Orthopaedic Surgery, Hospital Universitario del Río Hortega, Spain, [6]Geriatric & Internal Medicine Department, Hospital Universitario Infanta Leonor, Spain, [7]Department of Orthopaedic Surgery, Hospital Regional Universitario Carlos Haya, Spain, [8]Department of Orthopaedic Surgery, Complejo Hospitalario Universitario de Santiago de Compostela, Spain, [9]Orthopaedics & Traumatology Department, Hospital Lluís Alcanyís, Spain, [10]Hospital Universitario Reina Sofía, Spain, [11]Orthopaedic Surgey & Traumatology Service, Hospital Virgen del Puerto, Spain, [12]Department of Orthopaedic Surgery, Complejo Hospitalario Universitario de Pontevedra, Spain, [13]Department of Orthopaedic Surgery, Hospital Obispo Polanco, Spain, [14]Department of Orthopaedic Surgery, Alto Deba Hospital, Spain, [15]Orthopaedic Surgery & Traumatology Service, Hospital Clínico Universitario de, Spain, [16]Department of Orthopaedic Surgery, Hospital Universitario San Agustin, Spain, [17]Geriatric Medicine Department, Hospital Universitario San Carlos, Spain, [18]Orthogeriatric Unit, Hospital Virgen de la Arrixaca, Spain, [19]Hospital Clínico de Valencia, Spain, [20]Department of Orthopaedic Surgery, Hospital Universitario La Paz, Spain, [21]Internal Medicine Service, RETICEF, IDIVAL, Universidad de Cantanbria, Spain, [22]Geriatric Medicine Department, Hospital Nuestra Señora de Sonsoles, Spain, [23]Orthopaedic Surgery & Traumatology Department, Hospital Universitario Parc Tauli, Spain, [24]Orthopaedic Surgery & Traumatology Service, Hospital Universitario Miguel Servet, Spain, [25]Orthopaedic Surgery & Traumatology Service, Hospital San Pedro, Spain, [26]Trauma Unit, Hospital Vall d Hebron Barcelona, Universitat Autónoma de Barcelona, Spain, [27]Department of Orthopaedic Surgery, Hospital Universitario Son Espases, Spain, [28]Bone Metabolism Unit, Internal Medicine Service, Hospital General Universitario de Elche, Spain, [29]Department of Surgery, Medicine School, University of Zaragoza, Spain, [30]Department of Internal Medicine, Hospital del Mar-IMIM & Autonomous University of Barcelona, Spain
Disclosures: Daniel Prieto-Alhambra, Amgen, 101; Servier, 13

SU0245 **Treatment gaps in osteoporosis are more prevalent in patients less than 65 years old in a regional general hospital setting in Singapore**
Linsey Gani*, Rayan Alsuwaigh, Thomas King, Joan Khoo. Changi General Hospital, Singapore
Disclosures: Linsey Gani, None

OSTEOPOROSIS - HEALTH CARE DELIVERY: OUTCOME STUDIES

SU0246 **Fracture Risk Specific Treatment Initiation Rates in an Orthopaedic Fracture Liaison Service**
Earl Bogoch, Victoria Elliot-Gibson*, Dorcas Beaton, Robert Josse, Joanna Sale, Erin Norris. St. Michael's Hospital, Canada
Disclosures: Victoria Elliot-Gibson, Procter and Gamble Pharmaceuticals Inc, 13; Martin Family Foundation, 13; Helen McCrea Peacock Foundation, 13; Warner Chilcott, 13; Novartis Canada Ltd, 13; Alliance for Better Bone Health, 13; Mr. and Mrs. W. Saunderson, 13; Mr. Clifford Martin, 13; Merck Frosst Canada Inc, 13; Amgen Canada Inc, 13

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: CALCIUM AND VITAMIN D

SU0247 **Age-specific thresholds for sufficient 25(OH)-vitamin D serum levels in patients with clinical risk factors for osteoporosis and fractures**
Oliver Bock*, Susanne Pyttel, Ute Dostmann. MVZ Promedio GmbH - Integrated Medicine, Laboratory Medicine, Germany
Disclosures: Oliver Bock, None

SU0248 **Comparative effects of high-dose vitamin D2 versus vitamin D3 on serum total and free 25-hydroxyvitamin D and markers of calcium homeostasis**
Albert Shieh*[1], Rene Chun[1], Christina Ma[1], Martin Hewison[2], John Adams[1]. [1]UCLA, United states, [2]The University of Birmingham, United Kingdom
Disclosures: Albert Shieh, None

SU0249 **Musculoskeletal form and function in Chinese postmenopausal women are influenced by both calcium intake and vitamin D status**
Feitong Wu*[1], Laura Laslett[1], Qian Zhang[2], Xiaoqi Hu[2], Hui Pan[2], Feng Pan[1], Jing Tian[1], Gongbu Pan[1], Kun Zhu[3], Richard Prince[3]. [1]Menzies Institute for Medical Research, University of Tasmania, Australia, [2]National Institute for Nutrition & Health, Chinese Centre for Disease Control & Prevention, China, China, [3]Department of Endocrinology & Diabetes, Sir Charles Gairdner Hospital, Perth, Australia, Australia
Disclosures: Feitong Wu, None

SU0250 **Predictors of Maternal Response to Gestational Vitamin D Supplementation: Findings from the MAVIDOS Trial**
Rebecca Moon[1], M Kassim Javaid[2], Stefania D'Angelo[1], Sarah Crozier[1], Inez Schoenmakers[3], Nicholas Bishop[4], Stephen Kennedy[5], Aris Papageorghiou[5], Robert Fraser[6], Saurabh Gandhi[6], Ann Prentice[3], Cyrus Cooper[1], Nicholas Harvey*[1], MAVIDOS Trial Group[1]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [2]NIHR Oxford Musculoskeletal Biomedical Research Unit, University of Oxford, United Kingdom, [3]MRC Human Nutrition Research, United Kingdom, [4]Academic Unit of Child Health, Sheffield Children's Hospital, University of Sheffield, United Kingdom, [5]Nuffield Department of Obstetrics & Gynaecology, John Radcliffe Hospital, University of Oxford, United Kingdom, [6]Sheffield Hospitals NHS Trust (University of Sheffield), United Kingdom
Disclosures: Nicholas Harvey, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: EXERCISE

SU0251 **3D-DXA analysis showed that moderate to high-magnitude whole body vibration training over one year increased femoral cortical thickness in low-active postmenopausal women**
Marion Pasqualini[1], Ludovic Humbert*[2], Hervé Locrelle[1], Hubert Marotte[1], Marie-Hélène Lafage-Proust[1], Thierry Thomas[1], Laurence Vico[1]. [1]INSERM 1059, University of Lyon, France, [2]GALGO Medical, Spain
Disclosures: Ludovic Humbert, None

SU0252 **Influence of Physical Activity on Proximal Femoral Bone Density Distribution, Structural Patterns and Estimated Strength: A Within-Subject Controlled Study**
Stuart Warden*[1], Julio Carballido-Gamio[2], Joyce Keyak[3], Alyssa Weatherholt[1], Mariana Kersh[4], Divya Shah[3], Thomas Lang[2], Robyn Fuchs[1]. [1]Indiana University, United states, [2]University of California San Francisco, United states, [3]University of California Irvine, United states, [4]University of Illinois Urbana-Champaign, United states
Disclosures: Stuart Warden, None

SU0253 **Integrated Care Management Programs for Osteoporosis, Sarcopenia, Fall Prevention, Frailty Indices and Quality of Sleep with Multiple Interventions for High Risk Elderly Population in Taiwan**

Rong-Sen Yang*. Department of Orthopedics, National Taiwan University Hospital, Taiwan, province of china

Disclosures: Rong-Sen Yang, None

SU0254 **Using behaviour change theory and user perspectives to design patient education materials to enhance uptake of Too Fit To Fracture recommendations**

Christina Ziebart[1], Caitlin McArthur[1], Alexandra Papaioannou[2], Angela Cheung[3], Judi Laprade[4], Ravi Jain[5], Linda Lee[6], Jeffrey Templeton[1], Lora Giangregorio*[1]. [1]University of Waterloo, Canada, [2]McMaster University & Geriatric Education & Research in Aging Sciences Centre, Canada, [3]University Health Network & University of Toronto, Canada, [4]University of Toronto, Canada, [5]Osteoporosis Canada, Canada, [6]McMaster University & Centre for Family Medicine, Canada

Disclosures: Lora Giangregorio, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: GENERAL

SU0255 **Anti-Inflammatory and Possible Bone-Protective Effects of Dried Plum Polyphenols *In Vitro***

Neda Akhavan*[1], Lili Kamkar[1], Shirin Hooshmand[2], Sarah Johnson[3], Bahram Arjmandi[1]. [1]Florida State University, United states, [2]San Deigo State University, United states, [3]Colorado State University, United states

Disclosures: Neda Akhavan, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: OTHER NUTRIENTS

SU0256 **Melatonin-micronutrients Osteopenia Treatment Study (MOTS)**

SIfat Maria*[1], Dr. Paula Witt-enderby[1], Dr. Mark Swanson[2], Dr. Frank D'Amico[3], Larry Enderby[4], Brianna Enderby[5], Dr. Holly Lassila[1]. [1]Duquesne University, United states, [2]Naturopath, Heart Preventics, LLC, United states, [3]Duquesne Universiy, United states, [4]Enderby Healthcare/Legal Consulting, LLC, United states, [5]Pharm. D, Duquesne University, United states

Disclosures: SIfat Maria, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE AND THE MICROBIOME, BONE INFECTIONS

SU0257 **Mandibular Periodontitis and Osteonecrosis of the Jaw-Like Lesions in Rice Rats (*Oryzomys palustris*) fed a High Sucrose-Casein Diet and treated with Zoledronic Acid**

Donald Kimmel*[1], Jonathan Messer[1], Hung-Yuan Chen[1], Jessica Jiron[1], Jorge Mendieta Calle[1], Evelyn Castillo[1], Cathy van Poznak[2], Jose Aguirre[1]. [1]University of Florida, United states, [2]University of Michigan, United states

Disclosures: Donald Kimmel, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE MODELING AND REMODELING

SU0258 **Effects of glycemic control on bone turnover in older Mexican Americans with type 2 diabetes: data from the Cameron County Hispanic Cohort in Texas**

Nahid Rianon*[1], Scott M Smith[2], MinJae Lee[1], Paul Musgrave[1], Gordon P Watt[3], Shahla Nader[1], Sundeep Khosla[4], Catherine G Ambrose[1], Joseph B McCormick[5], Fisher-Hoch Susan[5]. [1]University of Texas Medical School at Houston, United states, [2]NASA JSC, United states, [3]Brownsville Campus of UT School of Public Health, United states, [4]Mayo Clinic College of Medicine, United states, [5]Brownsville Campus of the UT School of Public Health, United states

Disclosures: Nahid Rianon, None

SU0259 **GATA-3 Participates in Bone Healing Through Transcriptionally Upregulating *bcl-x$_L$* Gene Expression**

Mei-Hsiu Liao*, Pei-I Lin, Ruei-Ming Chen. Graduate Institute of Medical Sciences, College of Medicine, Taipei Medical University, Taiwan, province of china

Disclosures: Mei-Hsiu Liao, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: CALCIUM, VITAMIN D, NUTRITIONAL AND PHYSICAL FACTORS

SU0260 **The Effect of Bariatric Surgery on Serum 25-OH Vitamin D Levels: A Systematic Review and Meta-Analysis**
Herman Bami*, Aashish Kalani, Jonathan Adachi, Arthur Lau. McMaster University, Canada
Disclosures: Herman Bami, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GENERAL

SU0261 **Analgesic Effects of Minodronate in a Rat Model of Chronic Pain**
Masazumi Suzuki*, Naohisa Miyakoshi, Yuji Kasukawa, Koji Nozaka, Hiroyuki Tsuchie, Masashi Fujii, Chie Sato, Norimitsu Masutani, Tetuya Kawano, Yoichi Shimada. Department of Orthopedic Surgery, Japan
Disclosures: Masazumi Suzuki, None

SU0262 **Establishment of autoinflammatory disease model in mice**
Takatsugu Oike*, Takeshi Miyamoto, Hiroya Kanagawa, Yasuo Niki, Morio Matsumoto, Masaya Nakamura. Department of Orthopaedic Surgery, Keio University School of Medicine, Japan
Disclosures: Takatsugu Oike, None

SU0263 **Negative Effects of Repetitive Mild Traumatic Brain Injury (TBI) on Trabecular BMD, Microarchitecture, and Mechanical Properties**
Chandrasekhar Kesavan*, Heather Watt, Subburaman Mohan. VA Loma Linda Healthcare System, United states
Disclosures: Chandrasekhar Kesavan, None

SU0264 **Progesterone and Women's Bone Formation—this is a Causal Relationship**
Jerilynn C. Prior*. University of British Columbia–CeMCOR, Canada
Disclosures: Jerilynn C. Prior, None

SU0265 **The Control of Regulatory T cells Influx by CCL22 is a Critical Determinant of Resident and Inflammatory Cells Pro-Reparative Phenotype in Chronic Inflammatory Osteolytic Lesions**
Andreia Espindola Vieira[1], Priscila Colavite[1], Angelica Fonseca[1], Carolina Favaro Francisconi[1], Ana Paula Trombone[2], Charles S Sfeir[3], Steven R Little[3], Gustavo Garlet*[4]. [1]FOB/USP, Brazil, [2]USC, Brazil, [3]University of Pittsburgh, United states, [4]Sao Paulo University, Brazil
Disclosures: Gustavo Garlet, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GLUCOCORTICOIDS AND OTHER DRUGS

SU0266 **Temporal Sequence of Molecular, Cellular, Vascular and Anatomical Changes Leading to Glucocorticoid-induced Osteonecrosis of the Femoral Head in Mice**
Robert S Weinstein*[1], Erin A Hogan[1], Marilina Piemontese[1], Michael J Borrelli[2], Serguei Liachenko[3], Charles A O'Brien[1], Stavros C Manolagas[1]. [1]Center for Osteoporosis & Metabolic Bone Diseases, Division of Endocrinology & Metabolism, Central Arkansas Veterans Healthcare System & the University of Arkansas for Medical Sciences, United states, [2]Department of Radiology, Central Arkansas Veterans Healthcare System & the University of Arkansas for Medical Sciences, United states, [3]National Center for Toxicological Research/Food & Drug Administration, United states
Disclosures: Robert S Weinstein, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: DIABETES

SU0267 **RTC - The Effect of Metformin on Bone Assessed by Bone Mineral Density and Trabecular Bone Score**

Azra Karahasanovic*[1], Thomas Peter Almdal[2], Peter Vestergaard[3], Louise Lundby Christensen[4], Cimt Trial group (coordinating member: Thomas Peter Almdal)[2], Pia Eiken[5]. [1]Department of Cardiology, Nephrology & Endocrinology, Nordsjaellands Hospital, Hillerod & Faculty of Health & Medical Sciences, University of Copenhagen, Copenhagen, Denmark, Denmark, [2]Department of Endocrinology, Rigshospitalet, Copenhagen, Denmark, Denmark, [3]Departments of Clinical Medicine & Endocrinology, Aalborg University Hospital, Aalborg, Denmark, Denmark, [4]Department of Paediatrics & Adolescent Medicine, Nordsjaellands Hospital, Hillerod, Denmark, Denmark, [5]Department of Cardiology, Nephrology & Endocrinology, Nordsjaellands Hospital, Hillerod & Faculty of Health & Medical Sciences, University of Copenhagen, Copenhagen, Denmark, Denmark

Disclosures: Azra Karahasanovic, None

SU0268 **The Association Between Type 2 Diabetes Mellitus and Bone Quality as Measured with HR-pQCT – The Maastricht Study**

Ellis AC de Waard*[1], Joost JA de Jong[1], Hans HCM Savelberg[2], Tineke A van Geel[3], Boy JHM Houben[4], Ronald MA Henry[4], Miranda T Schram[4], Pieter C Dagnelie[5], Carla J van der Kallen[4], Simone JS Sep[4], Coen DA Stehouwer[4], Nicolaas C Schaper[6], Tos TJM Berendschot[7], Jan SAG Schouten[7], Piet PMM Geusens[8], Annemarie Koster[9], Joop PW van den Bergh[10]. [1]Maastricht University, Department of Internal Medicine, Subdivision of Rheumatology, Maastricht, the Netherlands & NUTRIM School for Nutrition & Translational Research in Metabolism, Maastricht University, Maastricht, the Netherlands, Netherlands, [2]Maastricht University, Department of Human Movement Science, Maastricht, the Netherlands & NUTRIM School for Nutrition & Translational Research in Metabolism, Maastricht University, Maastricht, the Netherlands, Netherlands, [3]Maastricht University, Department of Family Medicine, Maastricht, the Netherlands & NUTRIM/CAPHRI, Maastricht University, Maastricht, the Netherlands, Netherlands, [4]Maastricht University Medical Center, Department of Internal Medicine, Maastricht, the Netherlands & CARIM School for Cardiovascular diseases, Maastricht University, Maastricht, the Netherlands, Netherlands, [5]. Maastricht University, Department of Epidemiology, Maastricht, the Netherlands & CAPHRI/CARIM, Maastricht University, Maastricht, the Netherlands, Netherlands, [6]Maastricht University Medical Center, Department of Internal Medicine, Maastricht, the Netherlands & CAPHRI/CARIM, Maastricht University, Maastricht, the Netherlands, Netherlands, [7]University Eye Clinic Maastricht, Maastricht, The Netherlands, Netherlands, [8]Maastricht University Medical Centre/CAPHRI, Department of Internal Medicine, Subdivision of Rheumatology, Maastricht, the Netherlands & University of Hasselt, Biomedical Research Institute, Hasselt, Belgium, Netherlands, [9]Maastricht University, Department of Social Medicine, Maastricht, the Netherlands & CAPHRI School for Public Health & Primary Care, Maastricht University, Maastricht, the Netherlands, Netherlands, [10]Maastricht University Medical Centre/NUTRIM, Department of Internal Medicine, Subdivision of Rheumatology, Maastricht, the Netherlands & VieCuri Medical Center, Department of Internal Medicine, Subdivision of Endocrinology, Venlo, the Netherlands, Netherlands

Disclosures: Ellis AC de Waard, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: DRUGS, OTHER THAN GLUCOCORTICOIDS

SU0269 **Annual change in fracture load of vertebra estimated by CT-based 3-dimentional finite element modeling in breast cancer patients with aromatase inhibitor therapy**

Koshi Kishimoto*[1], Eiji Itoi[2]. [1]Tohoku Kosai Hospital, Japan, [2]Department of Orthopaedic Surgery, Tohoku University, Japan

Disclosures: Koshi Kishimoto, None

SU0270 **Sad bones: Serotonin Reuptake Inhibitors and Bone Health in an Irish Population**

James Mahon*, Richard M Duffy, Clodagh Power, Nessa Fallon, Georgina Steen, Joseph Browne, Mc Casey, Jb Walsh, Kevin McCarroll. St James's Hospital, Ireland

Disclosures: James Mahon, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: HIV

SU0271 **Bone density and microarchitecture in Hepatitis C and HIV coinfected postmenopausal minority women**
Michael Yin*[1], Zhang Chengchen[1], Kyle Nishiyama[1], Jayesh Shah[1], Susan Olender[1], David Ferris[2], Mariana Bucovsky[1], Ivelisse Colon[1], Donald McMahon[1], Cosmina Zeana[2], Elizabeth Shane[1]. [1]Columbia University Medical Center, United states, [2]Bronx Lebanon Hospital Center, United states
Disclosures: Michael Yin, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: MOBILITY DISORDERS, DISUSE OSTEOPOROSIS

SU0272 **Testosterone Plus Finasteride Prevents Bone Loss and Inhibits Androgen-Mediated Prostate Enlargement in a Rodent Spinal Cord Injury Model**
Ean Phillips*, Joshua Yarrow, Christine Conover, Andrea Vasconez, Jonathan Alerte, Taylor Bassett, Stephen Borst, Fan Ye. North Florida/South Georgia Veterans Health System, United states
Disclosures: Ean Phillips, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: OTHER CONDITIONS OR DISEASES

SU0273 **Adenine Dose Study Modeling Chronic Kidney Disease for One Month in Older Male and Female BALB/c Mice**
Kelly Crane*, William Schroeder, Ryan Clark, Karen King. University of Colorado School of Medicine, United states
Disclosures: Kelly Crane, None

SU0274 **ASBMR 2016 Annual Meeting Young Investigator Award**
Anemia is Associated with Fractures Independent of BMD in Elderly Men
Rodrigo Valderrabano*[1], Jennifer Lee[2], Li-Yung Lui[3], Andrew R Hoffman[2], Steven R. Cummings[3], Eric Orwoll[4], Joy Y Wu[1]. [1]Division of Endocrinology, Stanford University School of Medicine, United states, [2]Division of Endocrinology, Stanford University School of Medicine / Palo Alto Veterans Affairs Health Care System, United states, [3]San Francisco Coordinating Center, California Pacific Medical Center, United states, [4]Department of Medicine, Bone & Mineral Unit, Oregon Health & Science University, United states
Disclosures: Rodrigo Valderrabano, None

SU0275 **Cortical Thinning in Patients with Primary Sclerosing Cholangitis**
Tobias Schmidt*[1], Thorsten Schinke[1], Michael Amling[2]. [1]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppendorf, Germany., Germany, [2]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppendorf, Germany, Germany
Disclosures: Tobias Schmidt, None

SU0276 **Disrupted Trabecular Microarchitecture at Both Distal Radius and Tibia in Patients with Monoclonal Gammopathy of Undetermined Significance**
Emily Stein*, Mariana Bucovsky, Jennifer Mosby, Jing Fu, Chengchen Zhang, Kyle Nishiyama, X Guo, Suzanne Lentzsch, Elizabeth Shane. Columbia University, United states
Disclosures: Emily Stein, None

SU0277 **Effects of Roux-En-Y Gastric Bypass and Sleeve Gastrectomy on Bone Mineral Density and Marrow Adipose Tissue**
Miriam Bredella[1], Logan Greenblatt[2], Alireza Eajazi[1], Martin Torriani[1], Elaine Yu*[2]. [1]Musculoskeletal Radiology, Massachusetts General Hospital, United states, [2]Endocrine Unit, Massachusetts General Hospital, United states
Disclosures: Elaine Yu, None

SU0278 **Endocrine Manifestations of Systemic Mastocytosis in Bone**
Kamyar Asadipooya*. Fellow in Endocrinology & Metabolism, NYU School of Medicine, United states
Disclosures: Kamyar Asadipooya, None

SU0279 **Gene Expression Profiling of Osteoblastic Cells Cultured with Lithocholic Acid or Bilirubin. Implications in the Pathogenesis of Osteoporosis in Liver Diseases**

Silvia Ruiz-Gaspà*[1], Albert Parés[2], Marta Dubreuil[1], Andrés Combalia[1], Pilar Peris[1], Ana Monegal[1], Nuria Guañabens[1]. [1]Metabolic Bone Diseases Unit, Department of Rheumatology, Hospital Clinic, University of Barcelona, IDIBAPS, CIBERehd, Barcelona, Spain, Spain, [2]Liver Unit, Hospital Clínic, University of Barcelona, IDIBAPS, CIBERehd, Barcelona, Spain., Spain

Disclosures: Silvia Ruiz-Gaspà, None

SU0280 **Increase in Bone Mineral Density and Trabecular Bone Score in Graves' Disease After Antithyroid Medical Therapy**

So Young Ock[1], Yong Jun Choi[2], Yoon-Sok Chung*[2]. [1]Kosin University, Korea, republic of, [2]Ajou University, Korea, republic of

Disclosures: Yoon-Sok Chung, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: TRANSPLANTATION

SU0281 **Trabecular Bone score (TBS) and Bone Mineral Density in Recent Kidney Transplantation Patients**

Shogo Nakayama*[1], Eisuke Tomatsu[1], Yasumasa Yoshino[1], Izumi Hiratsuka[1], Sahoko Sekiguchi-Ueda[1], Megumi Shibata[1], Taihei Itoh[2], Hitomi Sasaki[3], Midori Hasegawa[4], Mamoru Kusaka[3], Ryoichi Shiroki[3], Takashi Kenmochi[2], Yukio Yuzawa[4], Kiyotaka Hoshinaga[3], Atsushi Suzuki[1]. [1]Division of Endocrinology & Metabolism, Fujita Health University, Japan, [2]Department of Organ Transplant Surgery, Fujita Health University, Japan, [3]Department of Urology, Fujita Health University, Japan, [4]Division of Nephrology, Fujita Health University, Japan

Disclosures: Shogo Nakayama, None

OSTEOPOROSIS - TREATMENT: ANABOLIC AGENTS

SU0282 **Abaloparatide-SC has Minimal Effects in Subjects with Mild or Moderate Renal Impairment: Results from the ACTIVE Trial**

John P Bilezikian*[1], Gary Hattersley[2], Gregory Williams[2], Ming-Yi Hu[2], Lorraine A Fitzpatrick[2], Socrates Papapoulos[3]. [1]Columbia University College of Physicians & Surgeons, United states, [2]Radius Health, Inc., United states, [3]Leiden University Medical Center, Netherlands

Disclosures: John P Bilezikian, Merck, 14; Shire, 14; Radius Health, Inc, 14; Amgen, 14; Shire, 13

SU0283 **Effect of Recent Fracture on the PINP Response to Teriparatide in Postmenopausal Osteoporosis**

Richard Eastell*[1], John Krege[2], Damon Disch[2], Fernando Marin[2]. [1]University of Sheffield, England, United Kingdom, [2]Eli Lilly & Company, United states

Disclosures: Richard Eastell, Eli Lilly & Company, 13

SU0284 **Fracture Incidence and Changes in Back Pain and Quality of Life in Patients with Osteoporosis Treated with Teriparatide: Results from the European Extended Forsteo® Observational Study (ExFOS)**

Bente Langdahl*[1], Östen Ljunggren[2], Eric Lespessailles[3], George Kapetanos[4], Tomaz Kocjan[5], Nicola Napoli[6], Tatjana Nikolić[7], Pia Eiken[8], Helmut Petto[9], Thomas Moll[10], Erik Lindh[11], Fernando Marin[12]. [1]University Hospital, Aarhus, Denmark, [2]University Hospital, Uppsala, Sweden, [3]Orléans Hospital, France, [4]Papageorgiou General Hospital, Thessaloniki, Greece, [5]University Medical Centre, Ljubljana, Slovenia, [6]University Campus Bio-Medico, Rome, Italy, [7]University Hospital, Zagreb, Croatia, [8]University of Copenhagen, Denmark, [9]Eli Lilly, Europe, Austria, [10]Eli Lilly, Europe, Switzerland, [11]Eli Lilly, Europe, Sweden, [12]Eli Lilly, Europe, Spain

Disclosures: Bente Langdahl, Eli Lilly, Merck, Amgen and UCB, 15; Eli Lilly, Novo Nordisk, and Orkla Health, 13

SU0285 **Bone Microarchitecture After Discontinuation of Denosumab in Postmenopausal Women with Low Bone Mass**

E Seeman*[1], R Zebaze[1], JR Zanchetta[2], DA Hanley[3], A Wang[4], C Libanati[5], RB Wagman[4]. [1]Austin Health, University of Melbourne, Australia, [2]Instituto de Investigaciones Metabólicas, Argentina, [3]University of Calgary, Health Sciences Centre, Canada, [4]Amgen Inc., United states, [5]UCB Pharma, Belgium

Disclosures: E Seeman, Amgen, Allergan, Asahi, Merck Sharp & Dohme, Sanofi, and StraxCorp, 17; Amgen, Asahi, Genzyme, and Warner-Chilcott, 13

SU0286 **Denosumab (DMAb) and Total Lean body Mass: Exploratory Analyses from the FREEDOM Study**

Yves Rolland*[1], Philipe de Souto Baretto[1], Matteo Cesari[1], Lisa Hamilton[2], Michel Réglade[3], Nico Panacciulli[4], Lama Kalouche-Khalil[5]. [1]Gérontopôle, Centre Hospitalier Universitaire de Toulouse (Pr Bruno Vellas), France, [2]Amgen Ltd., United Kingdom, [3]Amgen France, France, [4]Amgen Inc, United states, [5]Amgen (Europe) GmbH, Switzerland

Disclosures: Yves Rolland, Amgen, Pfizer, 17; Lactalis, Nestlé, Nutricia, Lilly, 13

SU0287 **Influence of glucocorticoids on effect of denosumab on osteoporosis in patients with Japanese rheumatoid arthritis; 12 months of follow-up ~a Multicenter Registry Study~**

Yasuhide Kanayama*[1], Yuji Hirano[2], Nobunori Takahashi[3], Shuji Asai[3], Naoki Ishiguro[3], Toshihisa Kojima[3]. [1]Toyota Kosei Hospital, Japan, [2]Toyohashi Municipal Hospital, Japan, [3]Nagoya University Hospital, Japan

Disclosures: Yasuhide Kanayama, None

SU0288 **Monthly Oral Ibandronate 100mg Is as Effective as Monthly Intravenous Ibandronate 1mg in Patient Subgroups of the MOVEST Study**

Masako Ito*[1], Toshitaka Nakamura[2], Hiroshi Hagino[3], Junko Hashimoto[4], Yoshihiro Asao[4], Masao Yamamoto[4], Koichi Endo[4], Kyoko Katsumata[4], Rumiko Matsumoto[5], Tetsuo Nakano[6], Hideki Mizunuma[7]. [1]Nagasaki University, Japan, [2]National Center for Global Health & Medicine, Japan, [3]Tottori University Faculty of Medicine, Japan, [4]Chugai Pharmaceutical Co. Ltd., Japan, [5]Taisho Pharmaceutical Co. Ltd., Japan, [6]Tamana Central Hospital, Japan, [7]Hirosaki University, Japan

Disclosures: Masako Ito, Chugai Pharmaceutical Co. Ltd., 14; Daiichi Sankyo Inc., 14; Chugai Pharmaceutical Co. Ltd, 14; Asahi Kasei Pharma Corp., 14; Astellas Pharma Inc., 14; Ono Pharmaceutical Co. Ltd, 14

SU0289 **Relationship Between Suppression of Bone Turnover Markers and Future Increase in Bone Mineral Density in Risedronate Treatment**

Taro Mawatari*[1], Ryoichi Muraoka[2], Yukihide Iwamoto[3]. [1]Hamanomachi Hospital, Japan, [2]EA Pharma Co., Ltd., Japan, [3]Department of Orthopaedic Surgery, Kyushu University, Japan

Disclosures: Taro Mawatari, None

SU0290 **Safety, Pharmacokinetics, and Changes in Bone Metabolism Associated with Zoledronic Acid Treatment in Japanese Patients with Primary Osteoporosis**

Satoshi Tanaka[1], Masataka Shiraki[2], Hiroaki Suzuki[1], Satoko Ueda*[1], Toshitaka Nakamura[3]. [1]Asahi Kasei Pharma corporation, Japan, [2]Research Institute & Practice for Involutional Diseases, Japan, [3]Gotanda Rehabilitation Hospital, Japan

Disclosures: Satoko Ueda, Asahi Kasei Pharma Corporation, 17

SU0291 **The Incidence and Predictors of Acute Phase Response to Zoledronic Acid in Asian compared to Non-Asian Women in the HORIZON Pivotal Fracture Trial**

Dennis M. Black*[1], Anne Schafer[2], Tiffany Kim[3], Jane A. Cauley[4], Satoko Ueda[5], Ian R. Reid[6]. [1]Department of Epidemiology & Biostatistics, University of California San Francisco, United states, [2]University of California, San Francisco & the San Francisco VA Medical Center, United states, [3]VA Medical Center San Francisco, United states, [4]Department of Epidemiology, University of Pittsburgh, United states, [5]Asahi-Kasei, Japan, [6]Department of Medicine, University of Auckland, New Zealand, New zealand

Disclosures: Dennis M. Black, Asahi-Kasei, 13

OSTEOPOROSIS - TREATMENT: COMPLIANCE AND PERSISTENCE

SU0292 **Adherence to Osteoporosis Treatment in Patients with Lifestyle Related Diseases**
Satoshi Sasaki*[1], Naohisa Miyakoshi[2], Michio Hongo[2], Yuji Kasukawa[2], Yoichi Shimada[2]. [1]Higashinaruse national health insurance clinic, Japan, [2]Akita University Graduate School of Medicine, Japan
Disclosures: Satoshi Sasaki, None

SU0293 **Long-Term Persistence with Osteoporosis Therapies among Postmenopausal Women in a Commercially-Insured Population in the United States**
Emily Durden[1], Lionel Pinto*[2], Lorena Lopez-Gonzalez[1], Paul Juneau[1], Richard Barron[3]. [1]Truven Health Analytics, United states, [2]Amgen Inc., United states, [3]Amgen Inc, United states
Disclosures: Lionel Pinto, Amgen, 13

SU0294 **Optimal conditions to increase Bone mineral density by the combination therapy of bisphosphonates and active vitamin D3 analog is site specifically different between lumbar spine and femoral neck**
Mayuko Kinoshita*[1], Muneaki Ishijima[1], Haruka kaneko[1], Liu Liz[2], Shinnosuke Hada[1], Hitoshi Arita[1], Jun Shiozawa[1], Anwar Yusup[2], Hidetoshi Nojiri[3], Yuko Sakamoto[4], Kazuo Kaneko[1]. [1]Department of Orthopaedics & Motor Organ, Juntendo University Graduate School of Medicine, Japan, [2]Sportology Center, Juntendo University Graduate School of Medicine, Japan, [3]Department of Orthopaedics, Juntendo Tokyo Koto Geriatric Medical Center, Japan, [4]Department of Orthopaedics, Juntendo Nerima Hospital, Japan
Disclosures: Mayuko Kinoshita, None

OSTEOPOROSIS - TREATMENT: OTHER AGENTS

SU0295 **Additional use of VitaminD and Intra-venus Ibandronate could be a Solution of Insufficient Effect of Solitary use of Oral Bisphosphonates or SERM for Osteoporosis Patients in Japan**
yoichi kishikawa*. affiliated, Japan
Disclosures: yoichi kishikawa, None

SU0296 **Persistence with Osteoporosis Therapies in Postmenopausal Women in a Large US National Health Plan**
Benjamin Chastek*[1], Lung-I Cheng[2], John white[1], Leslie Spangler[2], Darshan Mehta[3], Rich Barron[2]. [1]Optum, United states, [2]Amgen, United states, [3]University of Southern California, United states
Disclosures: Benjamin Chastek, Optum, 13

SU0297 **Utility of 18-Fluoride PET in Medication-Related Osteonecrosis of the Jaw**
Ie-Wen Sim*[1], Michael Hofman[2], Claudine Tsao[3], Gelsomina Borromeo[3], John Seymour[4], Peter Ebeling[5]. [1]Melbourne Medical School, University of Melbourne, Australia, [2]Centre for Cancer Imaging, Peter MacCallum Cancer Centre, Australia, [3]Melbourne Dental School, University of Melbourne, Australia, [4]Department of Haematology, Peter MacCallum Cancer Centre, Australia, [5]Department of Medicine, Monash University, Australia
Disclosures: Ie-Wen Sim, None

PARACRINE REGULATORS: CYTOKINES AND IMMUNOMODULATORS

SU0298 **Activation of the adapter protein ShcA allows Oncostatin M to induce RANKL expression and osteoclast formation more effectively than other gp130 cytokines**
Pedro Paulo Chaves Souza*[1], Emma Persson[2], Petra Henning[3], Howard Herschel Conaway[4], Ulf H. Lerner[3]. [1]Faculty of Dentistry at Araraquara, Department of Physiology & Pathology, UNESP, Brazil, [2]Department of Radiation Sciences, Oncology, Umeå University, Sweden, [3]Centre for Bone & Arthritis Research at the Sahlgrenska Academy, University of Gothenburg, Sweden, [4]Department of Physiology & Biophysics, University of Arkansas for Medical Sciences, United states
Disclosures: Pedro Paulo Chaves Souza, None

SU0299 **Enhancing therapeutic potential of macrophages for bone regeneration: Effect of Ca^{2+} loaded poly-lactic acid (PLLA) microspheres**
Xiaobing Jin*[1], Ming Dang[2], Amy Koh[3], Peter Ma[4], Laurie McCauley[1]. [1]Department of Periodontics & Oral Medicine, University of Michigan, United states, [2]Macromolecular Science & Engineering Center, University of Michigan, United states, [3]Department of Periodontics & Oral Medicine, University of Michigan, University of Michigan, United states, [4]Department of Biologic & Material Sciences, University of Michigan, United states
Disclosures: Xiaobing Jin, None

SU0300 **Reduced microRNA21 and Enhanced HMGB1 Release: a Mechanistic Explanation for Increased Osteocyte Apoptosis and Resorption in the Absence of Cx43 and with Aging**
Hannah Davis*[1], Rafael Pacheco-Costa[1], Emily Atkinson[1], Mircea Ivan[1], Angela Bruzzaniti[2], Teresita Bellido[1], Lilian Plotkin[1]. [1]Indiana University School of Medicine, United states, [2]Indiana University School of Dentistry, United states
Disclosures: Hannah Davis, None

PARACRINE REGULATORS: RANK, RANKL AND OPG

SU0301 **Colonic Osteoprotegerin (OPG) participates in Innate Immune Responses to Luminal Bacteria**
Anu Maharjan*[1], Raghunath Ramanarasimhaiah[2], Anthony Vella[2], Francisco Sylvester[1]. [1]University of North Carolina, United states, [2]University of Connecticut, United states
Disclosures: Anu Maharjan, None

PARACRINE REGULATORS: WNT SIGNALING

SU0302 **Oncostatin M robustly increases *Wnt16* expression in osteoblasts limiting oncostatin M-induced osteoclastogenesis**
Petra Henning*[1], Sofia Movérare-Skrtic[1], Pedro P. C. Souza[2], Anna Westerlund[1], Claes Ohlsson[1], Ulf H. Lerner[1]. [1]Centre for Bone & Arthritis Research at the Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Department of Physiology & Pathology, Araraquara School of Dentistry, University Estudual Paulista (UNESP), Brazil
Disclosures: Petra Henning, None

PRECLINICAL MODELS – NUTRITION: GENERAL

SU0303 **Effect of Dried Plum Supplementation on Partial Geometrical Changes of Bone in Ovariectomy-induced Sprague-Dawley Rats**
Shirin Pourafshar*, Negin Navaei, Neda Akhavan, Elizabeth Foley, Kelli George, Bahram Arjmandi. Department of Nutrition, Food & Exercise Sciences, Florida State University, Tallahassee, FL; Center for Advancing Exercise & Nutrition Research on Aging (CAENRA), Florida State University, Tallahassee, FL, United states
Disclosures: Shirin Pourafshar, None

SU0304 **Healthy Dietary Pattern During Adolescence in Females Is Positively Associated with Bone Strength in Adulthood**
Elham Movassagh*[1], Saija Kontulainen[2], Adam Baxter-Jones[3], Susan Whiting[1], Hassan Vatanparast[1]. [1]College of Pharmacy & Nutrition, University of Saskatchewan, Canada, [2]College of Kinesiology, University of Saskatchewan, Canada, [3]College of Graduate Studies & Research, University of Saskatchewan, Canada
Disclosures: Elham Movassagh, None

PRECLINICAL MODELS – NUTRITION: MACRONUTRIENTS

SU0305 **Antioxidant Avenanthramides Prevent Osteoblast and Osteocyte Apoptosis and Induce Osteoclast Apoptosis by Nrf2-Independent Mechanisms**
Gretel G Pellegrini*[1], Cynthya C Morales[2], Taylor C Wallace[3], Lilian I Plotkin[1], Teresita Bellido[1]. [1]Indiana University School of Medicine, Roudebush Veterans Administration Medical Center, Indianapolis, United states, [2]Indiana University School of Medicine, United states, [3]National Osteoporosis Foundation, United states
Disclosures: Gretel G Pellegrini, None

PRECLINICAL MODELS – NUTRITION: MICRONUTRIENTS

SU0306 **Gene Expression of Bone MMP9, MMP13, and VEGF in the Hypovitaminosis D Kyphotic Pig Model**
Laura Amundson*, Thomas Crenshaw. UW-Madison, United states
Disclosures: Laura Amundson, None

PRECLINICAL MODELS – PHARMACOLOGY: ANTIRESORPTIVES

SU0307 **Effects of pre-existing inflammatory conditions on development of tooth extraction-induced BRONJ and DRONJ lesions in mice**
Terresa Kim, Minju Song, Sol Kim, Cindy Lee, Drake Williams, Ki-Kyuk Shin, Mo Kang, No-Hee Park, Reuben Kim*. UCLA, United states
Disclosures: Reuben Kim, None

SU0308 **Intermittent Ibandronate Maintains Bone Mass and Bone Biomechanical Strength after Parathyroid Hormone Treatment in Ovariectomized Rats**
Satoshi Takeda*[1], Sadaoki Sakai[1], Keisuke Tanaka[1], Haruna Tomizawa[1], Kenichi Serizawa[1], Kenji Yogo[1], Koji Urayama[2], Koichi Endo[1], Junko Hashimoto[1], Yoshihiro Matsumoto[1]. [1]Chugai Pharmaceutical Co., Ltd., Japan, [2]Taisho Toyama Pharmaceutical Co., Ltd., Japan
Disclosures: Satoshi Takeda, Chugai Pharmaceutical Co., Ltd, 17

SU0309 **Morphological Changes in Osteoclasts by Condensed Minodronic Acid: The Estimated Concentration at Bone Resorption Sites Reach the Antagonistic Activity against Purinergic P2X2/3 Receptors**
Makoto Tanaka*[1], Akihiro Hosoya[2], Hiroshi Mori[3], Ryoji Kayasuga[3], Hiroaki Nakamura[2], Hidehiro Ozawa[2]. [1]Research headquarters, Ono Pharmaceutical Co., Ltd., Japan, [2]Department of Oral Histology, Matsumoto Dental University, Japan, [3]Research headquarters, Ono Pharmaceutical Co., Ltd., Japan
Disclosures: Makoto Tanaka, None

PRECLINICAL MODELS – PHARMACOLOGY: BONE-FORMING AGENTS

SU0310 **CaMKK2 inhibition as a therapeutic strategy to accelerate bone fracture repair**
Justin Williams*, Yinghua Cheng, Yong Li, Roshni Patel, Anuradha Valiya Kambrath, Uma Sankar. Indiana University School of Medicine, United states
Disclosures: Justin Williams, None

SU0311 **Sclerostin Blockade and Zoledronic Acid Improve Bone Mass and Strength in Mice with Exogenous Hyperthyroidism**
Elena Tsourdi*[1], Franziska Lademann[1], Michael Ominsky[2], Lorenz Hofbauer[1], Martina Rauner[1]. [1]TU Dresden Medical Center, Germany, [2]Center Metabolic Disorders, Amgen, Inc., United states
Disclosures: Elena Tsourdi, None

SU0312 **Skeletal Responses to the Discontinuation of Intermittent Parathyroid Hormone (PTH) Treatment in Intact and Ovariectomized Rats**
Wei-Ju Tseng*, Wonsae Lee, Wei Tong, Luqiang Wang, Xiaoyuan Ma, Hongbo Zhao, Yihan Li, Chih-Chiang Chang, Chantal de Bakker, Ling Qin, X. Sherry Liu. University of Pennsylvania, United states
Disclosures: Wei-Ju Tseng, None

SU0313 **Tanshinol-loaded Bone-targeting Liposome Accelerates Delayed Fracture Healing in Mice**
Yanzhi Liu*[1], Zhenshan Jia[2], Xiang Gao[3], Xiaoyan Wang[2], Xiaobei Wang[2], Liao Cui[1], Dong Wang[2]. [1]Guangdong Key laboratory for Research & Development of Natural Drugs, Guangdong Medical University, China, [2]Nebraska Medical Center, United states, [3]Stem Cell research & Cellular Therapy Center, Affiliated Hospital of Guangdong Medical University, China
Disclosures: Yanzhi Liu, None

PRECLINICAL MODELS – PHARMACOLOGY: OTHERS

SU0314 **Calcitonin alleviates hyperalgesia in osteoporotic rats by modulating serotonin transporter activity**
Jia-Fwu Shyu*[1], Chin-Bin Yeh[2], Tzu-Hui Chu[1], Jung-Tzu Cheng[1], Ni-Ko Wei[1], Wei-Yu Chen[1], Tien-Hua Chen[3]. [1]Department of Biology & Anatomy, National Defense Medical Center, Taiwan, province of china, [2]Department of Psychiatry, National Defense Medical Center, Tri-Service General Hospital, Taiwan, province of china, [3]Institute of Anatomy & Cell Biology, School of Medicine, National Yang Ming University, Taiwan, province of china
Disclosures: Jia-Fwu Shyu, None

SU0315 **Collagen-Induced Arthritis: Densitometry and TRACP-5b Assessments in Rats**
Aurore Varela*[1], Gabrielle Boyd[1], Dominic Poulin[1], Rana Samadfam[1], Jacquelin Jolette[1], Rogely Boyce[2], Kathrin Locher[2], Marina Stolina[2]. [1]Charles River Laboratories, Canada, [2]AMGEN Inc., United states
Disclosures: Aurore Varela, None

SU0316 **Purinergic P2Y12 Receptor Antagonists Inhibit Bone Cell Function In Vitro and Affect Bone Turnover in Adult Female Rats**
Maria Ellegaard*[1], Isabel R Orriss[2], Jessal J Patel[2], Solveig Petersen[1], Ming Ding[3], Saba Hamza[1], Niklas Rye Jørgensen[1]. [1]Research Centre for Ageing & Osteoporosis, Dep. of Clinical Biochemistry & Endocrinology, Rigshospitalet, Denmark, [2]Comparative Biomedical Sciences, Royal Veterinary College, United Kingdom, [3]Department of Orthopaedic Surgery & Traumatology, Odense University Hospital, University of Southern Denmark, Denmark
Disclosures: Maria Ellegaard, None

SU0317 **The Effects of Intra-Articular Treatment with Recombinant Human Bone Morphogenetic Protein 7 (rhBMP-7) on the Development of Post-Traumatic Osteoarthritis in Surgically Induced Rat Models**
Jukka Morko*, ZhiQi Peng, Katja M Fagerlund, Yvonne Konkol, Jukka P Rissanen, Jenni Bernoulli, Jussi M Halleen. Pharmatest Services Ltd, Finland
Disclosures: Jukka Morko, None

SU0318 **The role of sclerostin in bone metabolism in the hypoxic brain damage mice model**
Sun Yong Song[1], Da Hea Seo*[1], Yoon-Kyum Shin[2], Sung Rae Cho[2], Yumie Rhee[1]. [1]Department of Internal Medicine, Endocrine Research Institute, Yonsei University College of Medicine, Korea, republic of, [2]Department & Research Institute of Rehabilitation Medicine, Yonsei University College of Medicine, Korea, republic of
Disclosures: Da Hea Seo, None

RARE BONE DISEASES: FIBROUS DYSPLASIA

SU0319 **Hearing Loss and Otologic Outcomes in Fibrous Dysplasia**
Alison Boyce*[1], Carmen Brewer[2], Timothy DeKlotz[3], Christopher Zalewski[2], Kelly King[2], Michael Collins[1], H. Jeffrey Kim[2]. [1]Section on Skeletal Disorders & Mineral Homeostasis, Craniofacial & Skeletal Diseases Branch, National Institute of Dental & Craniofacial Research, National Institutes of Health, United states, [2]Otolaryngology Branch, National Institute on Deafness & Other Communication Disorders, National Institutes of Health, United states, [3]Department of Otolaryngology-Head & Neck Surgery, Georgetown University Hospital, United states
Disclosures: Alison Boyce, None

SU0320 **Newly formed heterotopic bone in Fibrodysplasia Ossificans Progressive still requires Activin A for maintenance and expansion**
LiQin Xie*, Lily Huang, Nanditha Das, Xialing Wen, Lili Wang, Genevieve Makhoul, Andrew Murphy, Viincent Idone, Aris Economides, Sarah Hatsell. Regeneron, United states
Disclosures: LiQin Xie, None

RARE BONE DISEASES: HYPOPHOSPHATASIA

SU0321 **Denosumab-related Atypical Femoral Fracture in an Elderly Woman with Childhood-onset Hypophosphatasia Due to a Novel Mutation (p.Val121Met)**
Michaël R Laurent*[1], Evelien Gielen[1], Etienne Mornet[2]. [1]Center for Metabolic Bone Diseases, University Hospitals Leuven, Belgium, [2]Unité de Génétique Constitutionnelle, CHU Versailles, France
Disclosures: Michaël R Laurent, Novartis, 14; Alexion, 14

RARE BONE DISEASES: HYPOPHOSPHATEMIC RICKETS

SU0322 **Chiari 1 Malformation in Three Consecutive Generations in a Family with X-Linked Hypophosphatemic Rickets**

Gary S. Gottesman*[1], Ghada A. Otaify[2], Valerie A. Wollberg[3], Vinieth N. Bijanki[1], Shenghui Duan[4], Margaret Huskey[4], C. Charles Gu[5], William H. McAlister[6], Katherine L. Madson[7], Steven Mumm[4]. [1]Center for Metabolic Bone Disease & Molecular Research, Shriners Hospital for Children, United states, [2]Department of Clinical Genetics, Division of Human Genetics & Genome Research, Center of Excellence for Human Genetics, National Research Centre, Egypt, [3]Center for Metabolic Bone Disease & Molecular Reserach, Shriners Hospital for Children, United states, [4]Division of Bone & Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine at Barnes-Jewish Hospital, United states, [5]Division of Biostatistics, Washington University School of Medicine at Barnes-Jewish Hospital, United states, [6]Department of Pediatric Radiology, Mallinckrodt Institute of Radiology, Washington University School of Medicine at St. Louis Children's Hospital, United states, [7]Center for Metabolic Bone Disease & Molecular Research Shriners Hospitals for CHildren - St. Louis, United states

Disclosures: Gary S. Gottesman, None

SU0323 **Significant Impairments in Joint Mobility and Range of Function in Adult Patients with XLH**

Erika J. Parisi*[1], Richard Feinn[1], Samantha Ferraro[2], Marie Frey[3], Juan C. Garbalosa[3], Ramon Gonzalez[2], Tania Grgurich[2], Flavia Muchemi[3], Keith Steigbigel[3], Steven M. Tommasini[4], Carolyn M. Macica[1]. [1]Quinnipiac University, Frank H. Netter School of Medicine, United states, [2]Quinnipiac University, School of Health Sciences, Department of Diagnostic Imaging, United states, [3]Quinnipiac University, School of Health Sciences, Department of Physical Therapy, United states, [4]Yale University School of Medicine, Department of Orthopaedics & Rehabilitation, United states

Disclosures: Erika J. Parisi, None

RARE BONE DISEASES: OSTEOGENESIS IMPERFECTA

SU0324 **Bone Robusticity in Osteogenesis Imperfecta Diverges from Established Patterns**

Kate Citron[1], Cosmo Veneziale[1], Josephine Marino[1], Erin Carter[1], Karl Jepsen[2], Cathleen Raggio*[1]. [1]Hospital for Special Surgery, United states, [2]University of Michigan, United states

Disclosures: Cathleen Raggio, None

SU0325 **Efficacy of Monthly Alendronate Infusion for Osteogenesis Imperfecta**

Ikuma Fujiwara*[1], Chisumi Sogi[2], Sayaka Kawashima[1], Miki Kamimura[1], Junko Kanno[1]. [1]Tohoku University Hospital, Japan, [2]Tohoku University Hospitala, Japan

Disclosures: Ikuma Fujiwara, None

SU0326 **Long Term Follow-up in Children with Osteogenesis Imperfecta type VI**

Pamela Trejo*[1], Kathleen Montpetit[1], Telma Palomo[2], Francis Glorieux[1], Frank Rauch[1]. [1]Shriners Hospital for Children Canada, Canada, [2]Universidade Federal De São Paulo (UNIFESP), Brazil

Disclosures: Pamela Trejo, None

SU0327 **Response of human osteogenesis imperfecta bone tissue to sclerostin antibody in immunodeficient mouse xenograft model**

Rachel Surowiec*[1], Basma Khoury[2], Michelle Caird[2], Kenneth Kozloff[1]. [1]Department of Orthopaedic Surgery, Department of Biomedical Engineering, University of Michigan, United states, [2]Department of Orthopaedic Surgery, University of Michigan, United states

Disclosures: Rachel Surowiec, None

RARE BONE DISEASES: OTHER RARE BONE DISEASES

SU0328 **Atypical Femur Fractures in an Adolescent with X-linked Osteoporosis Based On PLS3 Mutation**

Denise van de Laarschot[1], M.Carola Zillikens*[2]. [1]Erasmus MC department of Internal Medicine, Netherlands, [2]Erasmus MC, Department of Internal Medicine, Netherlands

Disclosures: M.Carola Zillikens, None

SU0329 **Changes in Bone Micro-Architecture During the Development of Complex Regional Pain Syndrome After a Distal Radius Fracture: a Case Report**
Frans Heyer*[1], Joost de Jong[2], Paul Willems[3], Rob Smeets[4], Jacobus Arts[5], Martijn Poeze[1], Piet Geusens[6], Bert van Rietbergen[7], Joop van den Bergh[8]. [1]NUTRIM & Department of General Surgery, MUMC+, Netherlands, [2]NUTRIM & Department of Rheumatology, MUMC+, Netherlands, [3]Department of Orthopedic Surgery, MUMC+, Netherlands, [4]CAPHRI Department of Rehabilitation Medicine, Maastricht University, Netherlands, [5]CAPHRI & Department of Orthopedic Surgery, MUMC+, Netherlands, [6]CAPHRI & Department of Rheumatology, MUMC+, Netherlands, [7]Eindhoven University of Technology, Netherlands, [8]Department of Internal Medicine, VieCuri MC & MUMC+, Netherlands
Disclosures: Frans Heyer, None

SU0330 **Description of a novel variant in *SMAD3* presenting in a patient with osteoporotic fractures and arterial dissection**
Laura Ryan*, Dawn Allain. The Ohio State University Wexner Medical Center, United states
Disclosures: Laura Ryan, None

SU0331 **Effect of Gnathodiaphyseal Dysplasia (GDD) Mutations on Osteoblast Differentiation**
Lingling Jin[1], Yi Liu[2], Fanyue Sun[3], I-Ping Chen[4], Michael T Collins[5], Keith Blackwell[6], Albert S Woo[7], Ying Hu[8], Ernst J Reichenberger*[3]. [1]Beijing Institute of Dental Research, Beijing Stomatological Hospital, Capital Medical University, China, [2]Department of Maxillofacial Surgery, Beijing Stomatological Hospital, Capital Medical University, China, [3]Center for Regenerative Medicine & Skeletal Development, Department of Reconstructive Sciences, University of Connecticut Health, United states, [4]Department of Oral Health & Diagnostic Sciences, University of Connecticut Health, United states, [5]National Institute of Dental & Craniofacial Research, United states, [6]Department of Head & Neck Surgery, UCLA, United states, [7]Division of Plastic Craniofacial & Pediatric Surgery, Brown University Warren Alpert Medical School, United states, [8]Beijing Institute of Dental Research, Beijing Stomatological Hospital, Capital Medical University, Beijing, China
Disclosures: Ernst J Reichenberger, None

SU0332 **Hypoparathyroidism Caused by Autoimmune Polyendocrine Syndrome type 1 (APS1): Relationship Between Anti-cytokines Autoantibodies and Clinical and Molecular Features in a Brazilian Set of Patients**
Fernanda Weiler*[1], Part Peterson[2], Magnus Dias-da-Silva[1], Marise Lazaretti-Castro[1]. [1]Federal University of Sao Paulo - UNIFESP, Brazil, [2]University of Taru, Estonia
Disclosures: Fernanda Weiler, None

SU0333 **Improvement of Giant Cell Tumors of the Jaw Treated with Denosumab: A Case Series**
Tara Kim*, Gianina Usera, Stuart Weinerman. Northwell, United states
Disclosures: Tara Kim, None

SU0334 **Regulation of BMP Receptor Dynamics and Signaling by Cell Surface Heparan Sulfate Proteoglycans**
Christina Mundy*, Paul Billings, Maurizio Pacifici. Children's Hospital of Philadelphia, United states
Disclosures: Christina Mundy, None

SU0335 **Using the RUDY Study Platform to Capture Quality of Life of Adults with Rare Diseases of the Bone**
Lydia Forestier-Zhang*[1], Laura Watts[1], Alison Turner[1], Harriet Teare[2], Joe Barrett[1], Paul Wordsworth[1], Jane Kaye[2], M Kassim Javaid[1], Rafael Pinedo-Villanueva[1]. [1]Nuffield Department of Orthopaedics, Rheumatology & Musculoskeletal Sciences, University of Oxford, United Kingdom, [2]Centre for Health, Law & Emerging Technologies (HeLEX), University of Oxford, United Kingdom
Disclosures: Lydia Forestier-Zhang, None

SARCOPENIA, MUSCLE AND FALLS: FALLS ASSESSMENT AND EPIDEMIOLOGY

SU0336 **Poor Agreement of Self-reported Fall Injuries and Medicare Claims: the Health, Aging and Body Composition (Health ABC) Study**
Elsa S. Strotmeyer*[1], Mary E. Winger[1], Naoko Sagawa[1], Diane G. Ives[1], Robert M. Boudreau[1], Julie M. Donohue[1], Steven M. Albert[1], Ann V. Schwartz[2], Michael Nevitt[2], Tamara B. Harris[3], Teresa M. Waters[4], Jane A. Cauley[1]. [1]University of Pittsburgh, United states, [2]University of California, United states, [3]National Institute on Aging, United states, [4]University of Tennessee, United states
Disclosures: Elsa S. Strotmeyer, None

SU0337 **Variability in Prevalence of Low Skeletal Muscle Mass in Mexican Women Depending on How It is Defined**
Jose Francisco Torres-Naranjo*[1], Roberto Gabriel Gonzalez-Mendoza[2], Juan R Lopez y Taylor[2], Alejandro Gaytan[2], Noe Albino Gonzalez-Gallegos[1], Douglas Solorzano[2]. [1]Centro Universitario del Norte, Universidad de Guadalajara, Mexico, [2]Instituto de Ciencias Aplicadas a la Actividad Fisica y al Deporte, Universidad de Guadalajara, Mexico
Disclosures: Jose Francisco Torres-Naranjo, None

SARCOPENIA, MUSCLE AND FALLS: GENERAL

SU0338 **Muscle Function but Not Mass is Correlated with the AM-PAC™ Mobility Score**
Bjoern Buehring*[1], Ellen Siglinsky[1], Yosuke Yamada[2], Diane Krueger[1], Mahalakshmi Shankaran[3], Scott Turner[3], Gregg Czerwieniec[3], Marc Hellerstein[3], William Evans[3], Dale Schoeller[4], Neil Binkely[1]. [1]Osteoporosis Clinical Research Program, University of Wisconsin-Madison, United states, [2]National Institutes of Biomedical Innovation, Health & Nutrition, Japan, Japan, [3]KineMed, Inc., United states, [4]Nutriotional Sciences, University of Wisconsin-Madison, United states
Disclosures: Bjoern Buehring, GE/Lunar, 100; Kinemed, 100

SU0339 **Muscle Strength and Cognition: An Association In Older Women**
Julie Pasco*, Amanda Stuart, Sharon Brennan-Olsen, Kara Holloway, Lana Williams, Mark Kotowicz. Deakin University, Australia
Disclosures: Julie Pasco, None

SU0340 **Prevalence of Sarcopenia and Osteosarcopenia**
Katerina Trajanoska*[1], Josje Schoufour[1], Sirwan L. Darweesh[1], Carolina Medina-Gomez[2], Carola M.C. Zillikens[3], Andre G. Uitterlinden[4], Arfan M. Ikram[1], Oscar H. Franco[1], Fernando Rivadeneira[3]. [1]Department of Epidemiology, Erasmus Medical Center, Rotterdam, the Netherlands, Netherlands, [2]The Generation R Study Group, Erasmus Medical Centre, Rotterdam, The Netherlands, Netherlands, [3]Department of Internal Medicine, Erasmus Medical Center, Rotterdam, the Netherlands, Netherlands, [4]Department of Internal Medicine, Erasmus Medical Center, Rotterdam, the Netherlands, Netherlands, Netherlands
Disclosures: Katerina Trajanoska, None

SU0341 **Use of jumping mechanography to predict physical function in older women**
Kimberly Hannam, Jon Tobias, Avan Aihie Sayer, Emma Clark, Celia Gregson*. University of Bristol, United Kingdom
Disclosures: Celia Gregson, None

SARCOPENIA, MUSCLE AND FALLS: SARCOPENIA DEFINITION, ASSESSMENT AND EPIDEMIOLOGY

SU0342 **DXA Body Composition (BC) Should be Assessed in all Geriatric Patients Referred for DXA Bone Mineral Density (BMD) Assessment**
Angela Juby*, Christopher Davis, Suglo Minimaana. University of Alberta, Canada
Disclosures: Angela Juby, None

SU0343 **Identification and Diagnostic Criteria for Osteosarcopenic Obesity Syndrome in Older Women**
Jasminka Ilich*[1], Owen Kelly[2]. [1]Florida State University, United states, [2]Abbott Nutrition, United states
Disclosures: Jasminka Ilich, None

SU0344 **Semi-automated quantification of inter- and intra-muscular fat in magnetic resonance images of the mid-leg: validity & reliability**
Andy Kin On Wong*[1], Eva Szabo[1], Marta Erlandson[2], Marshall S. Sussman[3], Sravani Duggina[4], Shannon Reitsma[4], Hana Gillick[4], Lesley Beaumont[4], Jonathan D. Adachi[4], Angela M. Cheung[1]. [1]University Health Network, Canada, [2]University of Saskatchewan, Canada, [3]University of Toronto, Canada, [4]McMaster University, Canada
Disclosures: Andy Kin On Wong, None

SKELETAL DEVELOPMENT: GROWTH AND DEVELOPMENT

SU0345 **Brittleness in BMP2 Knockout Bones - Relation to Porosity, Cellularity, and Woven Bone Content**
Zacharie Toth[1], Simon Tang[2], Sarah McBride-Gagyi*[1]. [1]Saint Louis University, United states, [2]Washington University, United states
Disclosures: Sarah McBride-Gagyi, None

SU0346 **Exercise Prior to and During Pregnancy Ameliorates Bone Deficits During Late Gestation in Female Rats Born Small Without Adverse Effects from Consuming a High Fat Diet**
Kristina Anevska*[1], Dayana Mahizir[2], Andrew Jefferies[2], John Wark[3], Mary Wlodek[2], Tania Romano[4]. [1]Department of Physiology, Anatomy & Microbiology, La Trobe University & Department of Physiology, The University of Melbourne, Australia, [2]Department of Physiology, The University of Melbourne, Australia, [3]Department of Medicine, The University of Melbourne & Bone & Mineral Medicine, Royal Melbourne Hospital, Australia, [4]Department of Physiology, Anatomy & Microbiology, La Trobe University, Australia
Disclosures: Kristina Anevska, None

SU0347 **Gene Regulatory Network via BRCA1 and BRCA2 Is Critical for Craniofacial Bone Development**
Kohei Kitami*, Megumi Kitami, Yoshihiro Komatsu. The University of Texas Medical School at Houston, United states
Disclosures: Kohei Kitami, None

SU0348 **Methylphenidate affects cortical bone microstructure via osteoclast regulation**
Sardar Uddin*[1], Dennis Fricke[2], Abisha Vijayashanthar[3], Courtney Lowinger[2], Liam Jermyn[3], Panayotis Thanos[3], Michael Hadjiargyrou Hadjiargyrou[4], David 'Komatsu[1]. [1]Stony Brook University, United states, [2]SUNY University at Buffalo, United states, [3]SUNY University of Buffalo, United states, [4]New York Institute of Technology, United states
Disclosures: Sardar Uddin, None

SU0349 **Role of Grip Strength, Physical Activity, and Neuromuscular Performance in Predicting Bone Properties and Strength at the Radius and Tibia in Children**
Kelsey Bjorkman*[1], Joel Lanovaz[1], Chantal Kawalilak[2], Whitney Duff[3], Jd Johnston[2], Saija Kontulainen[1]. [1]University of Saskatchewan, College of Kinesiology, Canada, [2]University of Saskatchewan, College of Engineering, Department of Mechanical Engineering, Canada, [3]University of Saskatchewan, College of Medicine, Department of Gastroenterology, Canada
Disclosures: Kelsey Bjorkman, None

SU0350 **Role of Sperm-Associated Antigen-17 Gene in Skeletal Dysplasia**
Maria Teves*[1], Sharon L Hyzy[2], Zvi Schwartz[2], Barbara D Boyan[2], Jerome F Strauss III[1]. [1]School of Medicine. Virginia Commonwealth University, United states, [2]School of Engineering. Virginia Commonwealth University, United states
Disclosures: Maria Teves, None

SU0351 **Teriparatide Effects on Mast Cells During Critical Defect Healing in a Murine Cranial Window Model**
Longze Zhang*, Xinping Zhang, Edward Schwarz. URMC, University of Rochester, United states
Disclosures: Longze Zhang, None

ADULT METABOLIC BONE DISORDERS: OTHER ADULT METABOLIC BONE DISORDERS

LB-SU0352 Severe Hypophosphatemia in Adulthood Associated with *PHEX* 3'-UTR Mutation C. *231A>G Near the Polyadenylation Signal

Beatriz Ramirez*[1], Fiona Cook[1], Steven Mumm[2], Gary Gottesman[2], Katherine Madson[2], Michael Whyte[2]. [1]Division of Endocrinology, Brody School of Medicine, United states, [2]Center for Metabolic Bone Disease & Molecular Research, Shriners Hospital for Children, United states

Disclosures: Beatriz Ramirez, None

BIOMECHANICS AND BONE QUALITY: GENERAL

LB-SU0353 Novel ELISA for the measurement of human Periostin

Manfred Tesarz, Elisabeth Gadermaier*, Gabriela Berg, Gottfried Himmler. The Antibody Lab GmbH, Vienna, Austria, Austria

Disclosures: Elisabeth Gadermaier, None

BONE TUMORS AND METASTASIS: MECHANISMS OF BONE METASTASIS

LB-SU0354 Knock-down of the vitamin D receptor in human breast cancer cells increases metastatic potential to bone via a Wnt/ E-cadherin signaling pathway

Konstantin Horas[1], Yu Zheng[1], Collette Fong-Yee[1], Yunzhao Chen[1], Jeremy Qiao[1], Mingxuan Gao[1], Nancy Mourad[2], Michelle McDonald[2], Peter Croucher[2], Hong Zhou[1], Markus Seibel*[1]. [1]Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia, [2]Garvan Inst of Med Research, Australia

Disclosures: Markus Seibel, None

CHONDROCYTES AND CARTILAGE MATRIX: GENERAL

LB-SU0355 Tamoxifen-Induced Deletion of the Glucocorticoid Receptor in Chondrocytes Enhances K/BxN Serum–Induced Arthritis in Mice

Jinwen Tu*[1], Shihani Stoner[1], Yaqing Zhang[1], Di Chen[2], Jan Tuckermann[3], Mark S Cooper[4], Markus J Seibel[5], Hong Zhou[1]. [1]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [2]Tissue Department of Biochemistry, Rush University Medical Center, United states, [3]Institute of General Zoology & Endocrinology, University of Ulm, Germany, [4]Adrenal Steroid Laboratory, ANZAC Research Institute, University of Sydney, Australia, [5]Bone Research Program, ANZAC Research Institute, University of Sydney; 5Department of Endocrinology & Metabolism, Concord Hospital, Australia

Disclosures: Jinwen Tu, None

LB-SU0356 The role of DICAM in endochondral ossification

Min-Su Han*, Youn-Kwan Jung, Seung-Woo Han, Hye-Ri Park, Eun-Ju Lee, Ji-Ae Jang, Gun-Woo kim. Daegu Fatima Hospital, Korea, republic of

Disclosures: Min-Su Han, None

ENERGY METABOLISM AND BONE: FAT AND BONE

LB-SU0357 **Osteoblast-specific deletion of *Tsc1* leads to reduced osteoblastogenesis and enhanced bone marrow adipogenesis *in vivo***

Qi Han*[1], Kai Liu[2], Yuqiao Zhou[2], Qianming Chen[3], Hong-Jiao Ouyang[4]. [1]Department of Oral Biology, School of Dental Medicine, University of Pittsburgh; State Key Laboratory of Oral Diseases, West China School of Stomatology, Sichuan University, United states, [2]Department of Oral Biology, School of Dental Medicine, University of Pittsburgh, United states, [3]State Key Laboratory of Oral Diseases, West China School of Stomatology, Sichuan University, China, [4]Departments of Endodontics & Oral Biology, School of Dental Medicine, University of Pittsburgh Cancer Institute, McGowan Institute for Regenerative Medicine, University of Pittsburgh, United states

Disclosures: Qi Han, None

LB-SU0358 **Maternal Obesity and Trabecular Bone Microarchitecture in C57BL Mice**

Lauren Coheley*, Richard Lewis. The University of Georgia, United states

Disclosures: Lauren Coheley, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE: PROTEOMICS

LB-SU0359 **Identification of hip BMD loss and fracture risk markers through population-based serum proteomic analyses**

Carrie Nielson*[1], Jack Wiedrick[1], Jon Jacobs[2], Doug Bauer[3], Nancy Lane[4], Peggy Cawthon[5], Vlad Petyuk[2], Erin Baker[2], Richard Smith[2], Jodi Lapidus[1], Eric Orwoll[1]. [1]Oregon Health & Science University, United states, [2]Pacific Northwest National Laboratory, United states, [3]University of California, San Francisco, United states, [4]UC Davis Health System, United states, [5]California Pacific Medical Center Research Institute, United states

Disclosures: Carrie Nielson, None

HORMONAL REGULATORS: VITAMIN D AND ANALOGS

LB-SU0360 **Evidence for a key role of histone methylation in the control of the biological function of vitamin D: aberrant regulation with aging**

Vaishali Veldurthy*[1], Ki-in Kim[2], Puneet Dhawan[2], Leyla Oz[2], Leila Mady[2], Sylvia Christakos[3]. [1]Rutgers- New Jersey Medical School, United states, [2]Rutgers-New Jersey Medical School, United states, [3]Rutgers - New Jersey Medical School, United states

Disclosures: Vaishali Veldurthy, None

MECHANOBIOLOGY: GENERAL

LB-SU0361 **Effects of Muscle Stretching on Hindlimb Bone Blood Flow**

Payal Ghosh*[1], Judy Muller-Delp[1], Kazuki Hotta[1], Michael Delp[1], Bradley Behnke[2], Bei Chen[3], Rahul Verma[3]. [1]Florida State University, United states, [2]Kansas State University, United states, [3]University of Florida, United states

Disclosures: Payal Ghosh, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION: OSTEOBLASTS

LB-SU0362 **Parathyroid hormone administration regulates osteoprogenitor numbers by direct signaling via PTH/PTHRP receptor *in vivo***

Deepak Balani*[1], Noriaki Ono[2], Henry Kronenberg[1]. [1]Endocrine Unit, Massachusetts General Hospital & Harvard Medical School, Boston, MA, United states, [2]University of Michigan, School of Dentistry, United states

Disclosures: Deepak Balani, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS: GENERAL

LB-SU0363 **PTH1R anti-hypertrophic signaling is essential for articular cartilage maintenance and protection post trauma**

Fadia Kamal*, Eric Schott, Reyad Elbarbary, Jennifer Jonason, Michael Zuscik. University of Rochester, United states

Disclosures: Fadia Kamal, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: BONE FORMATION MECHANISMS

LB-SU0364 Live Cell Imaging of Procollagen Trafficking in Osteoblasts

Shakib Omari[1], Laura Gorrell*[1], Elena Makareeva[2], Lynn Mirigian[2], Anna Roberts-Pilgrim[1], Jennifer Lippincott-Schwartz[3], Sergey Leikin[1]. [1]NICHD, NIH, United states, [2]NICHD, NIH, United states, [3]HHMI Janelia Research Campus, United states

Disclosures: Laura Gorrell, None

OSTEOCLASTS - FUNCTION: BONE RESORPTION MECHANISMS

LB-SU0365 PGC1β stimulates osteoclast function but not formation via mitochondrial biogenesis and activation

Yan Zhang*[1], Nidhi Rohatgi[1], Joel Schilling[2], Steven L. Teitelbaum[3], Wei Zou[1]. [1]Department of Pathology & Immunology, Washington University School of Medicine, United states, [2]Cardiovascular Division, Department of Medicine, Washington University School of Medicine, United states, [3]Department of Pathology & Immunology; Division of Bone & Mineral Diseases, Department of Medicine, Washington University School of Medicine, United states

Disclosures: Yan Zhang, None

LB-SU0366 A Novel Regulatory Role of TRAPPC9 in L-Plastin-mediated Actin Ring Formation and Osteoclast Function

Nazar Hussein*, Thomas Mbima, Mohammad Ansari, Zhicheng Jin, Takhar Kasumov, Fayez Safadi. Northeast Ohio Medical University (NEOMED), United states

Disclosures: Nazar Hussein, None

OSTEOCLASTS - ORIGIN AND CELL FATE: GENERAL

LB-SU0367 Translational profiling to identify novel cytokines and biomarkers expressed in osteoclasts during skeletal injury

In Kyoung Mah, Nikita Tripuraneni, Brian Lee, Francesca Mariani*. University of Southern California, United states

Disclosures: Francesca Mariani, None

OSTEOPOROSIS - ASSESSMENT: BONE QUALITY

LB-SU0368 Predictors of TBS Change are Different from Predictors of Bone Mineral Density Change: Results from the Osteoporotic Fractures in Men (MrOS) study

Tien Vo[1], Lisa Langsetmo[1], Allyson Kats[2], Ann Schwartz[3], Douglas Bauer[4], Jane Cauley[5], Brent Taylor[6], Kristine Ensrud[7], John Schousboe*[8]. [1]Division of Epidemiology, University of Minnesota, United states, [2]Division of Epidemiology, United states, [3]Department of Epidemiology & Biostatistics, United states, [4]Department of Medicine & Department of Epidemiology & Biostatistics, United states, [5]University of Pittsburgh Graduate School of Public Health, United states, [6]Divsion of Epidemiology & Department of Medicine, University of Minnesota; Center for Chronic Disease Research, Minneapolis VAMC, United states, [7]Division of Epidemiology & Department of Medicine, University of Minnesota; Center for Chronic Disease Research, Minneapolis VAMC, United states, [8]Park Nicollet Osteoporosis Center & HealthPartners Institute, HealthPartners; Divsion of Health Policy & Management, University of Minnesota, United states

Disclosures: John Schousboe, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: OTHER NUTRIENTS

LB-SU0369 Influence of Alkali Supplementation on Circulating microRNA Expression

Lee Margolis, Bess Dawson-Hughes, Donato Rivas, Yassine Ezzyat, Roger Fielding, Lisa Ceglia*. Tufts University, United states

Disclosures: Lisa Ceglia, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE MODELING AND REMODELING

LB-SU0370 **Periostin is Correlated with Cortical Bone Measures and Bone Turnover During Consolidation**

Jennifer S Walsh*, Fatma Gossiel, Jess Scott, Margaret A Paggiosi, Richard Eastell. University of Sheffield, United Kingdom

Disclosures: Jennifer S Walsh, None

OSTEOPOROSIS - TREATMENT: ANABOLIC AGENTS

LB-SU0371 **Low Variability of Oral PTH_{1-34} in Man**

Gregory Burshtien[1], Ariel Rothner[1], Hillel Galitzer*[1], Ehud Arbit[1], Yoseph Caraco[2]. [1]Entera Bio Ltd., Israel, [2]Hebrew University Medical School - Hadassah Medical Center, Israel

Disclosures: Hillel Galitzer, None

OSTEOPOROSIS - TREATMENT: OTHER THERAPEUTIC AGENTS

LB-SU0372 **Safety of Denosumab in Postmenopausal Osteoporosis and in Cancer and Bone Metastase Treatment: A Systematic Review and Meta-Analysis**

Marlène Aubailly*[1], Thomas Barnetche[2], Bernard Combe[1], Cécile Gaujoux-Viala[3], Cédric Lukas[1], Jacques Morel[1], Hélène Che[1]. [1]CHU Lapeyronie, France, [2]CHU Bordeaux, France, [3]CHU Nîmes, France

Disclosures: Marlène Aubailly, None

PARACRINE REGULATORS: PTHrP AND OTHER PARACRINE REGULATORS

LB-SU0373 **PTHrP Activates Stat5 Signaling in Mammary Epithelium and Affects Breast Cancer Initiation and Progression**

Farzin Takyar*, Kata Boras-Granic, Wonnam Kim, Pamela Dann, John Wysolmerski. Yale School of Medicine, United states

Disclosures: Farzin Takyar, None

PRECLINICAL MODELS – PHARMACOLOGY: BONE-FORMING AGENTS

LB-SU0374 **Bispecific Antibodies Targeting Sclerostin and DKK1 Promote Bone Mass Accrual and Bone Repair of Closed Femoral Fractures and Gap Defects**

Monica Florio*[1], Xiaodong Li[1], Marina Stolina[1], Kannan Gunasekaran[1], Ling Liu[1], Hossein Salimi-Moosavi[1], Franklin Asuncion[1], Banghua Sun[1], Hong Lin Tan[1], Li Zhang[1], Chun-Ya Han[1], Ryan Case[1], Qing-Tian Niu[1], James Pretorius[1], Efrain Pacheco[1], Qing Chen[1], Mei-Shu Shih[2], William G. Richards[1], Hua Zhu Ke[3], Michael S. Ominsky[1]. [1]Amgen Inc, United states, [2]PharmaLegacy Laboratories, China, [3]UCB, United Kingdom

Disclosures: Monica Florio, Amgen, 104

RARE BONE DISEASES: FIBROUS DYSPLASIA

LB-SU0375 **Transgenic mice for studying fibrous dysplasia of bone, McCune-Albright Syndrome, and tumors caused by activating *GNAS* mutations**

Vijayram Reddy Malladi*, Yan Zhu, olta tafaj, Murat Bastepe. Endocrine Unit, Department of Medicine, Massachusetts General Hospital & Harvard Medical School, United states

Disclosures: Vijayram Reddy Malladi, None

RARE BONE DISEASES: OSTEOGENESIS IMPERFECTA

LB-SU0376 **Postural control in mild Osteogenesis Imperfecta**

Louis-Nicolas Veilleux*[1], Annie Pouliot-Laforte[2], Frank Rauch[1], Martin Lemay[3]. [1]Shriners Hospital for Children-Canada, Canada, [2]Département des Sciences de l'Activité Physique, Université du Québec à Montréal, Canada, [3]Université de Québec à Montréal; Centre de Réadaptation Marie Enfant, Canada

Disclosures: Louis-Nicolas Veilleux, None

RARE BONE DISEASES: OTHER RARE BONE DISEASES

LB-SU0377 **Assessing the General Population Frequency of Rare Coding Variants in *EXT1* and *EXT2* Previously Implicated in Hereditary Multiple Exostoses**
Diana Cousminer*[1], Alexandre Arkader[1], Benjamin Voight[2], Maurizio Pacifici[1], Struan Grant[1]. [1]Children's Hospital of Philadelphia, United states, [2]University of Pennsylvania, United states
Disclosures: Diana Cousminer, None

SARCOPENIA, MUSCLE AND FALLS: SARCOPENIA DEFINITION, ASSESSMENT AND EPIDEMIOLOGY

LB-SU0378 **Greater Peri-aortic Adipose Tissue Volume is associated with Increased Trunk Muscle Fat Content in Middle-aged and Older Men and Women: The Framingham Study**
Robert R. McLean*[1], Elizabeth J. Samelson[1], Amanda L. Lorbergs[1], Xiaochun Zhang[2], Kerry E. Broe[2], Dennis E. Anderson[3], Udo Hoffmann[4], Caroline S. Fox[5], Mary L. Bouxsein[3], Douglas P. Kiel[1]. [1]Hebrew SeniorLife Institute for Aging Research, Harvard Medical School, Beth Israel Deaconess Medical Center, United states, [2]Hebrew SeniorLife Institute for Aging Research, United states, [3]Harvard Medical School, Beth Israel Deaconess Medical Center, United states, [4]Massachusetts General Hospital, Harvard Medical School, United states, [5]Merck Research Laboratories, United states
Disclosures: Robert R. McLean, None

SKELETAL DEVELOPMENT: GROWTH AND DEVELOPMENT

LB-SU0379 **Reliable assessment of bone size, composition, and strength in the midtibia of children using magnetic resonance imaging**
Benjamin Conner*[1], Harshvardhan Singh[1], Daniel Whitney[1], Freeman Miller[2], Christopher Modlesky[1]. [1]University of Delaware, United states, [2]A.I. duPont Hospital for Children, United states
Disclosures: Benjamin Conner, None

LB-SU0380 **Conditional Targeting Of Important Developmental Signal, Shh, In The Adult Mouse Nucleus Pulposus Causes Premature Intervertebral Disc Degeneration**
Sarthak Mohanty*, Elfie De Jesus, Chitra Dahia. Hospital for Special Surgery, United states
Disclosures: Sarthak Mohanty, None

CONCURRENT ORALS: BONE TUMORS AND METASTASIS II

2:30 pm - 4:00 pm **Georgia World Congress Center**

Room A412

Moderators:
Jesus Delgado-Calle, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Jesus Delgado-Calle, None

Gregory Clines, M.D., Ph.D.
University of Michigan, USA
Disclosures: Gregory Clines, None

2:30 pm **Blockade of C5aR Impairs Bone Metastases by Decreasing Osteoclastic Activity**
1101 Daniel Ajona*[1], Carolina Zandueta[2], Leticia Corrales[2], Maria Jose Pajares[3], Elena Martinez-Terroba[3], Fernando De Miguel[1], Jackeline Agorreta[3], Naiara Perurena[2], Luis M Montuenga[3], Ruben Pio[1], Fernando Lecanda[2]. [1]Program in Solid Tumors & Biomarkers, Center for Applied Medical Research (CIMA), Pamplona, Spain; Department of Biochemistry & Genetics, School of Sciences, University of Navarra, Pamplona, Spain, Spain, [2]Program in Solid Tumors & Biomarkers, Center for Applied Medical Research (CIMA), Pamplona, Spain., Spain, [3]Program in Solid Tumors & Biomarkers, Center for Applied Medical Research (CIMA), Pamplona, Spain; Department of Histology & Pathology, School of Medicine, University of Navarra, Pamplona, Spain., Spain
Disclosures: Daniel Ajona, None

2:45 pm 1102 **Apoptotic Cell Clearance Drives CXCL5, Accelerates Inflammatory Cell Infiltration, and Supports Prostate Cancer Tumor Growth in Bone**
Hernan Roca*, Marta Purica, Savannah Weidner, Amy Koh, Robert Kuo, Jacques Nör, Lonnie Shea, Laurie McCauley. University of Michigan, United states
Disclosures: Hernan Roca, None

3:00 pm 1103 **Nanoparticle Delivery of Gli Inhibitor Blocks Tumor-Induced Bone Disease**
Kristin Kwakwa*[1], Joseph Vanderburgh[2], Alyssa Merkel[3], Thomas Werfel[4], Craig Duvall[4], Scott Guelcher[5], Julie Sterling[6]. [1]Department of Cancer Biology, Vanderbilt University; Center for Bone Biology, Vanderbilt University Medical Center, United states, [2]Department of Chemical & Biomolecular Engineering, Vanderbilt University; Center for Bone Biology, Vanderbilt University Medical Center, United states, [3]Department of Veterans Affairs, Tennessee Valley Healthcare System; Center for Bone Biology, Vanderbilt University Medical Center; Division of Clinical Pharmacology, Department of Medicine, Vanderbilt University Medical Center, United states, [4]Department of Biomedical Engineering, Vanderbilt University, United states, [5]Department of Chemical & Biomolecular Engineering, Vanderbilt University; Department of Biomedical Engineering, Vanderbilt University; Center for Bone Biology, Vanderbilt University Medical Center, United states, [6]Department of Veterans Affairs, Tennessee Valley Healthcare System; Center for Bone Biology, Vanderbilt University Medical Center; Division of Clinical Pharmacology, Department of Medicine, VUMC; Department of Cancer Biology, Vanderbilt University, United states
Disclosures: Kristin Kwakwa, None

3:15 pm 1104 **TAK-1 Inhibition Disrupts Pim-2-associated and Pim-2-independent key Signaling Pathways to Effectively Suppress Tumor Growth and Restore Bone Formation in Myeloma**
Jumpei Teramachi*[1], Masahiro Hiasa[1], Asuka Oda[1], Hirofumi Tenshin[1], Ryota Amachi[1], Takeshi Harada[1], Shingen Nakamura[1], Kiyoe Kurahashi[1], Tokeshi Kondo[1], Hirokazu Miki[1], Itsuro Endo[1], Toshio Matsumoto[2], Masahiro Abe[1]. [1]Tokushima University, Japan, [2]Tokushima University, Guinea
Disclosures: Jumpei Teramachi, None

3:30 pm 1105 **Decreased JMJD3 Expression in Mesenchymal Stem Cells Contributes to Long-term Suppression of Osteoblast Differentiation in Multiple Myeloma**
Wei Zhao*[1], Rebecca Silbermann[2], Juraj Adamik[3], Deborah Galson[3], G. David Roodman[4]. [1]Department of Biochemistry & Molecular Biology, Indiana University, United states, [2]Department of Medicine, Hematology Oncology, Indiana University, United states, [3]University of Pittsburgh School of Medicine, United states, [4]Department of Medicine, Hematology Oncology, Indiana University. Department of Medicine, Richard L. Roudebush VA Medical Center, Indianapolis, IN, United states
Disclosures: Wei Zhao, None

3:45 pm 1106 **Transforming growth factor beta inhibitor (1D11) combined with Bortezomib improves bone quality in a mouse model of myeloma-induced bone disease**
Alyssa Merkel*[1], Sasidhar Uppuganti[2], Barbara Rowland[3], Babatunde Oyajobi[4], Jeffry Nyman[1], Julie Sterling[1]. [1]Vanderbilt University Medical Center; Tennessee Valley Healthcare System, Nashville VA, United states, [2]Vanderbilt University Medical Center, United states, [3]Tennessee Valley Healthcare System, Nashville VA, United states, [4]University of Texas Health Science Center San Antonio, United states
Disclosures: Alyssa Merkel, None

CONCURRENT ORALS: NUTRITION, EXERCISE AND FALLS

2:30 pm - 4:00 pm **Georgia World Congress Center**
Sidney Marcus Auditorium - Building A

Moderators:
Marian Hannan, DSc, MPH
HSL Institute for Aging Research and Harvard Medical School, USA
Disclosures: Marian Hannan, None

Rene Rizzoli, M.D.
Geneva University Hospitals and Faculty of Medicine, Switzerland
Disclosures: Rene Rizzoli, None

2:30 pm 1107 **Low Protein Intake Among Older Men is Associated with an Increased Risk of Fracture**
Lisa Langsetmo*[1], James Shikany[2], Peggy Cawthon[3], John Schousboe[4], Brent Taylor[5], Tien Vo[1], Jane Cauley[6], Doug Bauer[3], Eric Orwoll[7], Kristine Ensrud[5]. [1]University of Minnesota, United states, [2]University of Alabama, Birmingham, United states, [3]University of California, San Francisco, United states, [4]University of Minnesota, Health Partners Institute, United states, [5]University of Minnesota, Veterans Affairs Medical Center, United states, [6]University of Pittsburg, United states, [7]Oregon Health & Science University, United states
Disclosures: Lisa Langsetmo, None

2:45 pm 1108 **Calcium and/ or Vitamin D Supplementation are not Associated with Ischaemic Heart Disease: Findings from the UK Biobank Cohort**
Nicholas Harvey*[1], Stefania D'Angelo[1], Julien Paccou[2], Mark Edwards[1], Steffen Petersen[3], Cyrus Cooper[1]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [2]Université Lille Nord-de-France, United Kingdom, [3]NIHR Cardiovascular Biomedical Research Unit at Barts, William Harvey Research Institute, Queen Mary University of London, United Kingdom
Disclosures: Nicholas Harvey, None

3:00 pm 1109 **ASBMR 2016 Annual Meeting Young Investigator Award**
Incidence of Hip Fracture after Treatment with B Vitamins (Folic acid, B_{12} and B_6): Extended Follow-up of Two Large Randomized Controlled Trials
Maria Garcia Lopez*[1], Kaare Bønna[2], Marta Ebbing[3], Erik F. Eriksen[4], Clara G. Gjesdal[5], Ottar K. Nygård[6], Grete Tell[7], Haakon E. Meyer[8]. [1]Department of Community Medicine, Institute of Health & Society, University of Oslo, Norway; Department of Clinical Endocrinology, Morbid Obesity & Preventive Medicine, Oslo University Hospital, Norway, Norway, [2]Department of Public Health & General Practice, Norwegian University of Science & Technology, Trondheim; Clinic for Heart Disease, St. Olav's University Hospital, Trondheim; Department of Community Medicine, UiT The Arctic University of Norway, Norway, [3]Norwegian Institute of Public Health, Bergen, Norway, Norway, [4]Department of Clinical Endocrinology, Morbid Obesity & Preventive Medicine, Oslo University Hospital, Norway, Norway, [5]Department of Rheumatology, Haukeland University Hospital, Bergen, Norway, Norway, [6]Department of Clinical Science, University of Bergen, Norway. Department of Heart Disease, Haukeland University Hospital, Bergen, Norway, Norway, [7]Department of Global Public Health & Primary Care, University of Bergen, Bergen, Norway, Norway, [8]Department of Community Medicine, Institute of Health & Society, University of Oslo, Norway; Norwegian Institute of Public Health, Oslo, Norway, Norway
Disclosures: Maria Garcia Lopez, None

3:15 pm 1110 **Long-Term Effects of Vitamin D and Multimodal Exercise on Prevention of Injurious Falls in Older Women. A 2-year follow-up after intervention**
Kirsti Uusi-Rasi*[1], Radhika Patil[1], Saija Karinkanta[1], Kari Tokola[1], Pekka Kannus[1], Christel Lamberg-Allardt[2], Harri Sievänen[1]. [1]The UKK Institute for Health Promotion Research, Finland, [2]University of Helsinki, Finland
Disclosures: Kirsti Uusi-Rasi, None

3:30 pm 1111 **ASBMR 2016 Annual Meeting Young Investigator Award**
The Risk of Fracture among Women with Sarcopenia, Low Bone Mass or Both
Rebekah Harris*[1], Yuefang Chang[1], Kristen Beavers[2], Deepika Laddu[3], Jennifer Bea[4], Karen Johnson[5], Meryl LeBoff[6], Catherine Womack[5], Robert Wallace[7], Wenjun Li[8], Carolyn Crandall[9], Jane Cauley[1]. [1]University of Pittsburgh, United states, [2]Wake Forest University, United states, [3]Stanford University, United states, [4]University of Arizona Cancer Center, United states, [5]University of Tennessee Health Science Center, United states, [6]Brigham & Women's Hospital, United states, [7]University of Iowa, United states, [8]University of Massachusetts Medical School, United states, [9]University of California Los Angeles David Geffen School of Medicine, United states
Disclosures: Rebekah Harris, None

3:45 pm **Yogurt consumption is associated with attenuated cortical bone loss independently of total**
1112 **calcium and protein intakes and physical activity in postmenopausal women**
Emmanuel BIVER*, Claire DUROSIER-IZART, Fanny MERMINOD, Thierry CHEVALLEY, Serge FERRARI, René RIZZOLI. Department of Bone Diseases, Geneva University Hospitals & Faculty of Medicine, Switzerland
Disclosures: Emmanuel BIVER, YINI research award supported by Danone Institute International in collaboration with the American Society for Nutrition and the International Osteoporosis Foundation, 100

CONCURRENT ORALS: OSTEOPOROSIS PATHOPHYSIOLOGY I

2:30 pm - 4:00 pm **Georgia World Congress Center**
Room A404/405

2:30 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1113 **Reproduction-Induced Changes in Maternal Trabecular Bone Microarchitecture Confer Protective Effects against Estrogen Deficiency**
Chantal de Bakker*, Laurel Leavitt, Wei-Ju Tseng, Tiao Lin, Wei Tong, Ling Qin, X. Sherry Liu. University of Pennsylvania, United states
Disclosures: Chantal de Bakker, None

2:45 pm **Pyk2 Deficiency Protects from Glucocorticoid-Induced Bone Resorption and Osteoblast and**
1114 **Osteocyte Apoptosis, but not from the Decrease in Bone Formation**
Amy Sato*, Meloney Cregor, Keith Condon, Lilian Plotkin, Teresita Bellido. Indiana University School of Medicine, United states
Disclosures: Amy Sato, None

3:00 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1115 **The Antioxidant Endogenous Response in Bone is Regulated by Nrf2 in a Gender Specific Manner**
Gretel G Pellegrini*[1], Meloney Cregor[2], Cynthya C Morales[2], Kevin McAndrews[2], Lilian I Plotkin[1], David Burr[2], Connie M Weaver[3], Teresita Bellido[1]. [1]Indiana University School of Medicine, Roudebush Veterans Administration Medical Center, Indianapolis, United states, [2]Indiana University School of Medicine, United states, [3]Purdue University, United states
Disclosures: Gretel G Pellegrini, None

3:15 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1116 **Abnormalities in pre B cells impair adult bone homeostasis**
Mohamed Khass*, Harunur Rashid, Peter Burrows, S. Louis Bridges, Amjad Javed, Harry Schroeder. University of Alabama at Birmingham, United states
Disclosures: Mohamed Khass, None

3:30 pm **Connexin43 Deficiency Results in a Lean Phenotype in Mice**
1117 Manuela Fortunato*, Marcus Watkins, Francesca Fontana, Roberto Civitelli. Washington University School of Medicine, United states
Disclosures: Manuela Fortunato, None

3:45 pm **CD169^{+} Osteal Macrophages Promote Osteoblast Maintenance and Bone Healing**
1118 **Independent of Osteoclasts**
Lena Batoon[1], Martin Wullschleger[2], Susan Millard[1], Corina Preda[3], Andy Wu[1], Cameron Sunderland[1], Simranpreet Kaur[1], Jean-Pierre Levesque[1], Liza-Jane Raggatt[1], Allison Pettit*[1]. [1]Mater Research Institute - The University of Queensland, Australia, [2]Gold Coast Univeristy Hospital - Griffith University, Australia, [3]Queensland Health, Australia
Disclosures: Allison Pettit, None

CONCURRENT ORALS: OSTEOCYTES: REMODELING AND COMMUNICATION

2:30 pm - 4:00 pm **Georgia World Congress Center**
Room A411

Moderators:
Gabriela Loots, Ph.D.
Lawrence Livermore National Laboratory, UC Merced, USA
Disclosures: Gabriela Loots, None

Mitchell Schaffler, Ph.D.
City College of New York, USA
Disclosures: Mitchell Schaffler, None

2:30 pm **ASBMR 2016 Annual Meeting Young Investigator Award**
1119 **Novel Roles of RANK in Osteocytes During Bone Remodeling**
Min Jin*[1], Yinshi Ren[2], Ke Wang[1], Yuan Hui[3], Chaoyuan Li[4], Xiaohua Liu[4], Haibo Zhao[5], Lin Chen[6], Jianquan Feng[4]. [1]Department of Biomedical Sciences, Texas A&M Baylor College of Dentistry, Dallas, United states, [2]Celluar, Developmental & Genome Laboratories, Duke University Musculoskeletal Research center, United states, [3]Department of Orthodontics, Fourth Military Medical University, China, [4]Department of Biomedical Sciences, Texas A&M Baylor College of Dentistry, United states, [5]Center for Metabolic Bone Diseases, University of Arkansas for Medicial Sciences, United states, [6]Center of Bone Metabolism & Repair, State Key Laboratory of Trauma, Burns & Combined Injury, Trauma Center, Institute of Surgery Research, China
Disclosures: Min Jin, None

2:45 pm **Cathepsin K is Directly Involved in Osteocyte Lacunae Remodeling and in the Osteocyte-**
1120 **dependent Skeletal Responses to Mechanical Loading and Unloading**
Yoshihito Ishihara*[1], Martin M. Fu[1], Frank C. Ko[2], Daniel J. Brooks[3], Liang Yang[1], Kenichi Nagano[1], Riku Kiviranta[4], Mary L. Bouxsein[5], Francesca Gori[1], Roland Baron[6]. [1]Division of Bone & Mineral Research, Department of Oral Medicine, Infection & Immunity, Harvard School of Dental Medicine, United states, [2]Harvard Medical School, Endocrine Unit, Massachusetts General Hospital, United states, [3]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, United states, [4]Department of Medical Biochemistry & Molecular Biology, University of Turku, Finland, [5]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center & Harvard Medical School, Endocrine Unit, Massachusetts General Hospital, United states, [6]Division of Bone & Mineral Research, Department of Oral Medicine, Infection & Immunity, Harvard School of Dental Medicine & Harvard Medical School, Endocrine Unit, Massachusetts General Hospital, United states
Disclosures: Yoshihito Ishihara, None

3:00 pm **MicroRNA miR-23a Cluster Promotes Osteocyte Differentiation by Regulating Prdm16/**
1121 **TGF-β Signaling in Osteoblasts**
Huan-Chang Zeng*[1], Yangjin Bae[1], Brian Dawson[1], Yuqing Chen[1], Philippe Campeau[2], Jianning Tao[3], Brendan Lee[1]. [1]Baylor College of Medicine, United states, [2]Sainte-Justine Hospital, Canada, [3]Sanford School of Medicine of the University of South Dakota, United states
Disclosures: Huan-Chang Zeng, None

3:15 pm **Role of FGF9 in Promotion of Early Osteocyte Differentiation and as a Potent Inducer of**
1122 **FGF23 Expression in Osteocytes**
Lora A. McCormick*[1], Kun Wang[2], LeAnn M. Tiede-Lewis[1], Hong Zhao[2], Yixia Xie[2], Samantha Neuburg[3], Aline Martin[3], Lynda F. Bonewald[2], Sarah L. Dallas[2]. [1]University of Missouri-Kansas City, USA, United states, [2]University of Missouri-Kansas City, United states, [3]Northwestern University Feinberg School of Medicine, United states
Disclosures: Lora A. McCormick, None

3:30 pm **Alterations in perilacunar and canalicular remodeling in the Hyp mouse model of XLH**
1123 Janaina deSilva Martins[1], Marie Demay[2], Eva Liu*[3]. [1]Massachusetts General Hospital, United states, [2]Massachusetts General Hospital, Harvard Medical School, United states, [3]Brigham & Women's Hospital, Massachusetts General Hospital, United states
Disclosures: Eva Liu, None

3:45 pm **ASBMR 2016 Annual Meeting Young Investigator Award**

1124 **Osteocytes Mediate Bone Pain Through Cell-Cell Communication with Sensory Neurons via Connexin 43**

Masahiro Hiasa*[1], Tatsuo Okui[1], Jesús Delgado-Calle[2], Teresita Bellido[2], G David Roodman[1], Fletcher White[3], Lilian Plotkin[2], Toshiyuki Yoneda[1]. [1]Department of Medicine, Hematology Oncology, Indiana University School of Medicine, United states, [2]Department Anatomy & Cell Biology, Indiana University School of Medicine, United states, [3]Department of Anesthesia, Paul & Carole Stark Neurosciences Research Institute, United states

Disclosures: Masahiro Hiasa, None

NETWORKING BREAK

4:00 pm - 4:30 pm **Georgia World Congress Center**

ASBMR Discovery Hall - Expo Hall A1

SYMPOSIUM-BMPS IN DEVELOPMENT AND DISEASE

Supported by an Educational Grant from Lilly

4:30 pm - 5:45 pm **Georgia World Congress Center**

Sidney Marcus Auditorium - Building A

Co-Chairs

Eileen Shore, Ph.D.
University of Pennsylvania, USA
Disclosures: Eileen Shore, None

A. Hari Reddi, Ph.D.
University of California, Davis Medical Center, USA
Disclosures: A. Hari Reddi, None

4:30 pm **BMP Receptors and Bone Development**
Karen Lyons, Ph.D.
University of California, Los Angeles, USA
Disclosures: Karen Lyons, None

4:55 pm **BMPs and Periosteal Bone Growth**
Vicki Rosen, Ph.D.
Harvard School of Dental Medicine, USA
Disclosures: Vicki Rosen, None

5:20 pm **Activin and FOP**
Aris Economides, Ph.D.
Regeneron Pharmaceuticals, Inc., USA
Disclosures: Aris Economides, Regeneron Pharmaceuticals, Inc. 16

GREG MUNDY SYMPOSIUM: NEW MECHANISMS ON CANCER AND BONE

4:30 pm - 5:45 pm **Georgia World Congress Center**

Thomas B. Murphy Ballroom - Building B Level 5

Co-Chairs

Robert Gagel, M.D.
University of Texas M.D. Anderson Cancer Center, USA
Disclosures: Robert Gagel, None

Claire Edwards, Ph.D.
University of Oxford, United Kingdom
Disclosures: Claire Edwards, None

4:30 pm **Bone Metastasis in the Hypoxia**
Amato Giaccia, Ph.D.
Stanford Medicine, USA
Disclosures: Amato Giaccia, None

4:55 pm **miRNAs and Cancer Metastasis in Bone**
Philippe A.R. Clezardin, Ph.D., DSc
INSERM and University of Lyon, France
Disclosures: Philippe A.R. Clezardin, None

5:20 pm **Chondroblastomas**
Zhiguo Zhang, Ph.D.
Columbia University, USA
Disclosures: Zhiguo Zhang, None

ASBMR ANNUAL TOWN HALL MEETING AND RECEPTION

6:00 pm - 7:00 pm **Georgia World Congress Center**
Room A402/403

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. The ASBMR Town Hall Meeting will be held at the Convention Center. Come learn more about ASBMR, meet with ASBMR leadership, ask questions during an "open-mic" time and enjoy a wine and cheese reception.

ADULT BONE AND MINERAL WORKING GROUP

Supported by an educational grant from Merck & Co., Inc.

7:15 pm - 10:00 pm **Georgia World Congress Center**
Room A305

7:15 pm **Opening Remarks and Dinner**
Introduction of Co-Chairs
Natalie E. Cusano, MD, MS, Columbia University Medical Center, USA
Michael Mannstadt, MD, Massachusetts General Hospital, USA
Ann Kearns, MD, PhD, Mayo Clinic, USA

7:30 pm **Historical Vignette: An Unusual Patient with Very Dense Bones**
Sundeep Khosla, MD
Mayo Clinic, USA

7:55 pm **FGFR Inhibition by NVP-BGJ398 in the Treatment of a Case of Tumor-Induced Osteomalacia**
Sri Harsha Tella, MD
National Institutes of Health, USA

8:10 pm **Familial Hyponatremia: A Rare Cause of Secondary Osteoporosis and Vertebral Compression Fractures**
Jad G. Sfeir, MD
Mayo Clinic, USA

8:25 pm **Recurrent Persistent Primary Hyperparathyroidism Due to Benign Parathyromatosis**
Sanjay Kumar Bhadada, DM
Postgraduate Institute of Medical Education and Research, India

8:40 pm **Locating the Indefinable Metastatic Parathyroid Carcinoma by Whole Body Parathyroid Hormone Venous Sampling**
Namki Hong, MD
Yonsei University College of Medicine, South Korea

8:55 pm **Osteoporosis of Systemic Mastocytosis Might Have to be Treated Differently**
Kamyar Asadipooya, MD
New York University School of Medicine, USA

9:10 pm **Successful Treatment of Calciphylaxis and Severe Hypocalcemia After Renal Transplant**
Sharleen Sidhu, MD, MPH
Georgetown University Hospital, USA

9:25 pm **Anorexia Nervosa with Severe Hyperphosphatemia as a Consequence of High Bone Turnover and Functional FGF23 Resistance**
Malachi McKenna, MD
University College Dublin, Ireland

9:40 pm **Presentation of the Boy Frame Award to Dr. Sundeep Khosla**

10:00 pm **Adjourn**

BONE STRENGTH WORKING GROUP

Sponsored by the Canadian Bone Strength Working Group

Supported by Unrestricted Educational Grants from Amgen Canada & Eli Lilly Canada

7:15 pm - 9:45 pm **Georgia World Congress Center**
Room A302

7:15 pm Registration and Buffet Dinner

7:45 pm Welcome and Overview of program
Introduction of Co-Chairs
– Shawn Davison PhD, University of Victoria
– Andy Kin On Wong PhD, University Health Network

Oral Abstracts
7:50 pm Session 1: High Quality Abstracts Related to Bone strength – TBA
8:15 pm Session 2: High Quality Abstracts Related to Bone strength – TBA

Keynote Talk
Co-Chairs:
– Jonathan D. Adachi MD, McMaster University
– Andy Kin On Wong, PhD, University Health Network

8:30 pm The Science of Skeletal Self-Repair
– TBA

9:30 pm Panel Discussion

9:40 pm Concluding remarks

Organizers: Angela Cheung, M.D., Ph.D., FRCPC
Departments of Medicine and Medical Imaging
University of Toronto
Toronto, Ontario, Canada

Andy Kin On Wong, Ph.D
Osteoporosis Program, University Health Network
Toronto, Ontario, Canada

PEDIATRIC BONE AND MINERAL WORKING GROUP

Supported by an educational grant from Ultragenyx Pharmaceuticals

7:15 pm - 9:30 pm **Georgia World Congress Center**
Room A314

Moderators: Clemens Bergwitz, M.D. and Madhusmita Misra, M.D., M.P.H.
Speakers: Leanne Ward, M.D. and Eric Hoffman, M.D.

7:15 pm Dinner

7:40 pm Opening remarks

7:45 pm Osteoporosis in Boys with Duchenne Muscular Dystrophy:
Manifestations, Mechanisms and Management
Leanne M. Ward, M.D., FRCPC., FAAP
University of Ottawa, Canada

8:05 pm Vamorolone - a Potential Bone Sparing Corticosteroid for Children with Muscular Dystrophy
Eric Hoffman Ph.D.,
SUNY Binghamton School of Pharmacy, CEO of RiveraGen

8:25 pm Panel Discussion

8:30 pm **Abstract 1:** The Muscle-Dependent Link between IGF-I and Cortical Bone is Suppressed in Children with Insulin Resistance. Kindler JM et al.

8:40 pm **Abstract 2:** Potential Risk Factors for Vertebral Fractures in Survivors of Childhood Acute Lymphoblastic Leukemia. Fiscaletti M et al.

8:50 pm **Abstract 3:** SLC34A1/NPT2a Mutations cause Hereditary Hypophosphatemic Rickets with Hypercalciuria. Chen et al.

9:00 pm **Abstract 4:** PLS3 Sequencing in Childhood-onset Primary Osteoporosis Identifies Two Novel Mutations. Kämpe AJ et al.

9:15 pm Closing remarks

DIVERSITY RECEPTION

Supported in part by a donation from Paula H. Stern, Ph.D.

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

7:30 pm - 8:30 pm **Omni Atlanta Hotel at CNN Center**
International Ballroom A

The ASBMR Diversity Subcommittee looks forward to connecting with attendees and members to celebrate racial and ethnic diversity within the Society. Food and drink will be provided.

Monday, September 19, 2016

Day-At-A-Glance

Time/Event/Location **All locations in the Georgia World Congress Center unless otherwise noted**

ASBMR REGISTRATION OPEN

7:30 am - 4:00 pm **Georgia World Congress Center**
Registration Hall - Main Entrance

CONCURRENT ORALS: FRACTURES, FRAILTY AND FALLS

8:00 am - 9:30 am **Georgia World Congress Center**
Room A411

Moderators:
Bess Dawson-Hughes, M.D.
Tufts University, USA
Disclosures: Bess Dawson-Hughes, None

Jacqueline Center, Ph.D.
Garvan Institute of Medical Research, Australia
Disclosures: Jacqueline Center, None

8:00 am 1125 **Screening based on FRAX fracture risk assessment reduces the incidence of hip fractures in older community-dwelling women – results from the SCOOP study in the UK**
Ev McCloskey*[1], E Lenaghan[2], S Clarke[3], C Cooper[4], R Fordham[2], N Gittoes[5], I Harvey[2], R Holland[2], A Howe[2], T Marshall[6], T Peters[7], Ja Kanis[1], Tw O'Neill[8], D Torgerson[9], L Shepstone[2], & the SCOOP Trial Group[10]. [1]University of Sheffield, United Kingdom, [2]University of East Anglia, United Kingdom, [3]Univeristy of Bristol, United Kingdom, [4]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [5]University Hospitals Birmingham NHS Trust, United Kingdom, [6]Norfolk & Norwich University Hospital, United Kingdom, [7]University of Bristol, United Kingdom, [8]University of Manchester, United Kingdom, [9]University of York, United Kingdom, [10]UK, United Kingdom
Disclosures: Ev McCloskey, None

8:15 am 1126 **ASBMR 2016 Annual Meeting Young Investigator Award**
Baseline Obesity is Predictive of More Rapid Frailty Onset: A 10-year Analysis of the Canadian Multicentre Osteoporosis Study (CaMOS)
Kennedy Courtney*[1], Olga Gajic-Veljanoski[1], George Ioannidis[1], Jonathan D. Adachi[2], Claudie Berger[3], Andy Kin On Wong[4], Kenneth Rockwood[5], Susan Kirkland[5], Parminder Raina[2], Lehana Thabane[2], Alexandra Papaioannou[2]. [1]Hamilton Health Sciences – St. Peter's Hospital – GERAS Centre, Canada, [2]McMaster University, Canada, [3]Camos – McGill University, Montreal, Canada, [4]University Health Network, Toronto, Canada, [5]Dalhousie University, Canada
Disclosures: Kennedy Courtney, None

8:30 am 1127 **Low Testosterone, but not Estradiol, Predicts Incident Falls in Older Men - the International MrOS Study**
Liesbeth Vandenput[1], Dan Mellström[1], Gail Laughlin[2], Peggy Cawthon[3], Jane Cauley[4], Andrew Hoffman[5], Magnus Karlsson[6], Björn Rosengren[6], Osten Ljunggren[7], Maria Nethander[1], Mattias Lorentzon[1], Jason Leung[8], Timothy Kwok[8], Eric Orwoll[9], Claes Ohlsson*[1]. [1]University of Gothenburg, Sweden, [2]University of California San Diego, United states, [3]California Pacific Medical Center, United states, [4]University of Pittsburgh, United states, [5]Stanford University, United states, [6]Lund University, Sweden, [7]University of Uppsala, Sweden, [8]Chinese University of Hong Kong, Hong kong, [9]Oregon Health & Science University, United states
Disclosures: Claes Ohlsson, None

8:45 am **A Single Assessment of BMD Can Strongly Predict Fracture Risk Over 25 years in Post-**
1128 **Menopausal Women: The Study of Osteoporotic Fractures**
Nicola Napoli*[1], Jane A. Cauley[2], Rachel Wagman[3], Kristine Ensrud[4], Howard A. Fink[4], Teresa A. Hillier[5], Lily Lui[6], Steve R. Cummings[6], John T. Schousboe[7], Dennis M. Black[8]. [1]Washington University School of Medicine, St Louis Mo. Universita' Campus Bio-Medico, Rome, Italy, United states, [2]Department of Epidemiology, University of Pittsburgh, United states, [3]Amgen, United states, [4]VA Medical Center, Minneapolis. University of Minnesota, Minneapolis, United states, [5]Kaiser Permanente Center of Health Research, Portland, United states, [6]California Pacific Medical Center, San Francisco, United states, [7]Park Nicollet Clinic, St. Louis Park, MN. Division of Health Policy & Management, University of Minnesota, Minneapolis, MN, United states, [8]Department of Epidemiology & Biostatistics, University of California San Francisco, United states
Disclosures: Nicola Napoli, None

9:00 am **ASBMR 2016 Annual Meeting Young Investigator Award**
1129 **Light intensity physical activity measured by accelerometer is associated with favorable bone microarchitecture and strength: The Framingham Study**
Amanda Lorbergs*[1], Nicole Spartano[2], Kerry Broe[3], Xiaochun Zhang[3], Robert McLean[1], Serkalem Demissie[4], L. Adrienne Cupples[4], Joanne Murabito[5], Vasan Ramachandran[6], Douglas Kiel[7], Marian Hannan[1], Steven Boyd[8], Mary Bouxsein[9], Elizabeth Samelson[1]. [1]Institute for Aging Research, Hebrew Senior Life & Harvard Medical School, United states, [2]Section of Preventative Medicine & Epidemiology, Boston University School of Medicine, United states, [3]Institute for Aging Research, Hebrew Senior Life, United states, [4]Department of Biostatistics, Boston University School of Public Health, United states, [5]Boston University School of Medicine & Framingham Heart Study, United states, [6]Section of Preventive Medicine & Epidemiology, Medicine, Boston University School of Medicine & Framingham Heart Study, United states, [7]Institute for Aging Research, Hebrew Senior Life, Department of Medicine BIDMC, & Harvard Medical School, United states, [8]McCaig Institute for Bone & Joint Health, University of Calgary, Canada, [9]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center & Harvard Medical School, United states
Disclosures: Amanda Lorbergs, None

9:15 am **Functional Performances on Admission Predict Elderly Patients In-hospital Falls**
1130
Marie-Claude Audet[1], Mélany Hars[1], François Herrmann[1], Alessandro de Sire[1], Jean-Luc Reny[2], Gabriel Gold[3], René Rizzoli[1], Serge Ferrari[1], Andrea Trombetti*[1]. [1]Division of Bone Diseases, Department of Internal Medicine Specialties, Geneva University Hospitals & Faculty of Medicine, Switzerland, [2]Division of Rehabilitation & Internal Medicine, Department of Internal Medicine, Rehabilitation & Geriatrics, Geneva University Hospitals & Faculty of Medicine, Switzerland, [3]Division of Geriatrics, Department of Internal Medicine, Rehabilitation & Geriatrics, Geneva University Hospitals & Faculty of Medicine, Switzerland
Disclosures: Andrea Trombetti, None

CONCURRENT ORALS: MUSCULOSKELETAL CROSSTALK AND HORMONAL REGULATION

8:00 am - 9:30 am **Georgia World Congress Center**
Room A402/403

Moderators:
Ulf Lerner, D.D.S., Ph.D.
Sahlgrenska Univesity Hospital, Sweden
Disclosures: Ulf Lerner, None

Leticia Brotto, M.D.
University of Missouri-kansas City, USA
Disclosures: Leticia Brotto, None

8:00 am **ASBMR 2016 Annual Meeting Young Investigator Award**
1131 **A crosstalk between bone and muscle endocrine functions favors adaptation to exercise**
Paula Mera*, Gerard Karsenty. Columbia University, United states
Disclosures: Paula Mera, None

8:15 am **Intermittent PTH Treatment Induces Bone Anabolism Through Bone Marrow-Resident**
1132 **Regulatory Cells**
Mingcan Yu*, Abdul Malik Tyagi, Chiara Vaccaro, Jonathan Adams, Emory Hsu, Roberto Pacifici. Emory University, United states
Disclosures: Mingcan Yu, None

8:30 am **Augmented Fgf23 Secretion in Bone Locally Contributes to Impaired Bone Mineralization in**
1133 **Chronic Kidney Disease in Mice**
Olena Andrukhova*[1], Sibel Ada[1], Sathish Kumar Murali[1], Jessica Bayer[1], William G Richards[2], Reinhold G Erben[1]. [1]Department of Biomedical Sciences University of Veterinary Medicine, Austria, [2]Amgen Inc., United states
Disclosures: Olena Andrukhova, None

8:45 am **ASBMR 2016 Annual Meeting Young Investigator Award**
1134 **Proximal Tubule-Specific Ablation of αKlotho Reproduces the Abnormalities of Mineral Metabolism Caused by Systemic αKlotho KO**
Ai Takeshita*[1], Kazuki Kawakami[1], Jin Nakamura[2], Kenryo Furushima[1], Masayasu Miyajima[3], Motoko Yanagita[2], Kazushige Sakaguchi[1]. [1]Department of Molecular Cell Biology & Molecular Medicine, Institute of Advanced Medicine, Wakayama Medical University, Japan, [2]Department of Nephrology, Kyoto University Graduate School of Medicine, Japan, [3]Laboratory Animal Center, Wakayama Medical Universit, Japan
Disclosures: Ai Takeshita, None

9:00 am **TGFβ-Induced Wnt1 Secretion by Osteoclasts Promotes Osteocyte Viability In Vivo**
1135 Megan Weivoda*[1], Stephanie Youssef[1], Ming Ruan[1], Christine Hachfeld[1], Glenda Evans[1], Rachel Davey[2], Jeffrey Zajac[2], Brendan Lee[3], Mark Johnson[4], Lynda Bonewald[5], Jennifer Westendorf[1], Sundeep Khosla[1], Merry Jo Oursler[1]. [1]Mayo Clinic, United states, [2]University of Melbourne, Australia, [3]Baylor College of Medicine, United states, [4]University of Missouri Kansas City, United states, [5]UMKC, United states
Disclosures: Megan Weivoda, None

9:15 am **Sensory Nerve Block Accelerates Bone Loss Induced by Peripheral Nerve Injury**
1136 Allison Dawson*[1], Brandon Ausk[1], Philippe Huber[2], Edith Gardiner[1], Leah Worton[1], Dewayne Threet[1], Sundar Srinivasan[1], Ted Gross[1], Steven Bain[1]. [1]Department of Orthopaedics, University of Washington, United states, [2]Department of Orthopaedics, University of Washingtons, United states
Disclosures: Allison Dawson, None

CONCURRENT ORALS: OSTEOBLASTS: TRANSCRIPTION, EPIGENETICS AND AUTOPHAGY

8:00 am - 9:30 am **Georgia World Congress Center**
Room A404/405

Moderators:
Valerie Geoffroy, Ph.D.
INSERM, France
Disclosures: Valerie Geoffroy, None

Hiroshi Takayanagi, M.D., Ph.D.
The University of Tokyo, Department of Immunology, Japan
Disclosures: Hiroshi Takayanagi, None

8:00 am **ASBMR 2016 Annual Meeting Young Investigator Award**
1137 **Alternative NF-kB Activation in the Mesenchymal Lineage Increases Bone Mass and Drives a Subcutaneous Sarcoma**
Jennifer Davis*, Deborah Novack. Washington University School of Medicine, United states
Disclosures: Jennifer Davis, None

8:15 am **ASBMR 2016 Annual Meeting Young Investigator Award**
1138 **HYPOXIA-INDUCIBLE FACTOR 2a IS A NEGATIVE REGULATOR OF OSTEOBLASTOGENESIS**
Kavitha Ranganathan*[1], Christophe Merceron[2], Angela Yao[1], Laura Mangiavini[3], Amato Giaccia[4], Benjamin Levi[5], Ernestina Schipani[1]. [1]University of Michigan Health Systems, Orthopedic Research Laboratories, United states, [2]University de Nantes France, France, [3]San Raffaele International, Italy, [4]Stanford University, United states, [5]University of Michigan Health Systems, United states
Disclosures: Kavitha Ranganathan, None

8:30 am **Control of skeletal development by the histone methyltransferase Ezh2 in mesenchymal**
1139 **progenitor cells, osteoblasts and chondrocytes**
Amel Dudakovic*[1], Emily Camilleri[1], Meghan McGee-Lawrence[2], Elizabeth Bradley[1], Christopher Paradise[1], Martina Gluscevic[1], Roman Thaler[1], Gary Stein[3], Martin Montecino[4], Jennifer Westendorf[1], Andre van Wijnen[1]. [1]Mayo Clinic, United states, [2]Augusta University, United states, [3]University of Vermont College of Medicine, United states, [4]Universidad Andres Bello, Chile
Disclosures: Amel Dudakovic, None

8:45 am **MiR-23a-cluster Regulates BAF45a to Control a Tissue-specific Epigenetic Mechanism for**
1140 **Bone Formation**
Mohammad Hassan*, Tanner Godfrey, Harunur Rashid, Amjad Javed. School of Dentistry, University of Alabama, United states
Disclosures: Mohammad Hassan, None

9:00 am **RCOR2/LSD1 Regulatory Node in the Epigenetic Control of Osteoblast Differentiation**
1141 Kati Tarkkonen*[1], Rana Al Majidi[1], Cristina Valensisi[2], Petri Rummukainen[1], Lauri Saastamoinen[1], David Hawkins[3], Riku Kiviranta[4]. [1]Department of Medical Biochemistry & Genetics, University of Turku, Turku, Finland, Finland, [2]Division of Medical Genetics, Department of Medicine, Department of Genome Sciences, Institute for Stem Cell & Regenerative Medicine, University of Washington School of Medicine, Seattle, USA, United states, [3]Division of Medical Genetics, Department of Medicine, Department of Genome Sciences, Institute for Stem Cell & Regenerative Medicine, University of Washington School of Medicine, Seattle, USA & Turku Centre for Biotechnology, Turku, Finland, United states, [4]Department of Medical Biochemistry & Genetics, University of Turku, Turku, Finland & Division of Endocrinology, Turku University Hospital, Turku, Finland, Finland
Disclosures: Kati Tarkkonen, None

9:15 am **Gpnmb/Osteoactivin Plays a Novel Role in Autophagy-Mediated Osteoblast Differentiation**
1142 **and Function**
Fatima Jaber*[1], Gregory Sondag[2], Mohammad Ansari[2], Fouad Moussa[2], Asaad Al-Adlaan[1], Fayez Safadi[2]. [1]Kent State University, United states, [2]Northeast Ohio Medical University, United states
Disclosures: Fatima Jaber, None

CONCURRENT ORALS: OSTEOPOROSIS PATHOPHYSIOLOGY II

8:00 am - 9:30 am **Georgia World Congress Center**
Room A412

Moderators:
Eric Hesse, M.D., Ph.D.
University Medical Center Hamburg-Eppendorf, Germany
Disclosures: Eric Hesse, None

Lilian Plotkin, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Lilian Plotkin, None

8:00 am 1143 **Blockade of the Activity of the Osteocytic PTH Receptor Target Gene MMP14: a Therapeutic Tool to Prevent Bone Loss and Potentiate Bone Gain Induced by PTH**
Jesus Delgado-Calle*, Benjamin Hancock, Kevin McAndrews, Lilian I Plotkin, Teresita Bellido. Department of Anatomy & Cell Biology, Indiana University School of Medicine, United states
Disclosures: Jesus Delgado-Calle, None

8:15 am 1144 **Rorβ Deletion Stimulates Bone Formation and Inhibits Bone Resorption in Aged Mice by Activating Wnt Signaling and Increasing Opg Expression**
Joshua Farr*[1], Kristy Nicks[1], Megan Weivoda[1], Elizabeth Atkinson[2], Sundeep Khosla[1], David Monroe[1]. [1]Division of Endocrinology, Mayo Clinic College of Medicine, United states, [2]Division of Biomedical Statistics & Informatics, Mayo Clinic College of Medicine, United states
Disclosures: Joshua Farr, None

8:30 am 1145 **Impaired Fracture Healing in Fgf2 Heterozygous and Homozygous Knockout Mice**
Marja Hurley*, Kimberly Pontoja, Liping Xiao. UConn Health, United states
Disclosures: Marja Hurley, None

8:45 am 1146 **Bortezomib rescues radiation-induced osteoporosis by promoting DNA repair and cell survival in osteoblasts**
Abhishek Chandra*, Tiffany Young, Ling Qin. University of Pennsylvania, United states
Disclosures: Abhishek Chandra, None

9:00 am 1147 **Natural Antibodies Against Oxidized LDL Cause Bone Anabolism**
Elena Ambrogini*[1], Xuchu Que[2], Shuling Wang[2], Fumihiro Yamaguchi[2], Annick Deloose[1], Michela Palmieri[1], Stuart B Berryhill[1], Robert S Weinstein[1], Sotirios Tsimikas[2], Stavros C Manolagas[1], Joseph L Witztum[2], Robert L Jilka[1]. [1]University of Arkansas for Medical Sciences, United states, [2]University of California, San Diego, United states
Disclosures: Elena Ambrogini, None

9:15 am 1148 **Short-term Antibiotic-induced Bone loss is preventable by microbial transfer**
Jonathan Schepper*, Fraser Collins, Regina Irwin, Nara Parameswaran, Laura McCabe. Michigan State University, United states
Disclosures: Jonathan Schepper, None

POSTERS OPEN

9:30 am - 3:00 pm **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

NETWORKING BREAK

9:30 am - 9:45 am **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

DISCOVERY HALL OPEN

9:30 am - 3:00 pm **Georgia World Congress Center**
ASBMR Discovery Hall - Expo Hall A1

PLENARY ORALS: MUSCULOSKELETAL PROGENITORS IN BONE FORMATION AND REPAIR

9:45 am - 11:00 am **Georgia World Congress Center**
Room A411

Moderators:
Deborah Galson, Ph.D.
University of Pittsburgh, USA
Disclosures: Deborah Galson, None

Moustapha Kassem, M.D., Ph.D.
Odense University Hospital, Denmark
Disclosures: Moustapha Kassem, None

9:45 am **ASBMR 2016 Annual Meeting Young Investigator Award**
1149 **Identification and localization of a key skeletal stem cell population with high regenerative potential in the periosteum of growing and adult bones**
Oriane Duchamp de Lageneste*, Anais Julien, Rana Abou-Khalil, Caroline Carvalho, Giulia Frangi, Céline Colnot. INSERM UMR1163, Imagine Institute, Paris Descartes University, France
Disclosures: Oriane Duchamp de Lageneste, None

10:00 am **Bone lining cells are an alternative to MSCs as a source of osteoblasts in adult bone**
1150 Brya G Matthews*[1], Igor Matic[1], Xi Wang[1], Nathaniel A Dyment[1], Danka Grcevic[2], Ivo Kalajzic[1]. [1]UConn Health, United states, [2]University of Zagreb, Croatia
Disclosures: Brya G Matthews, None

10:15 am **Improved Mobilization of Exogenous Mesenchymal Stem Cells to Bone for Fracture Healing**
1151 Wei Yao*, Evan Lay, Alexander Kot, Hongliang Zhang, Nancy Lane. UC Davis Medical Center, United states
Disclosures: Wei Yao, None

10:30 am **ASBMR 2016 Annual Meeting Young Investigator Award**
1152 **FAK Promotes Osteoprogenitor Cell Proliferation and Differentiation by Enhancing Wnt Signaling**
Chunhui Sun*[1], Hebao Yuan[2], Xiaoxi Wei[3], Li Wang[3], Linford Williams[2], Paul Krebsbach[3], Jun-Lin Guan[4], Fei Liu[3]. [1]School of Life Science, Jiangsu Normal University, China, [2]University of Michigan, United states, [3]University of Michigan School of Dentistry, United states, [4]University of Cincinnati College of Medicine, United states
Disclosures: Chunhui Sun, None

10:45 am **ASBMR 2016 Annual Meeting Young Investigator Award**
1153 **N-cadherin Modulation of Bone Mass Acquisition is Osteolineage Stage- and Age-Specific**
Francesca Fontana*, Cynthia Brecks, Leila Revollo, Grazia Abu-Ezzi, Manuela Fortunato, Yael Alippe, Gabriel Mbalaviele, Roberto Civitelli. Washington University School of Medicine, United states
Disclosures: Francesca Fontana, None

PLENARY ORALS: OSTEOPOROSIS TREATMENT III

9:45 am - 11:00 am **Georgia World Congress Center**
Room A412

Moderators:
Jonathan Adachi, M.D.
St. Joseph's Hospital/McMaster University, Canada
Disclosures: Jonathan Adachi, None

9:45 am 1154 **A Randomized, Open-label Phase 2 Study of KRN23, a Fully Human Anti-FGF23 Monoclonal Antibody, in 52 Children with X-linked Hypophosphatemia (XLH): 40-Week Results**

Thomas Carpenter*[1], Erik Imel[2], Annemieke Boot[3], Wolfgang Högler[4], Agnès Linglart[5], Raja Padidela[6], William van't Hoff[7], Michael Whyte[8], Chao-Yin Chen[9], Alison Skrinar[9], Sunil Agarwal[9], Emil Kakkis[9], Javier San Martin[9], Anthony Portale[10]. [1]Yale University School of Medicine, United states, [2]Indiana University School of Medicine, United states, [3]University of Groningen, Netherlands, [4]Birmingham Children's Hospital, United Kingdom, [5]Hôpital Bicêtre, France, [6]Royal Manchester Children's Hospital, United Kingdom, [7]Great Ormond Street Hospital, United Kingdom, [8]Shriners Hospital for Children, United states, [9]Ultragenyx Pharmaceutical Inc., United states, [10]University of California, United states

Disclosures: Thomas Carpenter, Ultragenyx Pharmaceuticals Inc., 17; Ultragenyx Pharmaceuticals Inc., 13

10:00 am 1155 **The Long-Term Odanacatib Fracture Trial (LOFT): Cardiovascular Safety Results**

Michelle O'Donoghue*, Illaria Cavallari, Marc Bonaca, Stephen Wiviott, Abby Cange, Laura Grip, Naveen Deenadayalu, KyungAh Im, Sabina Murphy, Marc Sabatine. Brigham & Women's Hospital, United states

Disclosures: Michelle O'Donoghue, Merck, 13

10:15 am 1156 **Safety of Odanacatib in Postmenopausal Women with Osteoporosis: 5-Year Data from the Extension of the Phase 3 Long-Term Odanacatib Fracture Trial (LOFT)**

Socrates Papapoulos*[1], Michael R. McClung[2], Bente Langdahl[3], Kenneth G. Saag[4], Henry Bone[5], Douglas P. Kiel[6], Kurt Lippuner[7], Toshitaka Nakamura[8], Ian Reid[9], Norman Heyden[10], Carolyn DaSilva[10], Boyd B. Scott[10], Rachid Massaad[11], Corinne Jamoul[12], Keith D. Kaufman[10], S. Aubrey Stoch[10], Arthur Santora[10], Antonio Lombardi[10], Deborah Gurner[10]. [1]Leiden University Medical Center, Netherlands, [2]Oregon Osteoporosis Center, United states, [3]Aarhus University Hospital, Denmark, [4]University of Alabama at Birmingham, United states, [5]Michigan Bone & Mineral Clinic & The Osteoporosis Center at St. Luke's Hospital, United states, [6]Institute for Aging Research, Hebrew Senior Life, Harvard Medical School, United states, [7]Bern University Hospital, Switzerland, [8]University of Occupational & Environmental Health, Japan, [9]University of Auckland, New zealand, [10]Merck & Co., Inc., United states, [11]MSD Europe Inc., Belgium, [12]Formerly MSD Europe Inc., Belgium

Disclosures: Socrates Papapoulos, Amgen, Axsome, Merck, Mereo Biopharma, Novartis, UCB, 14

10:30 am 1157 **Longitudinal Changes in Modeling- and Remodeling-Based Bone Formation with an Anabolic vs. an Antiresorptive Agent in the AVA Osteoporosis Study**

David Dempster*[1], Hua Zhou[2], Robert Recker[3], Jacques Brown[4], Christopher Recknor[5], E. Michael Lewiecki[6], Paul Miller[7], Sudhaker Rao[8], David Kendler[9], Robert Lindsay[10], Krege John[11], Jahangir Alam[12], Kathleen Taylor[13], Valerie Ruff[13]. [1]Regional Bone Center, Helen Hayes Hospital, W Haverstraw, & Department of Pathology & Cell Biology, College of Physicians & Surgeons of Columbia University, NY, United states, [2]Regional Bone Center, Helen Hayes Hospital, United states, [3]Department of Medicine, Division of Endocrinology, School of Medicine, Creighton University, United states, [4]Rheumatology & Bone Diseases Research Group, CHU de Quebec (CHUL) Research Centre & Department of Medicine, Laval University, Canada, [5]United Osteoporosis Centers, United states, [6]New Mexico Clinical Research & Osteoporosis Center, United states, [7]Department of Medicine, CO Center for Bone Research, United states, [8]Bone & Mineral Research Laboratory, Henry Ford Hospital, United states, [9]Department of Medicine (Endocrinology), University of British Columbia, Canada, [10]Regional Bone Center, Helen Hayes Hospital, W Haverstraw, & Department of Medicine, College of Physicians & Surgeons of Columbia University, NY, United states, [11]Eli Lilly & Company, United states, [12]Lilly Research Laboratories, Eli Lilly & Company, United states, [13]Musculoskeletal & Men's Health, Lilly USA, LLC, United states

Disclosures: David Dempster, Merck, 14; Amgen, 15; Eli Lilly and Company, 15; Amgen, 14; Eli Lilly and Company, 14

10:45 am **Bisphosphonate-related Changes in Bone Turnover are Associated with Vertebral, but not**
1158 **Non-vertebral, Fracture Risk Reduction: A Meta-Regression**

Douglas Bauer*[1], Richard Eastell[2], Mary Bouxsein[3], Jane Cauley[4], Steven Cummings[5], Anne dePapp[6], Victor Dishy[7], Sanya Fanous-Whitaker[8], Sundeep Khosla[9], Charles McCulloch[1], Dennis Black[1]. [1]University of California, San Francisco, United states, [2]University of Sheffield, United Kingdom, [3]Harvard Medical School, United states, [4]University of Pittsburgh, United states, [5]San Francisco Coordinating Center, California Pacific Medical Center, United states, [6]Merck & Co., Inc., Kenilworth, NJ, USA, United states, [7]Daiichi Sankyo, Inc., United states, [8]Foundation for the National Institutes of Health, United states, [9]Mayo Clinic College of Medicine, United states

Disclosures: Douglas Bauer, None

MEET-THE-PROFESSOR SESSIONS

11:00 am - 12:00 pm **Georgia World Congress Center**
Rooms A311-316

Meet the Professor: Imaging Techniques to Measure Bone Marrow Adipocytes
Room 311

Mark Horowitz, Ph.D.
Yale School of Medicine, USA
Disclosures: Mark Horowitz, None

Meet the Professor: Osteogenesis Imperfecta: Novel Therapeutic Approaches
Room A312

Joan Marini, M.D., Ph.D.
National Institute of Child Health and Human Development, USA
Disclosures: Joan Marini, None

Kenneth Kozloff, Ph.D.
University of Michigan Department of Orthopaedic Surgery, USA
Disclosures: Kenneth Kozloff, None

Meet the Professor: Skeletal Regeneration and Fracture Repair
Room A315

Susan Bukata, M.D.
UCLA, USA
Disclosures: Susan Bukata, None

Meet the Professor: miRs and Bone Homeostasis
Room A313

Anne Delany, Ph.D.
UConn Health, USA
Disclosures: Anne Delany, None

Meet the Professor: What Is the Optimal Dose and Administration of Vitamin D Supplement in Falls and Fractures Preventions?
Room A314

Kerrie Sanders, Ph.D.
Australian Catholic University, Australia
Disclosures: Kerrie Sanders, None

CAREER DEVELOPMENT SESSION: NEGOTIATING FOR SUCESS

Sponsored by the ASBMR Membership Engagement and Education Committee and the Women in Bone and Mineral Research Committee

11:00 am - 12:30 pm **Georgia World Congress Center**
Room A302

Investigators at any stage will eventually be faced with the opportunity for negotiation. This session will provide the chance to learn and understand strategies that can optimize effectiveness in

negotiation settings, and to hear about the experiences described by other academic medical faculty regarding negotiation. Michael Silverman, the Chief Legal Officer at SmithBucklin, will offer his expertise in negotiation, along with tactics that will work in any given scenario: salary, promotion, research space, clinical load, etc. Participants will then have the opportunity to debrief and discuss negotiation strategies with experienced leaders in the field for a specific topic, along with a chance to practice these strategies with their neighbor.

Co-Chairs
Roberta Faccio, Ph.D.
Washington University in St Louis School of Medicine, USA
Disclosures: Roberta Faccio, None

Melissa Kacena, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Melissa Kacena, None

Stavroula Kousteni, Ph.D.
Columbia University Medical Center, USA
Disclosures: Stavroula Kousteni, None

Speaker
Michael Silverman
Smithbucklin Corporation, USA
Disclosures: Michael Silverman, None

LATE-BREAKING ABSTRACT PRESENTATIONS

11:00 am - 12:00 pm **Georgia World Congress Center**
Room A404/405

11:00 am
LB-1159 **Mutations in Geranylgeranyl Diphosphate Synthase (*GGPS1*) Identified by Whole-Exome Sequencing in Three Sisters who Sustained Atypical Femoral Fractures during Treatment with Bisphosphonates**

Neus Roca-Ayats*[1], Natalia Garcia-Giralt[2], Maite Falcó[3], Nuria Martínez-Gil[3], Josep Francesc Abril[4], Roser Urreizti[5], Joaquin Dopazo[6], José Manuel Quesada Gómez[7], Xavier Nogues[2], Leonardo Mellibovsky[2], Daniel Prieto-Alhambra[8], Muhammad K Javaid[8], James E Dunford[8], R Graham Russell[8], Daniel Grinberg[3], Susana Balcells[3], Adolfo Diez-Perez[2]. [1]Department of Genetics, Microbiology & Statistics, Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), ISCIII, Universitat de Barcelona, IBUB, Spain, [2]Musculoskeletal Research Group, IMIM (Hospital del Mar Medical Research Institute), Red Temática de Investigación Cooperativa en Envejecimiento y Fragilidad (RETICEF), ISCIII, Spain, [3]Department of Genetics, Microbiology & Statistics, Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), ISCIII, Universitat de Barcelona, IBUB, Spain, [4]Department of Genetics, Microbiology & Statistics, Facultat de Biologia, Universitat de Barcelona, IBUB, Spain, [5]Department of Genetics, Microbiology & Statistics, Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), ISCIII, Spain, [6]Department of Computational Genomics, Centro Investigacion Príncipe Felipe, BIER, CIBERER, Spain, [7]Mineral Metabolism Unit, Instituto Maimónides de Investigación Biomédica de Córdoba (IMIBIC), Hospital Universitario Reina Sofía. RETICEF, ISCIII, Spain, [8]NIHR Musculoskeletal BRU & Botnar Research Centre, Nuffield Department of Orthopaedics, Rheumatology & Musculoskeletal Sciences, University of Oxford, United Kingdom
Disclosures: Neus Roca-Ayats, None

11:12 am **LB-1160** **Genome-wide association study of bone mineral density in the UK Biobank Study identifies over 376 loci associated with osteoporosis**

John P. Kemp*[1], John A. Morris[2], Carolina Medina-Gómez[3], Celia L. Gregson[4], Vincenzo Forgetta[2], Katerina Trajanoska[3], Nicole M. Warrington[5], Jie Zheng[6], Celia M.T. Greenwood[7], Stephen K. Kaptoge[8], Fernando Rivadeneira[3], Jonathan H. Tobias[4], Cheryl L. Ackert-Bicknell[9], J. Brent Richards[10], David M. Evans[1]. [1]University of Queensland Diamantina Institute, Translational Research Institute, Brisbane, Queensland, Australia & MRC Integrative Epidemiology Unit, University of Bristol, Bristol, UK., United Kingdom, [2]Departments of Medicine, Human Genetics, Epidemiology & Biostatistics, Lady Davis Institute, McGill University, Montréal, Canada, Canada, [3]Department of Epidemiology, Erasmus Medical Center Rotterdam, Rotterdam, The Netherlands, Netherlands, [4]School of Clinical Sciences, University of Bristol, Bristol, UK, United Kingdom, [5]University of Queensland Diamantina Institute, Translational Research Institute, Brisbane, Queensland, Australia, Australia, [6]MRC Integrative Epidemiology Unit, University of Bristol, Bristol, UK., United Kingdom, [7]Lady Davis Institute for Medical Research, Jewish General Hospital, Montreal, QC, Canada, [8]Department of Public Health & Primary Care, University of Cambridge, Cambridge, UK, United Kingdom, [9]Center for Musculoskeletal Research, University of Rochester, Rochester, New York, USA., United states, [10]Departments of Medicine, Human Genetics, Epidemiology & Biostatistics, Lady Davis Institute, McGill University, Montréal, Canada & Department of Twin Research, King's College London, London, UK., United Kingdom

Disclosures: John P. Kemp, None

11:24 am **LB-1161** **Histone methyltransferases EZH1 and 2 promote skeletal growth by repressing inhibitors of chondrocyte proliferation and hypertrophy**

Julian Lui*[1], Presley Garrison[1], Quang Nguyen[1], Michal Ad[1], Ola Nilsson[2], Kevin Barnes[1], Jeffrey Baron[1]. [1]Section on Growth & Development, NICHD, United states, [2]Department of Women's & Children's Health, Karolinska Institute, Sweden

Disclosures: Julian Lui, None

11:36 am **LB-1162** **Clinical Development of an Optimized Abaloparatide Transdermal Patch**

Jamal Saeh*[1], David Pais[1], Ehab Hamad[1], Joan Moseman[2], David Wirtanen[2], Ken Brown[2], Lisa Dick[2], Gary Hattersley[1]. [1]Radius Health, United states, [2]3M Drug Delivery Systems, United states

Disclosures: Jamal Saeh, Radius Health, 17

11:48 am **LB-1163** **Effects of Up to 10 Years of Denosumab Treatment on Bone Matrix Mineralization: Results From the FREEDOM Extension**

DW Dempster*[1], JP Brown[2], S Yue[3], S Rizzo[4], D Farlay[4], RB Wagman[3], A Wang[3], X Yin[3], G Boivin[4]. [1]Columbia University, United states, [2]Laval University & CHU de Quebec-(CHUL) Research Centre, Canada, [3]Amgen Inc., United states, [4]INSERM, UMR 1033, Univ Lyon, Université Claude Bernard Lyon 1, France

Disclosures: DW Dempster, Amgen Inc., Eli Lilly & Co., Radius, Regeneron, and Tarsa, 14; Amgen Inc. and Eli Lilly & Co., 15; Amgen Inc. and Eli Lilly & Co., 13

NETWORKING BREAK

12:00 pm - 12:30 pm **Georgia World Congress Center**

ASBMR Discovery Hall - Expo Hall A1

POSTER SESSION III & POSTER TOURS

12:30 pm - 2:30 pm **Georgia World Congress Center**

ASBMR Discovery Hall - Expo Hall A1

Odd # Posters will present from 12:30 pm - 1:30 pm
Even # Posters will present from 1:30 pm - 2:30 pm

ADULT METABOLIC BONE DISORDERS: CHRONIC KIDNEY DISEASE – METABOLIC BONE DISORDER

MO0001 **FGF23 and Vitamin D metabolism in chronic kidney disease**
Isabelle Piec*[1], Allison Chipchase[2], Holly Nicholls[1], Christopher Washbourne[1], Jonathan Tang[1], William Fraser[1]. [1]University of East Anglia, United Kingdom, [2]Norwich & Norfolk University Hospital, United Kingdom
Disclosures: Isabelle Piec, None

MO0002 **Hip Fracture Admissions are Increasingly Complicated by Advanced Chronic Kidney Disease in England**
Celia Gregson*[1], Arti Bhimjiyani[1], Shona Methven[2], Fergus Caskey[3], Jenny Neuburger[4], Yoav Ben-Shlomo[5]. [1]Musculoskeletal Research Unit, School of Clinical Sciences, University of Bristol, Bristol, UK, United Kingdom, [2]UK Renal Registry, Bristol, & School of Clinical Sciences, University of Bristol, UK, United Kingdom, [3]UK Renal Registry, Bristol, & School of Social & Community Based Medicine, University of Bristol, University of Bristol, UK, United Kingdom, [4]The Nuffield Trust, London, UK, United Kingdom, [5]School of Social & Community Based Medicine, University of Bristol, Bristol, UK, United Kingdom
Disclosures: Celia Gregson, None

ADULT METABOLIC BONE DISORDERS: OTHER ADULT METABOLIC BONE DISORDERS

MO0003 **Alkaline phosphatase substrates are elevated in many adults with persistent hypophosphatasemia**
Indira Rai*[1], Richard Berg[2], Erica Scotty[2], Fergus McKiernan[3]. [1]Marshfield Clinic, United states, [2]Center for Biomedical Informatics, Marshfield Medical Research Foundation, United states, [3]Marshfield Medical Research Foundation, United states
Disclosures: Indira Rai, None

MO0004 **Cobalt Ion Release Alters Skeletal Metabolism: A Mechanism for Bone Loss in Metal-on-Metal Orthopaedic Implants**
Andrew Clark*, tzong-jen sheu, J. Edward Puzas. University of Rochester, United states
Disclosures: Andrew Clark, None

MO0005 **RANK-L is upregulated in Erdheim Chester disease, a new therapeutic target?**
Natasha M. Appelman-Dijkstra*[1], Huib van Essen[2], Nathalie Bravenboer[3], Neveen A.T. Hamdy[1]. [1]Center for Bone Quality Leiden University Medical Center, Netherlands, [2]Department Clinical Chemistry. VU University Medical Center, Netherlands, [3]Department Clinical Chemistry. VU University Medical Center, Research institute MOVE & Center for Bone Quality Leiden University Medical Center, Netherlands
Disclosures: Natasha M. Appelman-Dijkstra, None

ADULT METABOLIC BONE DISORDERS: PAGET'S DISEASE

MO0006 **Micro-RNA Expression Profiling in Paget's Disease of Bone and Osteoporosis and their Modulation by Intravenous Bisphosphonates**
Simone Bianciardi[1], DANIELA MERLOTTI[2], Guido Sebastiani[1], Marco Valentini[1], Stefano Gonnelli[1], Carla Caffarelli[1], Isabella Anna Evangelista[1], Simone Cenci[3], Ranuccio Nuti[1], Francesco Dotta[1], Luigi Gennari*[1]. [1]Department of Medicine, Surgery & Neurosciences, University of Siena, Italy, [2]1Department of Medicine, Surgery & Neurosciences, University of Siena, Italy; 2Division of Genetics & Cell Biology, San Raffaele Scientific Institute, Milan, Italy, Italy, [3]Division of Genetics & Cell Biology, San Raffaele Scientific Institute, Milan, Italy
Disclosures: Luigi Gennari, None

ADULT METABOLIC BONE DISORDERS: PARATHYROID DISORDERS

MO0007 **Conventional Treatment Of Hypoparathyroidism Is Not Sufficient To Prevent Hyperphosphatemia And Hypercalciuria**
Camilla Amaral[1], Gabriela Andrade[1], Maria Marta Sarquis Soares[2], Maria Regina Calsolari[1], Angelica Tiburcio[1], Barbara Silva*[3], [1]Santa Casa de Belo Horizonte, Brazil, [2]Universidade Federal de Minas Gerais, Brazil, [3]Santa Casa de Belo Horizonte & UNI-BH, Brazil
Disclosures: Barbara Silva, None

MO0008 **HYDROGEN SULFIDE PROTECTS FROM PTH INDUCED BONE LOSS BY INCREASING WNT10B PRODUCTION BY T CELLS**
Abdul Malik*, John Calvert, Chiara Vaccaro, Mingcan Yu, Jau Li, Jonathan Adams, Roberto Pacifici. Emory University, United states
Disclosures: Abdul Malik, None

MO0009 **Intrathyroidial Parathryoid Carcinoma**
Monica Therese Cating-Cabral*, Pamela Ann Aribon, Brian Michael Cabral. St. Luke's Medical Center Global City, Philippines
Disclosures: Monica Therese Cating-Cabral, None

MO0010 **Normocalcaemic Hyperparathyroidism: Prevalence in a UK 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, United Kingdom
Disclosures: Marian Schini, None

MO0011 **Primary Hyperparathyroidism: Role of Impaired Cerebrovascular Function in Cognitive Symptoms**
Sum Melissa, Yunglin Gazes, Diane Cozadd, Mariana Bucovsky, Kevin Slane, Chengchen Zhang, Randolph Marshall, Ronald Lazar, Shonni Silverberg, Marcella Walker*. Columbia University Medical Center, United states
Disclosures: Marcella Walker, None

MO0012 **PTH in Elderly Women: Change over Time and Association with Mortality in the Longitudinal OPRA Study**
David Buchebner*[1], Fiona McGuigan[2], Linnea Malmgren[2], Kristina Akesson[2]. [1]Department of Internal Medicine, Halmstad County Hospital, Halmstad, Sweden, Sweden, [2]Clinical & Molecular Osteoporosis Research Unit, Department of Clinical Science Malmö, Lund University, Sweden, Sweden
Disclosures: David Buchebner, None

BIOMECHANICS AND BONE QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

MO0013 **3D Analysis of Osteocyte Lacunae Using Confocal Microscopy**
Adam Rauff[1], Chelsea Heveran[2], Virginia Ferguson[2], R. Dana Carpenter*[1]. [1]University of Colorado Denver, United states, [2]University of Colorado Boulder, United states
Disclosures: R. Dana Carpenter, None

MO0014 **Comparison of Cortical and Trabecular Bone Micro-architecture and Finite-Element-Derived Strength in Postmenopausal Women With and Without Recent Distal Radius Fracture**
Chantal Kawalilak*[1], Saija Kontulainen[2], Morteza Amini[1], Cathy Arnold[3], James D Johnston[1]. [1]Mechanical Engineering; University of Saskatchewan, Canada, [2]College of Kinesiology; University of Saskatchewan, Canada, [3]School of Physical Therapy; University of Saskatchewan, Canada
Disclosures: Chantal Kawalilak, None

MO0015 **Dynamic Versus Quasi-Static Mechanical Analysis of Bisphosphonate Treated Bone**
Joseph Geissler*, J. Christopher Fritton. Rutgers University / NJ Medical School / Orthopaedics, United states
Disclosures: Joseph Geissler, None

MO0016 **In Vivo Measures of Trabecular Bone Micro-Architecture Computed from Two Multirow Detector CT Scanners with Different Spatial Resolution Show High Correlation**
Punam Saha*, Cheng Chen, Xiaoliu Zhang, Elena Letuchy, Kathleen Janz, Eric Hoffman, Trudy Burns, James Torner, Steven Levy. University of Iowa, United states
Disclosures: Punam Saha, None

MO0017 **Mechanical Competence of the Proximal Femur from X-Ray Analysis**
Volker Kuhn*, Kerstin Simon. Medical University Innsbruck, Austria
Disclosures: Volker Kuhn, None

MO0018 **Microindentation Testing of Human Trabecular Bone**
Drew Jones*[1], Connie Wood[2], David Pienkowski[1], Hartmut Malluche[3]. [1]Department of Biomedical Engineering, University of Kentucky, United states, [2]Department of Statistics, University of Kentucky, United states, [3]Division of Nephrology, Bone & Mineral Metabolism, University of Kentucky, United states
Disclosures: Drew Jones, None

MO0019 **Ovariectomized Rats with a Healed Fracture Have an Increased Propensity to Subsequent Fracture**
Elizabeth Foley*[1], Sarah Johnson[2], Dennis Chakkalakal[3], Bahram Arjmandi[1]. [1]Florida State University, United states, [2]Colorado State University, United states, [3]Creighton University, United states
Disclosures: Elizabeth Foley, None

MO0020 **Variation in Bone Strength-Strain Index (SSI) of the Distal Radius in Non-Osteoporotic Males: Implications for Differential Response to Traumatic Loading**
Randee Hunter*[1], Karen Briley[2], James Ellis[2], Amanda Agnew[1]. [1]Skeletal Biology Research Laboratory, The Ohio State University, United states, [2]Wright Center of Innovation in Biomedical Imaging, The Ohio State University, United states
Disclosures: Randee Hunter, None

BIOMECHANICS AND BONE QUALITY: DISUSE OSTEOPOROSIS – ANIMAL MODELS

MO0021 **Influence of bone morphology over the bone mechanical properties of Osteoporotic rat models**
Juan-Marcelo Rosales*[1], Masaru Kaku[1], Kosuke Nozaki[2], Takako Ida[1], Katsumi Uoshima[1]. [1]Division of Bio-prosthodontics, Graduate School of Medical & Dental Science, Niigata University, Japan, [2]Department of Material Biofunctions, Institute of Biomaterials & Bioengineering, Tokyo Medical & Dental University, Japan
Disclosures: Juan-Marcelo Rosales, None

MO0022 **Original Evidence of a Different Adaptation of Proximal and Distal Cortical Shell of the Human Fibula to the Bone's Mechanical Environment**
Gustavo Roberto Cointry*[1], Laura Nocciolino[2], Alex Ireland[3], Nicolas Hall[4], Andreas Kriechbaumer[4], José Luis Ferretti[2], Joern Rittweger[4], Ricardo Francisco Capozza[2]. [1]Center of P-Ca Metabolism (CEMFoC), Argentina, [2]Center of P-Ca Metabolism Studies (CEMFoC), Argentina, [3]School of Healthcare Science, Manchester Metropolitan University, United Kingdom, [4]Division of Space Physiology, Institute of Aerospace Medicine, German Aerospace Center, Germany
Disclosures: Gustavo Roberto Cointry, None

BIOMECHANICS AND BONE QUALITY: GENERAL

MO0023 **Age, Grip Strength, and Handedness are Related to Distal Radius Microstructure: a Cross-Sectional, HR-pQCT study in Premenopausal Females**
Megan Mancuso*, Karen Troy. Worcester Polytechnic Institute, United states
Disclosures: Megan Mancuso, None

MO0024 **High-resolution quantitative preclinical bone analysis in micro-computed tomography (microCT)**
Ali Behrooz*, Jeff Meganck, Jen-Chieh Tseng, Jeff Peterson, Josh Kempner. PerkinElmer, United states
Disclosures: Ali Behrooz, PerkinElmer, 17

MO0025 **Low intensity vibration mitigates the detrimental effect of chronic heavy alcohol consumption on bone quality, in actively growing rats**
Tee Pamon*[1], Jiaqi Qian[1], Dandi Zhang[1], Chun Ho Cheung[1], Jason Abraham[1], Russell Turner[2], Clinton Rubin[1], M. Ete Chan[1]. [1]Stony Brook University, United states, [2]Oregon State University, United states
Disclosures: Tee Pamon, None

MO0026 **Raman and FTIR bone quality parameters correlate with physical chemical properties of chemical standards and native tissue**
Erik Taylor*[1], Ashley Lloyd[1], Carolina Salazar[2], Eve Donnelly[1]. [1]Cornell University, United states, [2]University of Los Andes, Colombia
Disclosures: Erik Taylor, None

MO0027 **Remnant Woven Bone and Calcified Cartilage in Mouse Bone: Differences Between Ages/Sex and Effects on Bone Strength**
Victoria Ip, Zacharie Toth, John Chibnall, Sara McBride-Gagyi*. Saint Louis University, United states
Disclosures: Sara McBride-Gagyi, None

MO0028 **Sertraline alters bone wound healing in murine, critical-sized, calvarial defects**
R. Nicole Howie*[1], Samuel Herberg[2], Emily Durham[1], Gracie Bennfors[3], Mohammed Elsalanty[4], Amanda Larue[1], William Hill[4], James Cray[1]. [1]MUSC, United states, [2]Case Western, United states, [3]College of Charleston, United states, [4]Augusta University, United states
Disclosures: R. Nicole Howie, None

MO0029 **Variables Reflecting the Mineralization of Bone Tissue from Fracturing versus Non-fracturing Postmenopausal Women**
Sébastien RIZZO*[1], Delphine FARLAY[1], Mohammed AKHTER[2], Adele Boskey[3], Robert RECKER[2], Joan LAPPE[2], Georges BOIVIN[1]. [1]INSERM, UMR 1033, Univ Lyon, Université Claude Bernard Lyon 1, France, [2]Creighton University Osteoporosis Research Center, United states, [3]Hospital for Special Surgery, United states
Disclosures: Sébastien RIZZO, None

BIOMECHANICS AND BONE QUALITY: MECHANICAL LOADING EFFECTS IN INTACT ANIMALS

MO0030 **Initial Results for a New Positive Reinforcement Voluntary Jumping Exercise in Rats Show Enhanced Bone Parameters**
Scott Lenfest*[1], Jennifer Kosniewski[1], Amelia Looper[2], Jessica Brezicha[3], Jeremy Black[1], Susan Bloomfield[4], Jim Fluckey[4], Harry Hogan[1]. [1]Texas A&M University Department of Mechanical Engineering, United states, [2]Texas A&M University College of Veterinary Medicine, United states, [3]Texas A&M University Department of Biomedical Engineering, United states, [4]Texas A&M University Department of Health & Kinesiology, United states
Disclosures: Scott Lenfest, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: ASSESSMENT OF BONE DISEASE IN CHILDREN

MO0031 **Renal Compromise and Recovery in a Boy with the *PHEX* 3'-UTR c.*231A>G Variant of X-linked Hypophosphatemia**
Gary S. Gottesman*[1], Randa Razzouk[2], Keefe Davis[3], Valerie A. Wollberg[4], Katherine L Madson[1], William H. McAlister[5], Steven Mumm[6]. [1]Center for Metabolic Bone Disease & Molecular Research Shriners Hospitals for CHildren - St. Louis, United states, [2]Kidney & HTN, Department OU School of Community Medicine, United states, [3]Division of Pediatric Nephrology, Department of Pediatrics, Washington University School of Medicine at St. Louis Children's Hospital, United states, [4]Center for Metabolic Bone Disease & Molecular Research Shriners Hospitals for CHildren - St. Louis, United states, [5]Department of Pediatric Radiology. Mallinckrodt Institute of Radiology, Washington University School of Medicine at St. Louis Children's Hospital, United states, [6]Division of Bone & Mineral Diseases, Department of Internal Medicine, Washington University School of Medicine at Bernes-Jewish Hospital, United states
Disclosures: Gary S. Gottesman, None

MO0032 **Withdrawn**

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: BONE DEVELOPMENT AND BONE MASS ACCRUAL

MO0033 **Are there Gender Differences in Abdominal Fat Distribution in Healthy Teenagers?**
Francois Duboeuf*[1], Stéphanie Boutroy[1], Tiphanie Ginhoux[2], Jean Paul Roux[1], Roland Chapurlat[1], Justine Bacchetta[1]. [1]INSERM 1033, France, [2]EPICIME, France
Disclosures: Francois Duboeuf, None

MO0034 **Feasibility and Reproducibility using HRpQCTII in Children and Adolescents**
Kyla Kent*[1], Jessica Whalen[1], Ariana Strickland[1], Mary Leonard[1], Andrew J. Burghardt[2]. [1]Stanford School of Medicine, Dept Pediatrics, United states, [2]University of California, San Francisco, United states
Disclosures: Kyla Kent, None

MO0035 **Relations between Dietary And Lifestyle Factors and Bone Mass in the adolescents in Taiwan**
Yi-Chin Lin*[1], Wen-Harn Pan[2]. [1]School of Nutrition, Chung Shan Medical University, Taiwan, province of china, [2]Institute of Biomedical Sciences, Academia Sinica, Taiwan, province of china
Disclosures: Yi-Chin Lin, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: BONE LOSS IN PEDIATRICS

MO0036 **Calcemic Response to Burns Differs between Children and Adolescents**
Gordon L Klein*[1], David N Herndon[2], Clark R Andersen[2], Debra Benjamin[2], Celeste C Finnerty[2]. [1]Dept Orthopaedic Surgery, University of Texas Medical Branch & Shriners Burns Hospital, United states, [2]Department of Surgery, University of Texas Medical Branch & Shriners Burns Hospital, United states
Disclosures: Gordon L Klein, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: EFFECTS OF BONE ACTIVE DRUGS IN CHILDREN

MO0037 **Effect of Bisphosphonates and Denosumab on trabecular bone: Results of a pilot study in children with Osteogenesis imperfecta**
Mirko Rehberg[1], Oliver Semler[1], Heike Hoyer-Kuhn[1], Eckard Schönau[1], Renaud Winzenrieth*[2]. [1]Children's Hospital, University of Cologne, Germany, [2]R&D department, Med-Imaps SASU, France
Disclosures: Renaud Winzenrieth, None

MO0038 **Fibrogenesis Imperfecta Ossium and Response to human growth hormone:A potential novel therapy**
Sanjay Bhadada*[1], Vandana Dhiman[1], Soham Mukherjee[1], Sameer Aggarwal[1], Amanjit Bal[1], N khandelwal[1], Anil bhansali[1], D. Sudhaker Rao[2]. [1]PGIMER, Chandigarh, India, India, [2]Henry Ford Hospital, USA, United states
Disclosures: Sanjay Bhadada, None

BONE MARROW MICROENVIRONMENT AND NICHES: BONE AND VASCULATURE

MO0039 **Discovery of a Novel, Bone-like Blood Particle: Identification and Characterization of Ossified Particles in the Peripheral Circulation of Humans**
Rhonda Prisby*[1], Lynn Opdenaker[2], Mary Ann McLane[1], Sophie Guderian[1]. [1]University of Delaware, United states, [2]Helen F. Graham Cancer Center & Research Institute, United states
Disclosures: Rhonda Prisby, None

MO0040 **Novel, Bone-like Ossified Particles in the Peripheral Circulation of Male Fischer-344 Rats**
Sophie Guderian*, Seungyong Lee, Rhonda Prisby. University of Delaware, United states
Disclosures: Sophie Guderian, None

MO0041 **Transcriptomic Analysis of Mouse Calvarial Cells Stimulated by Megakaryoctyes Reveals Changes in Macrophage Activity and Angiogenic Gene Networks**
Paul Childress*[1], Nabarun Chakraborty[2], Marta Alvarez[1], Evan Himes[1], Angela Bruzzaniti[3], Edward Srour[4], Duncan Donohue[2], Rasha Hammamieh[2], Melissa Kacena[1]. [1]Department of Orthopaedic Surgery, Indiana University School of Medicine, United states, [2]US Army Center for Environmental Health Research, United states, [3]Department of Biomedical & Applied Sciences, Indiana University School of Dentistry, United states, [4]Department of Medicine, Indiana University School of Medicine, United states
Disclosures: Paul Childress, None

BONE MARROW MICROENVIRONMENT AND NICHES: OSTEOIMMUNOLOGY

MO0042 **Osteal Macrophages are Strategically Distributed within Activated Periosteum to Support Bone Regenerative Mechanisms**

Kylie Alexander[1], Liza-Jane Raggatt[2], Andy Wu[1], Ming-Kang Chang[3], Lena Batoon[2], Susan Millard[2], David Hume[4], Allison Pettit*[2]. [1]The University of Queensland - Centre for Clinical Research, Australia, [2]Mater Research Institute - The University of Queensland, Australia, [3]Institute for Molecular Bioscience, The University of Queensland, Australia, [4]The Roslin Institute & University of Edinburgh, United Kingdom

Disclosures: Allison Pettit, None

BONE MARROW MICROENVIRONMENT AND NICHES: STEM CELL NICHES

MO0043 **DPP4-Cleaved SDF-1 inhibits CXCR4 mediated Migration of BMSCs**

Alexandra Aguilar-Perez*[1], Sudharsan Periyasamy-Thandavan[2], Mark Hamrick[2], Carlos Isales[2], Brian Volkman[3], Luis Cubano[4], William Hill[2]. [1]Universidad Central del Caribe & Augusta University, United states, [2]Augusta University, United states, [3]Medical College of Wisconsin, United states, [4]Universidad Central del Caribe, United states

Disclosures: Alexandra Aguilar-Perez, None

BONE TUMORS AND METASTASIS: BONE TUMOR MICROENVIRONMENT

MO0044 **Dysregulated Runx2 expression, Extra cellular Membrane Vesicles and Vitamin D Deficiency Drive the Vicious Cycle in Osteosarcoma Bone Microenvironment and Increase Tumor Burden**

Rama Garimella*[1], John Keighley[2], Sumedha Gunewardena[3], Ossama Tawfik[4], Peter Rowe[5], Peter Van Veldhuizen[6]. [1]Midwest Biomedical Research Foundation, United states, [2]Biostatistics, The University of Kansas Medical Center, United states, [3]Molecular & Integrative Physiology, The University of Kansa Medical Center, United states, [4]Pathology & Laboratory Medicine, The University of Kansas Medical Center, United states, [5]The Kidney Institute, The University of Kansas Medical Center, United states, [6]Sarah Cannon HCA Midwest Health Cancer Network, United states

Disclosures: Rama Garimella, None

MO0045 **Increased TAF12 in Myeloma Cells and Bone Marrow Stromal Cells Enhances Myeloma Growth and Osteoclast Formation in Response to Physiologic Levels of 1,25-dihydroxy Vitamin D**

Yasuhisa Ohata*[1], Yuki Nagata[1], John Chirgwin[2], David Roodman[3], Noriyoshi Kurihara[1]. [1]Medicine / Hematology-Oncology, Indiana University, United states, [2]Medicine / Endocrinology, Indiana University; Roudebush VA Medical Center, United states, [3]Medicine / Hematology-Oncology, Indiana University; Roudebush VA Medical Center, United states

Disclosures: Yasuhisa Ohata, None

BONE TUMORS AND METASTASIS: GENERAL

MO0046 **Protective Role of Paget's Disease of Bone Against Skeletal Metastasization from Solid Tumors: Clinical and Experimental Evidences**

DANIELA MERLOTTI*[1], Nadia Rucci[2], Marco Di Stefano[3], Domenico Rendina[4], Simone Bianciardi[5], Isabella Anna Evangelista[5], Antonio Criasia[6], Argia Ucci[2], Stefano Rotatori[5], Simone Cenci[7], Pasquale Strazzullo[4], Giancarlo Isaia[6], Ranuccio Nuti[5], Anna Teti[2], Luigi Gennari[5]. [1]1Division of Genetics & Cell Biology, San Raffaele Scientific Institute - 2Department of Medicine, Surgery & Neurosciences, University of Siena, Italy, [2]Department of Biotechnological & Applied Clinical Sciences, University of L'Aquila, Italy, [3]Gerontology Section Department of Medical Sciences, University of Turin, Italy, [4]Department of Clinical & Experimental Medicine, Federico II University, Naples, Italy, [5]Department of Medicine, Surgery & Neurosciences, University of Siena, Italy, [6]Gerontology Section, Department of Medical Sciences, University of Turin, Italy, [7]Division of Genetics & Cell Biology, San Raffaele Scientific Institute, Milan, Italy

Disclosures: DANIELA MERLOTTI, None

BONE TUMORS AND METASTASIS: MECHANISMS OF BONE METASTASIS

MO0047 **MIF Stimulates Osteoclastic Bone Resorption in Breast Cancer Bone Metastasis**
Jessica Grunda[1], Charlotte Cialek[2], Katrina Clines[2], Renee Desmond[1], Rosa Serra[1], Janet Cross[3], Gregory Clines*[2]. [1]University of Alabama at Birmingham, United states, [2]University of Michigan, United states, [3]University of Virginia, United states
Disclosures: Gregory Clines, None

MO0048 **Runx2-mediated autophagy promotes survival of bone metastatic breast cancer cells**
Ahmad Othman*, Manish Tandon, Jitesh Pratap. Rush University Medical Center, United states
Disclosures: Ahmad Othman, None

BONE TUMORS AND METASTASIS: THERAPEUTIC TARGETS FOR BONE TUMORS

MO0049 **Is Canine Osteosarcoma a Good Model for Human Osteosarcoma?**
Awf Al-Khan*[1], Judith Nimmo[2], Michael Day[3], Stewart Ryan[4], Barbara Bacci[4], Samantha Richardson[1], Janine Danks[1]. [1]School of Health & Biomedical Sciences, RMIT University, Australia, [2]Australian Specialised Animal Pathology Laboratory, Australia, [3]Comparative Pathology Laboratory, School of Veterinary Sciences, Bristol University, United Kingdom, [4]The University of Melbourne, School of Veterinary Sciences, Australia
Disclosures: Awf Al-Khan, None

MO0050 **Runx1 is Obligatory for Mammary Epithelial Cell Morphology and Phenotype**
Deli Hong*[1], Terri Messier[1], Andrew Fritz[1], Jason Dobson[2], Gillian Browne[1], Janet Stein[3], Jane Lian[4], Gary Stein[1]. [1]University of Vermont, United states, [2]UMASS Medical School-Cell Biology, United states, [3]Unviersity of Vermont, United states, [4]Universty of Vermont, United states
Disclosures: Deli Hong, None

MO0051 **TBK1/IKK-Signaling Is a Novel Therapeutic Target In Multiple Myeloma-Induced Bone Disease**
Quanhong Sun*[1], Peng Zhang[1], Deidra Balchak[2], Juraj Adamik[1], Valentina Marchica[3], Nicola Giuliani[4], Rebecca Silbermann[5], G. David Roodman[6], Deborah Galson[1]. [1]Department of Medicine, Hematology-Oncology Division, University of Pittsburgh Cancer Institute, McGowan Institute for Regenerative Medicine, University of Pittsburgh, PA, USA, United states, [2]Department of Medicine, Hematology-Oncology Division, University of Pittsburgh Cancer Institute, McGowan Institute for Regenerative Medicine, University of Pittsburgh, PA, USA; Carlow University, PA, USA, United states, [3]Myeloma Unit, Department of Clinical & Experimental Medicine, University of Parma, Italy, Italy, [4]Myeloma Unit, Department of Clinical & Experimental Medicine, University of Parma, Italy, United states, [5]Department of Medicine, Hematology-Oncology Division, Indiana University, Indianapolis, IN, USA, United states, [6]Department of Medicine, Hematology-Oncology Division, Indiana University, Indianapolis, IN, USA; Veterans Administration Medical Center, Indianapolis, IN, United states
Disclosures: Quanhong Sun, None

CHONDROCYTES AND CARTILAGE MATRIX: ARTICULAR CARTILAGE

MO0052 **Bimodal NOTCH/HES1 Signaling Mediates Cartilage Catabolism and OA Progression via the JAK/STAT Pathway**
Yinshi Ren*[1], Jianquan Chen[1], Zhaoyang Liu[2], anthony Mirando[1], Matthew Hilton[1]. [1]duke university, United states, [2]University of Rochester Medical Center, United states
Disclosures: Yinshi Ren, None

MO0053 **Cbfβ Cartilage-Deficient Mice Develop Spontaneous Osteoarthritis and Cbfβ Overexpression Prevents Osteoarthritis**
Yun Lu*, Yi-Ping Li, Guochun Zhu, Mengrui Wu, Wei Chen. Department of Pathology, University of Alabama at Birmingham, United states
Disclosures: Yun Lu, None

MO0054 **Post-traumatic osteoarthritis initiates with a rapid decline in the nanoindentation modulus of cartilage surface caused by matrix breakdown**
Wei Tong*[1], Doyran Basak[2], Qing Li[2], Haoruo Jia[1], Xianrong Zhang[3], Chider Chen[1], Enomoto-Iwamoto Motomi[4], X. Lucas Lu[5], Lin Han[2], Ling Qin[1]. [1]University of Pennsylvania, United states, [2]drexel university, United states, [3]Wuhan University, China, [4]The Children's Hospital of Philadelphia, United states, [5]University of Delaware, United states
Disclosures: Wei Tong, None

MO0055 **TGFβ Regulates the Stability of Sox9**
George Coricor*, Rosa Serra. University of Alabama at Birmingham, United states
Disclosures: George Coricor, None

MO0056 **Wnt Signaling Contributes to Osteoarthritis in Mice Overexpressing the High Molecular Weight Isoforms of Fibroblast Growth Factor 2**
Patience Meo Burt*, Liping Xiao, Marja Hurley. UCONN Health, United states
Disclosures: Patience Meo Burt, None

CHONDROCYTES AND CARTILAGE MATRIX: GENERAL

MO0057 **FGFR3-dependent Activation of a Novel PKC Isoform Causes Dephosphorylation and Inactivation of Guanylyl Cyclase-B in Rat Chondrosarcoma Cells**
Jerid Robinson*, Lincoln Potter. University of Minnesota, United states
Disclosures: Jerid Robinson, None

MO0058 **MicroRNA-23c Maintains Cartilage Function and Prevents Osteoarthritis Phenotype by Suppressing Runx2**
Indira Prasadam*, Ross Crawford, Yin Xiao. Institute of Health & Biomedical Innovation & Queensland University of Technology, Australia
Disclosures: Indira Prasadam, None

MO0059 **TGF-beta Type II Receptor (TBRII)/IL36alpha Axis in Destabilization Medial Meniscus (DMM) Surgery Induced Post-traumatic Osteoarthritis (PTOA) Progression**
Tieshi Li*, Joseph Temple, Alessandra Esposito, Lai Wang, JiEun Han, Arnavaz Hakimiyan, Susan Chubinskaya, Anna Spagnoli. Rush University Medical Center, United states
Disclosures: Tieshi Li, None

CHONDROCYTES AND CARTILAGE MATRIX: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

MO0060 **P2Y2 Purinergic Receptor Regulates Cyclic Tension Strain-induced Aggrecan Synthesis in Chondrogenic ATDC5 cells**
Di Liu*[1], Natsuko Tanabe[2], Minqi Li[3], Takayuki Kawato[4], Masao Maeno[5]. [1]Shandong Provincial Key Laboratory of Oral Biomedicine, Department of Prosthodontics, School of Stomatology, Shandong University, China, [2]Division of Functional Morphology, Dental Research Center, Department of Biochemistry, Nihon University School of Dentistry, Japan, [3]Shandong Provincial Key Laboratory of Oral Biomedicine, Shandong University, China, [4]Division of Functional Morphology, Dental Research Center, Department of Periodontology, Nihon University School of Dentistry, Japan, [5]Division of Functional Morphology, Dental Research Center, Department of Oral Health Sciences, Nihon University School of Dentistry, Japan
Disclosures: Di Liu, None

ENERGY METABOLISM AND BONE: DIABETES AND BONE (ANIMAL MODELS)

MO0061 **Diabetic Bone is Stronger but More Brittle in the TallyHO Mouse Model of Juvenile Type 2 Diabetes**
Amy Creecy*[1], Sasidhar Uppuganti[1], Mathilde Granke[1], Maureen Gannon[2], Jeffry Nyman[1]. [1]Vanderbilt University, VA Tennessee Health Valley Healthcare System, United states, [2]Vanderbilt University, VA Tennesse Health Valley Healthcare System, United states
Disclosures: Amy Creecy, None

MO0062 **Effects of Denosumab on fat and basal metabolism in postmenopausal women with type 2 diabetes**
Makiko Ogata*, Risa Ide, Miho Takizawa, Naoko Iwasaki, Yasuko Uchigata. Diabetes Center, Tokyo Women's Medical University, Japan
Disclosures: Makiko Ogata, None

ENERGY METABOLISM AND BONE: FAT AND BONE

MO0063 **Characterization of Brown Adipose within Trauma-Induced Heterotopic Ossification in Human Tissues**
Elizabeth Salisbury*[1], Thomas Davis[2], Jonathan Forsberg[2], Alan Davis[3], Elizabeth Davis[3]. [1]University of Texas Medical Branch, United states, [2]Naval Medical Research Center, United states, [3]Baylor College of Medicine, United states
Disclosures: Elizabeth Salisbury, None

MO0064 **Chronic cold stress decreases skeletal acquisition and alters UCP1 expression and energy metabolism in young, growing male C57Bl/6J mice**
Maureen Devlin*, Amy Robbins, Miranda Cosman, Lillian Shipp, Katarina Alajbegovic. University of Michigan, United states
Disclosures: Maureen Devlin, None

MO0065 **Impaired Adipose Tissue Inflammation Results in High Bone Mass in Mice**
Louise Grahnemo*[1], Karin Gustafsson[1], Ingrid Wernstedt Asterholm[2], Marie Lagerquist[1]. [1]Centre for Bone & Arthritis Research, Department of Internal Medicine & Clinical Nutrition, Institute of Medicine, The Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Unit of Metabolic Physiology, Department of Physiology, Institute of Neuroscience & Physiology, The Sahlgrenska Academy, University of Gothenburg, Sweden
Disclosures: Louise Grahnemo, None

MO0066 **Relationship between Body Adiposity with Marrow Adipose Tissue and Bone Mass in Human Type 1 Diabetes Mellitus**
Adriana Carvalho*[1], Bianca Massaro[1], Luciana Silva[1], Marcello Nogueira-Barbosa[1], Carlos Salmon[1], Belinda Simões[1], Maria Carolina Rodrigues[1], Clifford Rosen[2], Francisco De Paula[1]. [1]University of Sao Paulo, Brazil, [2]Maine Medical Center Research Institute, Brazil
Disclosures: Adriana Carvalho, None

ENERGY METABOLISM AND BONE: GENERAL

MO0067 **Bone Density, Bone Geometry and Bone Turnover in Hypogonadal Men with Type 2 Diabetes after Testosterone Therapy**
Georgia Colleluori*[1], Lina Aguirre[2], Richard Dorin[2], David Robbins[2], Clifford Qualls[3], Dean Blevins[1], Dennis Villareal[4], Reina Villareal[4]. [1]Baylor College of Medicine, United states, [2]New Mexico VA Health Care System, United states, [3]University of New Mexico School of Medicine, United states, [4]Michael E. DeBakey VA Medical Center, United states
Disclosures: Georgia Colleluori, None

MO0068 **Energy and protein intake above recommendations inversely correlate with lean mass indices in 2-8 y olds**
Neil R. Brett*, Kristina E Parsons, Catherine A. Vanstone, Hope A. Weiler. McGill University, Canada
Disclosures: Neil R. Brett, None

MO0069 **Withdrawn**

MO0070 **Novel Indications of the Disruption of VEGF signaling and Remodeling in Diabetic Bone**
Roberto Fajardo*[1], Jesus Hernandez[1], Brandon May[2], Nandini Ghosh-Choudhury[1], Zachary Child[1]. [1]The University of Texas Health Science Center at San Antonio, United states, [2]University of Texas at San Antonio, United states
Disclosures: Roberto Fajardo, None

GENETIC MODELS OF MUSCULOSKELETAL DISEASES: ANIMAL MODELS

MO0071 **High Bone Turnover in Mice Carrying a Pathogenic Notch2-mutation Causing Hajdu-Cheney Syndrome**
Nele Vollersen*, Timur Yorgan, Michael Amling, Thorsten Schinke. Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Germany
Disclosures: Nele Vollersen, None

MO0072 **High Throughput Bone Phenotyping: Rigor and Transparency**
Douglas Adams*[1], Renata Rydzik[1], Li Chen[1], Zhihua Wu[1], Seung-Hyun Hong[1], Pujan Joshi[1], Caibin Zhang[1], John Sundberg[2], Gaven Garland[2], Dong-Guk Shin[1], David Rowe[1], Cheryl Ackert-Bicknell[3]. [1]University of Connecticut, United states, [2]The Jackson Laboratory, United states, [3]University of Rochester, United states
Disclosures: Douglas Adams, None

MO0073 **Identifying Genetic Mediators of Periodontitis in Mice**
Sarah Hiyari*[1], Azadi Naghibi[2], Sotirios Tetradis[2], Flavia Pirih[2]. [1]University of California, Los Angles School of Dentistry, United states, [2]UCLA School of Dentistry, United states
Disclosures: Sarah Hiyari, None

MO0074 **Modulation of autophagy alters osteogenesis imperfecta severity in mice with Gly610 to Cys substitution in the triple helical region of the α2(I) collagen chain**
Elena Makareeva[1], Shakib Omari[1], Anna Roberts-Pilgrim[1], Edward Mertz[2], Laura Gorrell[1], Lynn Mirigian[1], Sergey Leikin*[1]. [1]SPB, NICHD, NIH, United states, [2]SPB, NICHD, NIH, United states
Disclosures: Sergey Leikin, None

MO0075 **NF-κB Regulator Bcl-3 – A Novel Modulator of Skeletal Architecture**
Hussain Jaffery*[1], Carl S Goodyear[1], Ruaidhrí J Carmody[1], James Doonan[2], Moeed Akbar[1], Carmen Huesa[3], Lynette Dunning[1], William Ferrell[4], John Lockhart[3], Rob van't Hof[5]. [1]Institute of Infection, Immunity & Inflammation, University of Glasgow, United Kingdom, [2]Strathclyde Institute of Pharmacy & Biomedical Sciences, University of Strathclyde, United Kingdom, [3]Institute of Biomedical & Environmental Health Research, University of the West of Scotland, United Kingdom, [4]Institute of Infection Immunity & Inflammation, University of Glasgow, United Kingdom, [5]Institute of Ageing & Chronic Disease, University of Liverpool, United Kingdom
Disclosures: Hussain Jaffery, None

MO0076 **Osteocyte Specific Cx43 Overexpression Improves Cortical Bone Mass and Strength, but Reduces Cancellous Bone in old Mice**
Hannah Davis*[1], Emily Atkinson[1], Rafael Pacheco-Costa[1], David Lopez[1], Mohammad Aref[1], Drew Brown[1], Marie Harris[2], Stephen Harris[2], Matthew Allen[1], Teresita Bellido[1], Lilian Plotkin[1]. [1]Indiana University School of Medicine, United states, [2]The University of Texas at San Antonio, United states
Disclosures: Hannah Davis, None

MO0077 **Withdrawn**

MO0078 **Transgenic Mouse Model for Reducing Oxidative Damage in Bone**
Ann-Sofie Schreurs*[1], Eric Moyer[1], Akilesh Kumar[1], Samantha Torres[1], Tiffany Truong[1], Candice Tahimic[1], Joshua Alwood[1], Charlie Limoli[2], Ruth Globus[1]. [1]NASA ARC, United states, [2]UC Irvine, United states
Disclosures: Ann-Sofie Schreurs, None

GENETIC MODELS OF MUSCULOSKELETAL DISEASES: GENE THERAPY

MO0079 **Use of OI iPSC In Vivo Bone Formation Model to Study Disease Mechanisms and Potential Therapies**
Xiaonan Xin, Mark Kronenberg, Li Chen, Shalini Gohil, Liping Wang, Xi Jiang, Lakshmi Nair, David Rowe, Alexander Lichtler*. UConn Health, United states
Disclosures: Alexander Lichtler, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE: GENE EXPRESSION

MO0080 **Circulating MicroRNAs Expression Profile in Patients with Osteoporosis-Osteoporotic Fracture**

Mengge Sun*[1], William Lu[1], Songlin Peng[2]. [1]The University of Hong Kong, Hong kong, [2]Department of Spine Surgery, Shenzhen People's Hospital, Jinan University School of Medicine, China

Disclosures: Mengge Sun, None

MO0081 **Network-Based Transcriptome-Wide Expression Study for Postmenopausal Osteoporosis**

lan zhang*, Hongwen Deng. Tulane University, United states

Disclosures: lan zhang, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE: GENETIC ASSOCIATION STUDIES

MO0082 **Bone Strength Estimated by Failure Load Shares Genetic Composition with Areal BMD: The Framingham Study Families**

David Karasik*[1], Serkalem Demissie[2], Mary L. Bouxsein[3], Ching-Ti Liu[2], Steven K. Boyd[4], Elise Lim[2], Kerry E. Broe[1], L. Adrienne Cupples[2], Douglas P. Kiel[1]. [1]Institute for Aging Research Hebrew SeniorLife, United states, [2]Biostatistics, BU School of Public Health, United states, [3]BIDMC, Harvard MS, United states, [4]University of Calgary, Canada

Disclosures: David Karasik, None

MO0083 **Heritability of Bone Mineral Density and Content in Childhood and Adolescence**

Diana Cousminer*[1], Alessandra Chesi[1], Jonathan Mitchell[1], Sani Roy[1], Heidi Kalkwarf[2], Joan Lappe[3], Vicente Gilsanz[4], Sharon Oberfield[5], John Shepherd[6], Andrea Kelly[1], Shana McCormack[1], Benjamin Voight[7], Babette Zemel[1], Struan Grant[1]. [1]Children's Hospital of Philadelphia, United states, [2]Cincinnati Children's Hospital Medical Center, United states, [3]Creighton University, United states, [4]Children's Hospital of Los Angeles, United states, [5]Columbia University Medical Center, United states, [6]University of California San Francisco, United states, [7]University of Pennsylvania, United states

Disclosures: Diana Cousminer, None

MO0084 **Heritability of Thoracic Kyphosis and Genetic Correlations with Other Spine Traits: Framingham QCT Study**

Michelle S. Yau*[1], Serkalem Demissie[2], Yanhua Zhou[2], Dennis E. Anderson[3], Amanda L. Lorbergs[1], Douglas P. Kiel[1], Brett T. Allaire[3], Laiji Yang[1], L. Adrienne Cupples[4], Thomas G. Travison[1], Mary L. Bouxsein[3], David Karasik[5], Elizabeth J. Samelson[1]. [1]Hebrew SeniorLife, BIDMC/Harvard, United states, [2]Boston University School of Public Health, United states, [3]BIDMC/Harvard, United states, [4]Boston University School of Public Health, NHLBI Framingham Heart Study, United states, [5]Hebrew SeniorLife, BIDMC/Harvard, Bar Ilan University, United states

Disclosures: Michelle S. Yau, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE: PROTEOMICS

MO0085 **Identification of Novel Osteoporosis Risk Biomarkers: A Proteome-wide Discovery Study with Osteoporotic Fracture Patients in Chinese**

Xu Zhou*[1], Pei He[1], Zhen-Huan Jiang[2], Yun-Hong Zhang[3], Jian-Nong Jiang[2], Hong-Qing Gao[3], Ding-Hua Jiang[4], Xin Lu[1], Shu-Feng Lei[1], Fei-Yan Deng[1]. [1]Center for Genetic Epidemiology & Genomics, School of Public Health, Soochow University, China, [2]Municiple People's Hospital at Yixin, China, [3]Shishan Street Community Health Service Center at High-tech District, China, [4]The 1st Affiliated Hospital of Soochow University, China

Disclosures: Xu Zhou, None

HORMONAL REGULATORS: FGF23 AND OTHER PHOSPHATONINS

MO0086 **FGF23 Enhances *CYP24A1* Transcription in Klotho-dependent way via ERK Pathway**
Maria K Tsoumpra*, Shun Sawatsubashi, Yuichi Takashi, Toshio Matsumoto, Seiji Fukumoto. Fujii Memorial Institute of Medical Sciences, Japan
Disclosures: Maria K Tsoumpra, None

MO0087 **FGF23 Exerts its Effects on Phosphorus Metabolism Starting 12 Hours After Birth, but not During Fetal Development**
Yue Ma*[1], Beth J. Kirby[1], Beate Lanske[2], Andrew C. Karaplis[3], Christopher S. Kovacs[1]. [1]Memorial University, Canada, [2]Harvard School of Dental Medicine, United states, [3]McGill University, Canada
Disclosures: Yue Ma, None

MO0088 **FGF23 responds to alterations of iron metabolism in a murine model of CKD-MBD**
Erica Clinkenbeard*[1], Hitesh N. Appaiah[2], Keith Stayrook[3], Taryn Cass[2], Julia Hum[2], Yves Sabbagh[4], Susan Schiavi[5], Kenneth White[2]. [1]Department of Medical & Molecular Genetics Indiana University School of Medicine, United states, [2]Department of Medical & Molecular Genetics, Indiana University School of Medicine, United states, [3]Department of Pharmacology & Toxicology, Indiana University School of Medicine, United states, [4]Genzyme, United states, [5]PreciThera, Inc., United states
Disclosures: Erica Clinkenbeard, None

MO0089 **Vitamin D metabolism and action in human mesenchymal stem cells: Effects of fibroblast growth factor 23**
Fangang Meng*, Jing Li, Julie Glowacki, Meryl LeBoff, Shuanhu Zhou. Brigham & Women's Hospital, United states
Disclosures: Fangang Meng, None

HORMONAL REGULATORS: OTHER HORMONES

MO0090 **IGFBP4 regulates adipogenesis and osteogenesis**
David Maridas*[1], Victoria DeMamrbo[1], Phuong Le[1], Subburaman Mohan[2], Clifford Rosen[1]. [1]MMCRI, United states, [2]Loma Linda University, United states
Disclosures: David Maridas, None

HORMONAL REGULATORS: PARATHYROID HORMONE AND CALCIUM SENSING RECEPTORS

MO0091 **Elongation of primary trabecular bone due to poorly calcified bones around the trabecular bone after continuous PTH infusion**
Nobuhito Nango*[1], Shogo Kubota[1], Wataru Yashiro[2], Atsushi Momose[2], Shizuko Ichinose[3], Koichi Matsuo[4]. [1]Ratoc System Engineering Co., LTD., Japan, [2]Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan, [3]Research Center for Industry Alliance, Tokyo Medical & Dental University, Japan, [4]Laboratory of Cell & Tissue Biology, Keio University School Of Medicine, Japan
Disclosures: Nobuhito Nango, None

MO0092 **Osseous Consolidation of a Nonunion Fracture of the Lower Leg Under Parathyroid Hormone Therapy**
Ilko Kastirr*[1], Michael Reichardt[2], Reimer Andresen[1], Sebastian Radmer[3], Guido Schröder[2], Thomas Westphal[4], Thomas Mittlmeier[5], Hans-Christof Schober[2]. [1]Institute of Diagnostic & Interventional Radiology/Neuroradiology, Westkuestenklinikum Heide, Teaching Hospital of the Universities of Kiel, Lübeck & Hamburg, Germany, Germany, [2]Department of Internal Medicine I, Municipal Hospital Suedstadt Rostock, Academic Teaching Hospital of the University of Rostock, Germany, Germany, [3]Centre of Orthopaedics, Berlin, Germany, Germany, [4]Clinic of Trauma Surgery, Orthopaedics & Hand Surgury, Municipal Hospital Suedstadt Rostock, Academic Teaching Hospital of the University of Rostock, Germany, Germany, [5]Clinic of Trauma-, Hand- & Restoration Surgury, Universitätsmedizin Rostock, Germany, Germany
Disclosures: Ilko Kastirr, None

MO0093 **Thymus-Derived Parathyroid Hormone Secretion Increases after Parathyroidectomy in C57BL6/KaLwRij Mice**
Maurizio Zangari[1], Hanna Yoo[1], Bumjun Kim[2], Ricky Edmonson[1], Larry Suva[3], Donghoon Yoon*[1]. [1]UAMS, United states, [2]Baylor College of Medicine, United states, [3]Texas A&M Univ., United states
Disclosures: Donghoon Yoon, Onyx, Millennium, and Norvatis, 13

HORMONAL REGULATORS: SEX HORMONES AND GLUCOCORTICOIDS

MO0094 **Anti-FSH Polyclonal Antibody Decreases Fat Accumulation and Partially Protects Bone from the Deleterious Effects of Diet-Induced Obesity**
Elizabeth Rendina-Ruedy*[1], Victoria DeMambro[1], Tony Yuen[2], Peng Liu[2], Yaoting Ji[2], Ping Lu[2], Li Sun[2], Mone Zaidi[2], Clifford Rosen[1]. [1]Maine Medical Center Research Institute, United states, [2]Mount Sinai Bone Program, Department of Medicine, Icahn School of Medicine at Mount Sinai, United states
Disclosures: Elizabeth Rendina-Ruedy, None

MO0095 **Genomic High Content Screening in primary osteoblasts uncover novel druggable targets to improve osteoblast differentiation and alleviate deleterious effects of glucocorticoids**
Mubashir Ahmad[1], Thorsten Kroll[2], Jeanette Knoll[2], Aspasia Ploubidou[3], Jan Tuckermann*[4]. [1]Institute for Comparative Molecular Endocrinology (CME), University of Ulm, Germany, [2]Leibniz Institute for Age Research – Fritz Lipmann Institute (FLI), Beutenbergstrasse 11, D-07745 Jena, Germany, [3]Leibniz Institute for Age Research – Fritz Lipmann Institute (FLI), Beutenbergstrasse 11, D-07745 Jena, Germany, Germany, [4]Institute for Comparative Molecular Endocrinology (CME), University of Ulm, Helmholtzstrasse 8/1, 89081 Ulm, Germany
Disclosures: Jan Tuckermann, None

MO0096 **Loss of TIEG expression alters the miRNAome and transcriptome of cortical and trabecular bone resulting in impaired estrogen signaling in the mouse skeleton**
Malayannan Subramaniam*[1], Kevin Pitel[1], Russell Turner[2], Urszula Iwaniec[2], Andre van Wijnen[1], John Hawse[1]. [1]Mayo Clinic, United states, [2]Oregon State University, United states
Disclosures: Malayannan Subramaniam, None

MO0097 **Testosterone regulation of physical activity behavior: mechanisms of action**
Ferran Jardi*[1], Michael Laurent[1], Lawrence Vanhelleputte[2], Vanessa Dubois[3], Ludo Deboel[1], Rougin Khalil[1], Brigitte Decallone[1], Geert Carmeliet[1], Ludo Van den Bosch[2], Rudi D'Hooge[1], Frank Claessens[1], Dirk Vanderschueren[1]. [1]KU Leuven, Belgium, [2]VIB, Belgium, [3]Institut Pasteur de Lille, France
Disclosures: Ferran Jardi, None

MO0098 **The Role of Membrane ERα Signaling in Bone and Other Major Estrogen Responsive Tissues**
Karin Gustafsson*[1], Helen Farman[1], Petra Henning[1], Vikte Lionikaite[1], Sofia Movérare-Skrtic[1], Jianyao Wu[1], Henrik Ryberg[1], Antti Koskela[2], Jan-Åke Gustafsson[3], Juha Tuukkanen[2], Ellis Levin[4], Claes Ohlsson[1], Marie Lagerquist[1]. [1]Centre for Bone & Arthritis Research at Institute of Medicine, Sahlgrenska Academy at University of Gothenburg, Sweden, [2]Unit of Cancer Research & Translational Medicine, MRC Oulu & Department of Anatomy & Cell Biology, University of Oulu, FI-90014 Oulu, Finland, Finland, [3]Center for Nuclear Receptors & Cell Signaling, Department of Biology & Biochemistry, University of Houston, Houston, Texas, 77204-5056, United States of America., United states, [4]Division of Endocrinology, Departments of Medicine & Biochemistry, University of California, Irvine, Irvine, California, & the Long Beach VA Medical Center, Long Beach, CA, USA, United states
Disclosures: Karin Gustafsson, None

HORMONAL REGULATORS: VITAMIN D AND ANALOGS

MO0099 ***CYP27B1*ablation modulates breast cancer cells epithelial-to-mesenchymal transition (EMT) and promotes lung metastasis in the MMTV-PymT mouse model**
Jiarong Li*, Richard Kremer. MUHC, Canada
Disclosures: Jiarong Li, None

MO0100 **Withdrawn**

MO0101 **Obesity is associated with lower total, free and bioavailable 25OHD and higher vitamin D binding protein (DBP) and PTH concentrations as well as different genotype distribution of the DBP coding gene leading to possible negative influence on bone in women**
Elisa Saarnio*[1], Minna Pekkinen[2], Suvi T Itkonen[1], Virpi Kemi[1], Heini Karp[1], Merja Karkkainen[1], Harri Sievänen[3], Outi Mäkitie[4], Christel Lamberg-Allardt[1]. [1]Calcium Research Unit, Department of Food & Environmental Sciences, University of Helsinki, Finland, Finland, [2]Folkhälsan Institute of Genetics, Folkhälsan Research Center, Helsinki, Finland, Finland, [3]Bone Research Group, UKK Institute for Health Promotion Research, Tampere, Finland, Finland, [4]Children's Hospital, Helsinki University Central Hospital & University of Helsinki, Finland, Finland
Disclosures: Elisa Saarnio, None

MECHANOBIOLOGY: CELLULAR AND MOLECULAR EFFECT OF MECHANICAL LOADING AND UNLOADING

MO0102 **Does the Ability of Cells to Sense and Respond to Low Intensity Vibrations Differ Between 2D and 3D Cell Culture?**
Stefan Judex*[1], Ravi Patel[1], Aaron Damato[1], Suphannee Pongkitwitoon[1], Timothy Koh[2]. [1]Stony Brook University, United states, [2]University of Illinois at Chicago, United states
Disclosures: Stefan Judex, None

MO0103 **Interleukin 1β (IL1β), Nitric Oxide Synthase 2 (NOS2), Lipocalin 2 (LCN2) and Vascular Endothelial Growth Factor (VEGF) Orchestrate the Coupled Mechanoresponse of Skeletal Angiogenesis and Osteogenesis**
Vimal Veeriah*[1], Mattia Capulli[1], Angelo Zanniti[1], Suvro Chatterjee[2], Nadia Rucci[1], Anna Teti[1]. [1]University of L'Aquila, Italy, [2]Anna University, India
Disclosures: Vimal Veeriah, None

MO0104 **LaminA/C knock down enhances adipogenesis but does not eliminate mechanical response in MSCs**
Melis Olcum*[1], Guniz Bas[2], Buer Sen[2], Xhihui Xie[2], Engin Ozcivici[3], Janet Rubin[2], Gunes Uzer[2]. [1]University of North Carolina, Izmir Institute of Technology, Turkey, [2]University of North Carolina, United states, [3]Izmir Institute of Technology, Turkey
Disclosures: Melis Olcum, None

MO0105 **Temporal transcriptome analysis of osteocytes exposed to microgravity during spaceflight**
Yuhei Uda*[1], Amira Hussein[2], Jordan Spatz[3], Keertik Fulzele[1], Forest Lai[1], Chris Dedic[1], Chao Shi[1], Sean Dougherty[4], Margaret Eberle[4], Chris Adamson[4], Lowell Misener[4], Louis Gerstenfeld[2], Paola Divieti Pajevic[5]. [1]Molecular & Cell Biology, GSDM, Boston University, United states, [2]Orthopaedic Surgery, BUSM, Boston University, United states, [3]Endocrine Unit, Massachusetts General Hospital, United states, [4]CALM Technologies Inc., Canada, [5]Molecular & Cell Biology, GSDM, Boston University; Endocrine Unit, Massachusetts General Hospital, United states
Disclosures: Yuhei Uda, None

MECHANOBIOLOGY: CELLULAR AND MOLECULAR MECHANOSENSING

MO0106 **Impact of Cell Substrate Shape on Matrix Deposition and Osteoblast Differentiation**
Laura Juignet*[1], Baptiste Charbonnier[1], Virginie Dumas[2], Mireille Thomas[1], Coralie Laurent[1], Laurence Vico[1], David Marchat[1], Nathalie Douard[1], Luc Malaval[1]. [1]INSERM U1059-SAINBIOSE, Université de Lyon, France, [2]Ecole Nationale d'Ingénieurs de Saint Etienne, Université de Lyon, France
Disclosures: Laura Juignet, None

MO0107 **Targeted Deletion of Src from Osteocytes Increases Trabecular Bone Mass in Mice**
Whitney A Bullock*, Kathleen H Day, Alexander G Robling, Fredrick M Pavalko. Indiana University, United states
Disclosures: Whitney A Bullock, None

MUSCLE BIOLOGY AND BONE-MUSCLE CROSSTALK: AGING MECHANISMS

MO0108 **Is Leptin an Age-related Paracrine\Autocrine Factor for Muscle?**
Jeffrey P.; Gorski*[1], Marco Brotto[2]. [1]University of Missouri-Kansas City, United states, [2]Bone-Muscle Collaborative Sciences, College of Nursing & Health Innovation, University of Texas at Arlington, Arlington, United states
Disclosures: Jeffrey P.; Gorski, None

MUSCLE BIOLOGY AND BONE-MUSCLE CROSSTALK: CELLULAR AND MOLECULAR INTERACTIONS

MO0109 **Reduced Exercise Capacity of Mice with Skeletal Muscle Specific Ablation of *Pit1***
Daniel Caballero*[1], Dominik Pesta[2], Ali Nasiri[1], Michael Jurczack[3], Gerald Schulman[1], Clemens Bergwitz[1]. [1]Yale School of Medicine, United states, [2]German Diabetes Center, Germany, [3]University of Pittsburgh, United states
Disclosures: Daniel Caballero, None

MO0110 **The Osteopenia in Dystrophin/Utrophin Double Knockout Mice is Attributed to Down Regulation of Osteoclastogenesis in Postnatal Skeletal Development**
Xueqin Gao*[1], Ying Tang[2], Bing Wang[2], Sarah Amra[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

MUSCLE BIOLOGY AND BONE-MUSCLE CROSSTALK: GENERAL

MO0111 **Inhibition of mTOR signaling reduces Bmp-induced inflammation while preserving regenerative Smad signaling**
Shailesh Agarwal*, David Cholok, Shawn Loder, James Drake, John Li, Charles Hwang, Kavitha Ranganathan, Hsiao Hsin Sung, Christopher Breuler, Oluwatobi Eboda, Caitlin Priest, Joshua Peterson, Shuli Li, Ernestina Schipani, Yuji Mishina, Benjamin Levi. University of Michigan, United states
Disclosures: Shailesh Agarwal, None

MUSCULOSKELETAL AGING: BONE

MO0112 **Cortical bone resorption is elevated in aged mice and is associated with markers of cellular senescence in osteocyte-enriched bone**
Marilina Piemontese*, Maria Almeida, Ha-neui Kim, Robert Jilka, Charles OBrien. University of Arkansas for Medical Sciences, United states
Disclosures: Marilina Piemontese, None

MO0113 **Effects of age-related chronic inflammation on osteoprogenitor cells**
Anna Josephson, Vivian Bradaschia Correa, Philipp Leucht*. New York University School of Medicine, United states
Disclosures: Philipp Leucht, None

MO0114 **Global deletion of the β2-adrenergic receptor does not protect against age-related or cold temperature-induced bone loss in female mice**
Kathleen Bishop*, Katherine Motyl, Phuong Le, Clifford Rosen. Maine Medical Center, United states
Disclosures: Kathleen Bishop, None

MO0115 **Loss of BMPR2 expression in skeletal progenitor cells reduces age-related bone loss**
Michael Eaton*[1], Aaron Hudnall[1], Jordan Newby[2], Vicki Rosen[3], Jonathan Lowery[1]. [1]Marian University College of Osteopathic Medicine, United states, [2]Freed-Hardeman University, United states, [3]Harvard School of Dental Medicine, United states
Disclosures: Michael Eaton, None

MO0116 **PTH, CTX, and Calcium Responses to Treadmill Walking Under Different Thermal Conditions in Older Adults**
Sarah Wherry*, Christine Swanson, Toby Wellington, Rebecca Boxer, Jane Quick, Robert Schwartz, Wendy Kohrt. University of Colorado Anschutz Medical Campus, United states
Disclosures: Sarah Wherry, None

MO0117 **The radial distribution of the intracortical porosity within the fibula diaphysis**
Jesper Skovhus Thomsen[1], Christina Møller Andreasen[2], Lydia Peteva Bakalova[3], Anne-Marie Brüel[1], Ellen Margrethe Hauge[4], Gete Ester Toft Eschen[5], Birgitte Jul Kiil[5], Jean-Marie Delaisse[6], Mariana Elizabeth Kersh[7], Thomas Levin Andersen*[6]. [1]Department of Biomedicine, Aarhus University, Denmark, [2]Orthopaedic Research Laboratory, Department of Orthopaedic Surgery & Traumatology, Odense University Hospital, Institute of Clinical Research, University of Southern Denmark, Denmark, [3]Department of Mechanical Science & Engineering, University of Illinois at Urbana-Champaign, United states, [4]Department of Rheumatology, Aarhus University Hospital, Denmark, [5]Department of Plastic Surgery, Aarhus University Hospital, Denmark, [6]Department of Clinical Cell Biology, Vejle Hospital/Lillebaelt Hospital, Institute of Regional Health Research, University of Southern Denmark, Denmark, [7]Department of Mechanical Science & Engineering, University of Illinois at Urbana-Champaign, Denmark
Disclosures: Thomas Levin Andersen, None

MUSCULOSKELETAL AGING: BONE AND MUSCLE INTERACTIONS

MO0118 **MicroRNA-183 promotes an aging phenotype in the muscle-bone unit by targeting heme oxygenase-1 (HO-1)**
Sadanand Fulzele, Bharati Mendhe, Meghan McGee-Lawrence, Xingming Shi, William Hill, Carlos Isales, Mark Hamrick*. Medical College of Georgia, United states
Disclosures: Mark Hamrick, None

MO0119 **Sex-specific Associations Between Bone Density and Lean Mass in the VITAL Bone Health Study**
Amy Yue*[1], Sarah Zaheer[1], Trisha Copeland[2], Nancy Cook[3], JoAnn Manson[3], Julie Buring[3], Meryl LeBoff[1]. [1]Division of Endocrinology, Diabetes & Hypertension, Brigham & Women's Hospital (BWH), Harvard Medical School, United states, [2]Division of Preventive Medicine, Department of Medicine, BWH, Harvard Medical School, United states, [3]Division of Preventive Medicine, Department of Medicine, BWH, Harvard Medical School, Department of Epidemiology, Harvard T.H. Chan School of Public Health, United states
Disclosures: Amy Yue, None

MO0120 **TEI-SARM2, an Oral Non-steroidal Selective Androgen Receptor Modulator, Prevents Muscle Atrophy and Bone Loss**
Akito Makino*, Masanobu Kanou, Kyohei Horie, Katsuyuki Nakamura, Yoshimasa Takahashi, Tsunefumi Kobayashi, Hiroyuki Sugiyama, Kei Yamana. Teijin Institute for Bio-Medical Research, Teijin Pharma Limited, Japan
Disclosures: Akito Makino, Teijin Pharma Limited, 100

MUSCULOSKELETAL DEVELOPMENT: BONE MODELING

MO0121 **Assessment of Novel Stem-cell Based Therapies for Repair of Alveolar Clefts Using a Juvenile Swine Model**
Montserrat Caballero, Donna Jones*, Zhengyuan Shan, Jacob Knorr, John van Aalst. Cincinnati Children's Hospital Medical Center, United states
Disclosures: Donna Jones, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION: ADIPOCYTES

MO0122 **Differential regulation of glycolysis during osteoblast and adipocyte differentiation**
Anyonya Guntur*, Phuong Le, Clifford Rosen. MMCRI, United states
Disclosures: Anyonya Guntur, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION: MULTI-LINEAGE

MO0123 **microRNA-433 Dampens TGFβ Signaling and Restrains Osteoblastic and Chondrogenic Differentiation**
Spenser Smith*[1], Neha Dole[2], Rosa Guzzo[1], Anne Delany[1]. [1]UConn Health, United states, [2]UCSF School of Medicine, United states
Disclosures: Spenser Smith, None

MO0124 **WNT16 is enriched among perivascular progenitor cells, inducing stem cell proliferation and osteogenic differentiation**
Jia Shen*, Carolyn Meyers, Greg Asatrian, Winters Hardy, Xinli Zhang, Kang Ting, Bruno Peault, Chia Soo, Aaron James. UCLA, United states
Disclosures: Jia Shen, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION: MUSCLE, TENDON AND LIGAMENT

MO0125 ***In Vitro*** **Analysis of Hormonal Receptor Genes During Myogenesis of Human Skeletal Muscle-Derived Cells**
Cecilia Romagnoli*, Roberto Zonefrati, Carmelo Mavilia, Alessandra Aldinucci, Gianna Galli, Marco Innocenti, Annalisa Tanini, Laura Masi, Luisella Cianferotti, Maria Luisa Brandi. University of Florence, Italy
Disclosures: Cecilia Romagnoli, None

MO0126 **Mechanism of TGFβ function on annulus fibrosus differentiation in intervertebral disc**
Ga I Ban*, Rosa Serra. University of Alabama at Birmingham, United states
Disclosures: Ga I Ban, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION: OSTEOBLASTS

MO0127 **Hematopoietic Stem Cell-Derived Bone Marrow Cells Give Rise to Osteogenic Colonies**
Ryan Kelly*, Amanda LaRue. Medical University of South Carolina, United states
Disclosures: Ryan Kelly, None

MO0128 **Osteogenic Differentiation of Human Adipose Stem Cells Treated with Pro-Inflammatory Cytokines TNF-α, IL-6, IL-8, and IL-17F or Anti-Inflammatory Cytokine IL-4**
Angela P Bastidas Coral*[1], Astrid D Bakker[1], Cees J Kleverlaan[2], Nathalie Bravenboer[3], Behrouz Zandieh-Doulabi[1], Tim Forouzanfar[4], Jenneke Klein-Nulend[1]. [1]Department of Oral Cell Biology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & Vrije Universiteit Amsterdam, MOVE Research Institute Amsterdam, Netherlands, [2]Department of Dental Materials Science, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & Vrije Universiteit Amsterdam, MOVE Research Institute Amsterdam, Netherlands, [3]Department of Clinical Chemistry, VU University Medical Center, MOVE Research Institute Amsterdam, Netherlands, [4]Department of Oral & Maxillofacial Surgery, VU University Medical Center, MOVE Research Institute Amsterdam, Netherlands
Disclosures: Angela P Bastidas Coral, None

MO0129 **Promoting Osteogenic Differentiation of Dental MSCs by Estrogen**
Justin Lee, Christine Hong*, Cun-Yu Wang. UCLA School of Dentistry, United states
Disclosures: Christine Hong, None

MO0130 **Site-specific bone types during fracture healing: Effect of chondrocyte specific ephrin B2 deletion**
Ling Chen*[1], Feifei Yang[1], Yongmei Wang[2], Daniel Bikle[3], Sunita Ho[1]. [1]School of Dentistry, UCSF, United states, [2]VA Medical Center, Department of Medicine, UCSF, United states, [3]VA Medical Center, Dept of Medicine, UCSF, United states
Disclosures: Ling Chen, None

MO0131 **Three Dimensional Differentiation of Mouse Pluripotent Stem Cells into Osteogenic Cells under Defined Conditions**
Denise C. Zujur*[1], Kosuke Kanke[2], Ung-il Chung[1], Shinsuke Ohba[1]. [1]Department of Bioengineering, The University of Tokyo, Graduate School of Engineering, Japan, [2]Department of Oral & Maxillofacial Surgery, The University of Tokyo, Graduate School of Medicine, Japan
Disclosures: Denise C. Zujur, None

MO0132 **Assessing the Effect of Anterior Cruciate Ligament Tears on Bone Microarchitecture in Human Knees In Vivo**

Andres Kroker*[1], Sarah Manske[1], Ying Zhu[1], Rhamona Barber[2], Denise Chan[2], Nicholas Mohtadi[3], Steven Boyd[1]. [1]1. McCaig Institute for Bone & Joint Health 3. Department of Radiology, Cumming School of Medicine, University of Calgary, Calgary, AB, Canada, Canada, [2]2. Acute Knee Injury Clinic, Sports Medicine Centre, University of Calgary, Calgary, AB, Canada, Canada, [3]2. Acute Knee Injury Clinic, Sports Medicine Centre, University of Calgary 4. Department of Surgery, Cumming School of Medicine, University of Calgary, Calgary, AB, Canada, Canada

Disclosures: Andres Kroker, None

MO0133 **Autologous Osteoblastic Cells (PREOB®) Versus Concentrated Bone Marrow Implantation in Osteonecrosis of the Femoral Head: A Randomized Controlled Study**

Valerie Gangji*[1], Michel Toungouz[2], Chantal Lechanteur[3], Yves Beguin[4], Etienne Baudoux[3], Viviane De Maertelaer[5], Sanija Pather[6], Raphael Katz[6], Julia Ino[7], Dominique Egrise[8], Michel Malaise[9], Jean-Philippe Hauzeur[9]. [1]Hôpital Erasme, Rheumatolgy & Physical Medicin Dept, Université Libre de Bruxelles, Belgium, [2]Hôpital Erasme, Université Libre de Bruxlles, Belgium, [3]CHU Sart Tilman, Haematology & Laboratory of Cell Therapy, Belgium, [4]CHU Sart Tilman;Haematology & Laboratory of Cell Therapy, Belgium, [5]Université Libre de Bruxelles, Belgium, [6]Hôpital Erasme, Radiology Dept, Université Libre de Bruxelles, Belgium, [7]Bone Therapeutics, Belgium, [8]Hôpital Erasme, Nuclear Medicine, Université Libre de Bruxelles, Belgium, [9]CHU Sart Tilman, Rheumatology Dept, Belgium

Disclosures: Valerie Gangji, Bone Therapeutics, 14

MO0134 **Bone Marrow Lesions in Knee Osteoarthritis Represent a Localized Osteochondral Tissue Response to Mechanical Injury**

Dzenita Muratovic[1], David Findlay[1], Flavia Cicuttini[2], Anita Wluka[2], Yuanyuan Wang[2], Sophia Otto[3], David Taylor[4], Yea-Rin Lee[1], Julia Kuliwaba*[1]. [1]The University of Adelaide, Australia, [2]Monash University, Australia, [3]SA Pathology, Australia, [4]Royal Adelaide Hospital, Australia

Disclosures: Julia Kuliwaba, None

MO0135 **Condylar Osteoporosis is Associated with Temporomandibular Joint Arthritis: A Cross sectional study**

Jiayu Shi*[1], Soonchul Lee[2], Hsin Chuan Pan[1], Wenhao Guo[3], Andy Lin[4], Chia Soo[5], Jin Hee Kwak[1]. [1]Division of Growth & Development & Section of Orthodontics, School of Dentistry, University of California, Los Angeles, United states, [2]Department of Orthopaedic Surgery, CHA Bundang Medical Center, CHA University, School of Medicine, United states, [3]Department of Oral Radiology, West China Hospital of Stomatology, Sichuan University, China, [4]Institute for Digital Research & Education Statistical Consulting Group, University of California, Los Angeles, United states, [5]Department of Orthopaedic Surgery & the Orthopaedic Hospital Research Center, University of California, Los Angeles, United states

Disclosures: Jiayu Shi, None

MO0136 **Differential Regulation of Post-traumatic Osteoarthritis Associated Genes in Str/ort, MRL/MpJ and C57BL/6 Mice**

Aimy Sebastian*[1], Jiun C. Chang[1], Deepa K. Murugesh[2], Sarah Hatsell[3], Aris N. Economides[3], Blaine A. Christiansen[4], Gabriela G. Loots[2]. [1]UC Merced, School of Natural Sciences, United states, [2]Lawrence Livermore National Laboratories, Physical & Life Sciences Directorate, United states, [3]Regeneron Pharmaceuticals, United states, [4]UC Davis Medical Center, Department of Orthopedic Surgery, United states

Disclosures: Aimy Sebastian, None

MO0137 **Increased incidence of bone fractures in elderly osteoarthritic patients with persistent opioid use**

Farah Salahuddin*[1], Owais Gilani[2], Meika Fang[3], Roy Altman[3], Faisal Mirza[1]. [1]OrthoSynthesis Inc., United states, [2]University of Michigan, United states, [3]UCLA, United states

Disclosures: Farah Salahuddin, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS: RHEUMATOID ARTHRITIS AND INFLAMMATORY ARTHRITIS

MO0138 **Prediction of Response to Intra-articular Injections of Hyaluronic Acid for Knee Osteoarthritis**

Abeer Hegazy*[1], Abdulhafez Selim[2], Paula Karabelas[3]. [1]REHABILITATION CENTER - DAMMAM MEDICAL COMPLEX KSA, SAUDI ARABIA, Saudi arabia, [2]PCOM, United states, [3]AEBM, United states

Disclosures: Abeer Hegazy, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: ADHESION, MOTILITY AND CELL-CELL COMMUNICATION

MO0139 **Exposure to Non-Thermal Near Infrared Light Alters Maturation Pathways in Osteoblasts**

Mac Weninger*, Joshua Kolz, Janine Struve, Dorothee Weihrauch, James Ninomiya. Medical College of Wisconsin, United states

Disclosures: Mac Weninger, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: BONE FORMATION MECHANISMS

MO0140 ***Sc65*-null mice provide evidence for a novel endoplasmic reticulum complex regulating collagen lysyl hydroxylation**

Melissa Heard*[1], Roberta Besio[2], Mary Ann Weis[3], Jyoti Rai[3], David Hudson[3], Milena Dimori[1], Sarah Zimmerman[1], Jeffery Kamykowski[1], William Hogue[1], Francis Swain[1], Larry Suva[4], Marie Burdine[1], Samuel Mackintosh[1], Alan Tackett[1], David Eyre[3], Roy Morello[1]. [1]University of Arkansas for Medical Sciences, United states, [2]Universita' di Pavia, Italy, [3]University of Washington, United states, [4]Texas A&M University, United states

Disclosures: Melissa Heard, None

MO0141 **Activation of Protein Kinase A in Mature Osteoblasts Causes Sexually Dimorphic and Site Specific Changes in the Skeleton**

Liana Tascau[1], Hussein Anan[2], Daniel Oh[1], Francis Lee[1], Christopher Cardozo[3], William Bauman[3], Hesham Tawfeek*[3]. [1]Columbia University, United states, [2]Sacred Heart Hospital/Temple University, United states, [3]James J. Peters VA Medical Center & Icahn School of Medicine at Mount Sinai, United states

Disclosures: Hesham Tawfeek, None

MO0142 **Collagen Cross-linking is Modulated by Transforming Growth Factor β1 in Bone**

Masahiko Terajima*[1], Hideaki Nagaoka[1], Noriko Sumida[1], Oliver Smithies[2], Masao Kakoki[2], Mitsuo Yamauchi[1]. [1]Oral & Craniofacial Health Sciences, School of Dentistry, University of North Carolina, Chapel Hill, United states, [2]Department of Pathology & Laboratory Medicine, University of North Carolina, Chapel Hill, United states

Disclosures: Masahiko Terajima, None

MO0143 **Functional validation of a key bone mineral density locus determined by genome-wide association studies**

Robert D Maynard*[1], Fernando Rivadeneira[2], Carolina Medina-Gomez[2], Kwangbom Choi[3], Cheryl L Ackert-Bicknell[1]. [1]Center for Musculoskeletal Research, University of Rochester, United states, [2]Department of Internal Medicine, Erasmus University Medical Center, Netherlands, [3]The Jackson Laboratory, United states

Disclosures: Robert D Maynard, None

MO0144 **Novel transport mechanisms drive vectorial mineral packing in bone**

Harry C Blair[1], Quitterie C Larrouture*[1], Deborah J Nelson[2], Paul H Schlesinger[3], Irina Tourkova[1], Nareerat Sutjarit[1]. [1]veteran's affairs medical center & departments of pathology & cell biology, university of pittsburgh, United states, [2]The University of Chicago, Departments of Neurobiology, Pharmacology & Physiology, United states, [3]Washington University Department of Cell Biology, United states

Disclosures: Quitterie C Larrouture, None

MO0145 **Osteogenic effects of nanoparticles are composition, size, and surface dependent**
Shin-Woo Ha[1], Mark Habib[2], Neale Weitzmann[3], George Beck*[3]. [1]Emory University, United states, [2]Atlanta VA Medical Center, United states, [3]Atlanta VA Medical Center & Emory University, United states
Disclosures: George Beck, None

MO0146 **Pigment Epithelium Derived Factor Promotes Bone Formation in Hydroxyapatite/Tricalcium Phosphosphate Ceramics Implanted in Mice**
Christopher Niyibizi*, Feng Li, Stephen Leung, Joyce Tombran-Tink. Penn State College of Medicine, United states
Disclosures: Christopher Niyibizi, None

MO0147 **The effects of trkA agonist, gambogic amide, on osteoblasts and bone fracture healing**
Maddison Johnstone*[1], Rhys Brady[1], Johannes Schuijers[1], Julian Quinn[2], Stuart McDonald[1], Brian Grills[1]. [1]La Trobe University, Australia, [2]Garvan Institute of Medical Research, Australia
Disclosures: Maddison Johnstone, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: HORMONAL AND LOCAL REGULATION

MO0148 **Hyperglycemic Conditions Inhibit Osteogenic Differentiation by Promoting Protein O-GlcNAcylation in C2C12 Cells**
Hanna Gu*[1], Kanitsak Boonanantanasarn[1], Jeong-Hwa Baek[1], Kyunghwa Baek[2]. [1]Seoul National University School of Dentistry, Korea, republic of, [2]College of Dentistry, Gangneung-Wonju National University, Korea, republic of
Disclosures: Hanna Gu, None

MO0149 **Morinda Citrifolia Leaf Extract Enhances Osteogenic Differentiation Under LPS-induced Inflammatory Condition**
Jae-Ran Seo*, Kanitsak Boonanantantasarn, Hanna Gu, Jeong-Hwa Baek. Seoul National University School of Dentistry, Korea, republic of
Disclosures: Jae-Ran Seo, None

MO0150 **Pre-osteoblast maturation failure is associated with chronic kidney disease**
Renata Pereira*[1], Earl Freymiller[2], Richard Bowen[1], Isidro Salusky[1], Katherine Wesseling-Perry[1]. [1]David Geffen School of Medicine at UCLA, United states, [2]UCLA School of Dentistry, United states
Disclosures: Renata Pereira, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: SIGNAL TRANSDUCTION AND TRANSCRIPTIONAL REGULATION

MO0151 **Biological Response of Human Mesenchymal Stromal Cells to Orthopedic Implant Nanoparticles**
Eric Lewallen*[1], Roman Thaler[1], Christopher Paradise[1], Amel Dudakovic[1], Martina Gluscevic[1], Endre Soreide[1], Janet Denbeigh[1], Dakota Jones[1], Rebekah Samsonraj[1], William Trousdale[1], Hilal Kremers[1], Matthew Abdel[1], David Leong[2], David Lewallen[1], Andre van Wijnen[1]. [1]Mayo Clinic, United states, [2]National University of Singapore, Singapore
Disclosures: Eric Lewallen, None

MO0152 **Cytochalasin D improves the osteogenic potential of human adipose-derived mesenchymal stem cells concomitant with repression of EZH2 and heterochromatin-related H3K27me3 marks**
Rebekah Samsonraj[1], Amel Dudakovic*[1], Roman Thaler[1], Allan Dietz[1], Buer Sen[2], Janet Rubin[2], Andre van Wijnen[1]. [1]Mayo Clinic, United states, [2]University of North Carolina, United states
Disclosures: Amel Dudakovic, None

MO0153 **Identification of Epigenomic Regulators of Osteoblast Function**
Carole LE HENAFF[1], Nicola PARTRIDGE[2], Frederic JEHAN[1], Valerie GEOFFROY*[1]. [1]Inserm U1132, France, [2]New york University, United states
Disclosures: Valerie GEOFFROY, None

MO0154 **Inhibition of alphaNAC Post-translational Modifications Affects Osteoblast Function**
Theresa Farhat*[1], Amel Dudakovic[2], Andre van Wijnen[3], René St-Arnaud[1]. [1]Shriners Hospitals for Children - Canada, Canada, [2]Dept. of Orthopedic Surgery, Mayo Clinic, United states, [3]Mayo Clinic, United states
Disclosures: Theresa Farhat, None

MO0155 **MEK5 Suppresses the Osteoblast Differentiation**
Hideki Tsuboi[1], Shoichi Kaneshiro*[1], Jun Hashimoto[2], Chikahisa Higuchi[3], Dai Otsuki[4]. [1]Department of Orthopaedic Surgery, Japan Organization of Occupational Health & Safety, Osaka Rosai Hospital, Japan, [2]Department of Rheumatology, National Hospital Organization Osaka Minami Medical Center, Japan, [3]Department of Orthopaedic Surgery, Osaka medical center & research institute for matemal & child health, Japan, [4]Department of Orthopaedic Surgery, Graduate School of Medicine, Osaka University, Japan
Disclosures: Shoichi Kaneshiro, None

MO0156 **mTORC1 Prevents Preosteoblast Differentiation Through the Notch Signaling Pathway**
Bin Huang*, Xiaochun Bai. Academy of OrthopedicsGuangdong Province, Department of Orthopedics, The Third Affiliated Hospital, Southern Medical University, China
Disclosures: Bin Huang, None

OSTEOCLASTS - FUNCTION: BONE RESORPTION MECHANISMS

MO0157 **A slight inhibition of cathepsin K paradoxically stimulates the resorptive activity of osteoclasts in culture**
Dinisha C Pirapaharan*[1], Kent Soe[1], Preety Panwar[2], Marianne Bergmann[3], Anne V Schmedes[3], Jonna S Madsen[3], Dieter Bromme[2], Jean-Marie Delaisse[1]. [1]Vejle Hospital (University of Southern Denmark), Denmark, [2]University of British Columbia, Canada, [3]Vejle Hospital, Denmark
Disclosures: Dinisha C Pirapaharan, None

MO0158 **Bisphosphonate inhibits expression and maturation of Cathepsin K in osteoclasts**
Sol Kim*, Ki-Hyuk Shin, Mo Kang, No-Hee Park, Reuben Kim. UCLA School of Dentistry, United states
Disclosures: Sol Kim, None

MO0159 **Cbl-mediated Regulation of PI3K Activity Regulates Bone Resorption by Modulating Secretion of Cathepsin K**
Jungeun Yu*, Naga Suresh Adapala, Archana Sanjay. UConn Musculoskeletal Institute, UConn Health, United states
Disclosures: Jungeun Yu, None

MO0160 **Inflammation-Induced Osteolysis Caused by Particles Released from Scaling of Titanium Implants**
Michal Eger*[1], Tamar Liron[1], Nir Sterer[2], David Kohavi[2], Yankel Gabet[1]. [1]Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Tel Aviv University, Israel, Israel, [2]Department of Prosthodontics, Goldschleger School of Dental Medicine, Sackler Faculty of Medicine, Tel Aviv University, Israel, Israel
Disclosures: Michal Eger, None

MO0161 **Septin 9 - a critical player in osteoclast resorption**
Anais MJ Moller*[1], Jean-Marie Delaisse[1], Ernst-Martin Fuchtbauer[2], Kent Soe[1]. [1]Vejle Hospital/University of Southern Denmark, Denmark, [2]Aarhus University, Denmark
Disclosures: Anais MJ Moller, None

MO0162 **Serum CTX levels and histomorphometric analysis in Src versus RANKL knockout mice**
Sunao Takeshita*[1], Toshio Fumoto[2], Masako Ito[3], Kyoji Ikeda[1]. [1]National Center for Geriatrics & Gerontology, Japan, [2]Hirosaki University School of Medicine, Japan, [3]Nagasaki University Hospital, Japan
Disclosures: Sunao Takeshita, None

MO0163 **The Synergistic Action of Lysosomal and Tartrate-resistant Acid Phosphatase is Required for Resorptive Activity of Osteoclasts**
Timur Yorgan*[1], Georgia Makrypidi[2], Sonja Kühn[1], Till Köhne[1], Michaela Schweizer[3], Jan Pestka[1], Michael Amling[1], Paul Saftig[4], Thomas Braulke[2], Thorsten Schinke[1]. [1]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppendorf, Germany, [2]Department of Biochemistry, Childrens Hospital, University Medical Center Hamburg Eppendorf, Germany, [3]Center of Molecular Neurobiology, University Medical Center Hamburg Eppendorf, Germany, [4]Institute of Biochemistry, Christian-Albrechts-University Kiel, Germany
Disclosures: Timur Yorgan, None

MO0164 **Treatment of cathepsin K inhibitor in osteoprotegerin-deficient mice inhibits bone resorption and stimulates bone formation**
Midori Nakamura*[1], Yuko Nakamichi[2], Toshihide Mizoguchi[2], Yasuhiro Kobayashi[2], Naoyuki Takahashi[2], Nobuyuki Udagawa[1]. [1]Department of Biochemistry, Institute for Oral Science, Matsumoto Dental University, Japan, [2]Institute for Oral Science, Matsumoto Dental University, Japan
Disclosures: Midori Nakamura, None

OSTEOCLASTS - FUNCTION: SIGNAL TRANSDUCTION

MO0165 **Estrogens attenuate RANKL-induced oxidative phosphorylation and ATP production in osteoclast precursors via direct ERα signaling**
Ha-Neui Kim*[1], Li Han[1], Srividhya Iyer[1], Aaron Warren[1], Kimberly Krager[2], Nukhet Aykin-Burns[2], Stavros Manolagas[1], Maria Almeida[1]. [1]Central Arkansas Veterans Healthcare System, University of Arkansas for Medical Sciences, United states, [2]University of Arkansas for Medical Sciences, United states
Disclosures: Ha-Neui Kim, None

MO0166 **Gsα Controls Cortical Bone Quality by Regulating Osteoclast Differentiation via pCREB and β-Catenin Pathways**
Girish Ramaswamy*[1], Hyunsoo Kim[2], Deyu Zhang[1], Vitali Lounev[1], Joy Wu[3], Yongwon Choi[2], Frederick S Kaplan[1], Robert J Pignolo[1], Eileen M Shore[1]. [1]Center for Research in FOP & Related Disorders, Department of Orthopedic Surgery, Perelman School of Medicine at the University of Pennsylvania, United states, [2]Department of Pathology & Laboratory Medicine, Perelman School of Medicine at the University of Pennsylvania, United states, [3]Division of Endocrinology, Stanford University School of Medicine, United states
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MO0167 **p110a Catalytic Subunit Isoform of PI3K Regulates Osteoclast Differentiation and Function**
Jugeun Yu*, Bhavita Walia, Archana Sanjay. U Conn Health, United states
Disclosures: Jugeun Yu, None

MO0168 **Phlpp1 Deletion Reduces Bone Mineral Density and Increases Osteoclast Differentiation through Enhanced Wnt Production**
Elizabeth Bradley*, Jennifer Westendorf, Lomeli Carpio, Soyun M. Hwang, Merry Jo Oursler. Mayo Clinic, United states
Disclosures: Elizabeth Bradley, None

MO0169 **Regulation of adhesion signaling in osteoclasts by tetraspanin CD82**
Alexis Bergsma*[1], Cindy Miranti[2]. [1]Van Andel Institute Graduate School, United states, [2]Van Andel Institute, United states
Disclosures: Alexis Bergsma, None

MO0170 **The Cytotoxic Anti-cancer Agent Melphalan Causes Bone Loss by Increasing Osteoclast Formation**
Ryan Chai*[1], Michelle McDonald[1], Rachael Terry[1], Jessica Pettitt[1], Sindhu Mohanty[1], Shruti Shah[1], Gholamreza Haffari[2], Jiake Xu[3], Matthew Gillespie[2], John Price[4], Peter Croucher[1], Julian Quinn[1]. [1]Garvan Institute of Medical Research, Australia, [2]Monash University, Australia, [3]University of Western Australia, Australia, [4]Victoria University, Australia
Disclosures: Ryan Chai, None

OSTEOCLASTS - FUNCTION: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

MO0171 **Amino terminus of HDAC7 Is Sufficient to Inhibit Osteoclast Differentiation**
Nicholas Blixt*, Rajaram Gopalakrishnan, Eric Jensen, Kim Mansky. University of Minnesota, United states
Disclosures: Nicholas Blixt, None

OSTEOCLASTS - ORIGIN AND CELL FATE: GENERAL

MO0172 **B lymphocytes do not differentiate into osteoclasts in estrogen-replete or estrogen-deficient mice**
Yuko Fujiwara*, Marlina Piemontese, Jinhu Xiong, Yu Liu, Priscilla Baltz, Charles OBrien. University of Arkansas for Medical Sciences, United states
Disclosures: Yuko Fujiwara, None

MO0173 **Enhanced responsiveness of Bone Marrow Macrophages to M-CSF signaling results in increased Osteoclast Precursors in the absence of Cbl-PI3K interaction**
Bhavita Walia*, Jungeun Yu, Archana Sanjay. UConn Health, United states
Disclosures: Bhavita Walia, None

MO0174 **Identification of the TRAF family members interacting with RANK cytoplasmic motifs involved in osteoclastogenesis**
Ke Hu*[1], Zhenqi Shi[2], Xu Feng[2]. [1]Department of Pathology, University of Alabama at Birmingham, Birmingham, AL 35294, USA; Department of Gynecology & Obstetrics, Renji Hospital, School of Medicine, Shanghai Jiao Tong University, Shanghai 200127, PR China., United states, [2]Department of Pathology, University of Alabama at Birmingham, Birmingham, AL 35294, USA, United states
Disclosures: Ke Hu, None

MO0175 **Rgs12 Inhibits Nrf2-dependent Antioxidant Proteins to Promote the Generation of Reactive Oxygen Species and Osteoclast Differentiation**
Andrew Ng*, Chengjian Tu, Megan Jones, Shichen Shen, Jun Li, Jun Qu, Shuying Yang. University at Buffalo, United states
Disclosures: Andrew Ng, None

OSTEOCYTES: BONE REMODELING REGULATION

MO0176 ***In Vivo* Osteocytic Ca^{2+} Pathway and Oscillations in Response to Acoustic Radiation Force in a Specific Bone Cell Ca^{2+} Fluorescence Ai38/Dmp1-Cre Mice**
Minyi Hu*, Jian Jiao, Daniel Gibbons, Xiaofei Li, Guowei Tian, Yi-Xian Qin. Stony Brook University, United states
Disclosures: Minyi Hu, None

MO0177 **A new multiplexed 3D confocal microscopy method to simultaneously measure changes in osteocyte cell body volume, lacunar volume and lacunar fluid space with age**
LeAnn Tiede-Lewis*, Yixia Xie, Hong Zhao, Sarah Dallas. University of Missouri - Kansas City, USA, United states
Disclosures: LeAnn Tiede-Lewis, None

MO0178 **Difference in osteocyte viability between patients with and without atypical femoral fracture after prolonged bisphosphonate treatment**
Shijing Qiu*[1], George Divine[1], Mahalakshi Honasoge[1], Pooja Kulkarni[1], Elizabeth Warner[2], Saroj Palnitkar[1], D. Sudhaker Rao[1]. [1]Henry Ford Hospital, United states, [2]Henry Ford Hosptial, United states
Disclosures: Shijing Qiu, None

MO0179 **Lactation-Induced Changes in the Volume of the Osteocyte Lacunar-Canalicular Space Alters Local Mechanical Properties in Cortical Bone**
A. Serra Kaya*[1], Jelena Basta-Pljakic[1], Zeynep Seref-Ferlengez[1], Robert Majeska[1], Shoshana Yakar[2], Mitchell Schaffler[1]. [1]City College of New York, United states, [2]New York University College of Dentistry, United states
Disclosures: A. Serra Kaya, None

MO0180 **The Role of Carbonic Anhydrase 3 in Osteocytes**
Chao Shi*[1], Christopher Dedic[2], Yuhei Uda[2], Forest Lai[2], Ningyuan Sun[2], Marc Wein[3], Keertik Fulzele[2], Kunzheng Wang[4], Paola Divieti Pajevic[5]. [1]1Department of Molecular & Cell Biology, Goldman School of Dental Medicine, Boston University 2.Department of Orthopaedics, The Second Affiliated Hospital of Xi'an Jiaotong University, Xi'an, 710004, Shaanxi Province, P.R. China, United states, [2]Department of Molecular & Cell Biology, Goldman School of Dental Medicine, Boston University, United states, [3]Endocrine Unit, Massachusetts General Hospital & Harvard Medical School, United states, [4]Department of Orthopaedics, The Second Affiliated Hospital of Xi'an Jiaotong University, Xi'an, 710004, Shaanxi Province, P.R.China, China, [5]Department of Molecular & Cell Biology, School of Dental Medicine, Boston University, United states
Disclosures: Chao Shi, None

OSTEOCYTES: ORIGIN, CELL CYCLE AND APOPTOSIS

MO0181 **MLO-Y4 Osteocytic Cell Sub-clones Express Distinct Gene Expression Patterns Characteristic of Different Stages of Osteocyte Differentiation**
Emily Atkinson*[1], Zuleima Sanchez[1], Christian Porter[2], Teresita Bellido[1], Lilian Plotkin[1]. [1]IU School of Medicine, United states, [2]IUPUI, United states
Disclosures: Emily Atkinson, None

MO0182 **Role of Mitochondria in Protection of Osteocytes Against Acute Oxidative Stress**
Lynda Bonewald[1], Jianxun Yi*[2]. [1]UMKC, school of Dentistry, United states, [2]School of dentistry, United states
Disclosures: Jianxun Yi, None

MO0183 **Simvastatin rescues Homocysteine-Induced Apoptosis of Osteocytic MLO-Y4 Cells by Decreasing the Expressions of NADPH oxidase 1 and 2**
Ayumu Takeno*, Ippei Kanazawa, Ken-ichiro Tanaka, Masakazu Notsu, Maki Yokomoto-Umakoshi, Toshitsugu Sugimoto. Internal Medicine 1, Shimane University Faculty of Medicine, Japan
Disclosures: Ayumu Takeno, None

OSTEOCYTES: PARACRINE AND ENDOCRINE FUNCTION

MO0184 **High Expression of Osteocyte Specific Markers in Human Bone Chips Cultures**
Nathalie Bravenboer*[1], Huib van essen[2], Janak Pathak[3], Jenneke Klein Nulend[4], Astrid Bakker[4]. [1]Department of Clinical Chemistry, VU university Medical Center, Research Institute Move, Netherlands, [2]Department of Clinical Chemistry, VU university Medical Center, Research Institute Move., Netherlands, [3]Department of Molecular & Cellular Pharmacology, School of Pharmaceutical Science & Technology, China, [4]Department of Oral Cell Biology, ACTA, Research Institute Move, Netherlands
Disclosures: Nathalie Bravenboer, None

OSTEOPOROSIS - ASSESSMENT: BIOCHEMICAL TESTS

MO0185 **Correct pre-analytical handling of plasma samples for bone turnover markers improves the stability of the markers**
Jens Romlund Halgreen*[1], Nadia Quardon[1], Marijan Milenkovski[1], Alperen Köse[2], Niklas Rye Jørgensen[3]. [1]Dept. of Clinical Biochemistry, Copenhagen University Hospital Rigshospitalet, Denmark, [2]Copenhagen University Hospital Rigshospitalet, Denmark, [3]Dept. of Clinical Biochemistry, Copenhagen University Hospital Rigshospitalet & University of Southern Denmark, Denmark
Disclosures: Jens Romlund Halgreen, None

MO0186 **The Association Of Circulating miRNAs With Bone Mineral Density, Microarchitecture And Prevalent Fracture In The OFELY Cohort**
Elodie Feurer*, Casina Kan, Martine Croset, Elisabeth Sornay-Rendu, Roland Chapurlat. INSERM UMR 1033, France
Disclosures: Elodie Feurer, None

MO0187 **Therapeutic Target for Plasma P1NP in Bisphosphonate Treated Osteoporosis Patients: the Health In Men Study**

Paul Chubb[1], Elizabeth Byrnes[2], Bu Yeap[3], Laurens Manning[3], Leon Flicker[3], Jonathan Golledge[4], Samuel Vasikaran*[5]. [1]School of Medicine & Pharmacology & School of Pathology & Laboratory Medicine, University of Western Australia, Australia, [2]PathWest - Queen Elizabeth II Medical Centre, Australia, [3]School of Medicine & Pharmacology, University of Western Australia, Australia, [4]School of Medicine & Dentistry, James Cook University, Australia, [5]PathWest - Royal Perth & Fiona Stanley Hospitals, Perth, Australia, Australia

Disclosures: Samuel Vasikaran, None

OSTEOPOROSIS - ASSESSMENT: BONE QUALITY

MO0188 **CHANGES IN TRABECULAR BONE SCORE AFTER PARATHYROIDECTOMY IN PRIMARY HYPERPARATHYROIDISM**

Juan Carlos Romero Rodríguez[1], Gonzalo Allo Miguel[1], Guillermo Martínez Díaz-Guerra[1], Mercedes Aramendi Ramos[2], Eduardo Ferrero[3], Federico Hawkins*[1]. [1]Endocrinology Service, 12 de Octubre University Hospital, University Complutense, Spain, [2]Laboratory Service, 12 de Octubre University Hospital, University Complutense, Spain, [3]Surgery Service, 12 de Octubre University Hospital, University Complutense, Spain

Disclosures: Federico Hawkins, None

MO0189 **Ethnic differences in femoral neck geometry as assessed by HSA of QCT between elderly Caucasion and Chinese populations: a Perth-Beijing group study**

Benjamin Khoo[1], Richard Prince[2], Xiaoguang Cheng[3], Keenan Brown[4], Ling Wang*[5]. [1]Medical Technology & Physics, Sir Charles Gairdner Hospital, Australia, [2]Medical Technology & Physics, Sir Charles Gairdner Hospital, Perth, Australia, Australia, [3]Department of Radiology, Beijing Jishuitan Hospital, Beijing, China, China, [4]Mindways Software, Austin, USA, United states, [5]Department of Radiology, Beijing Jishuitan Hospital, Beijing, China, China

Disclosures: Ling Wang, None

MO0190 **Fracture Risk Estimation with Statistical Multi-Parametric Modeling**

Julio Carballido-Gamio*[1], Aihong Yu[2], Ling Wang[2], Yongbin Su[2], Thomas F. Lang[1], Xiaoguang Cheng[2]. [1]Department of Radiology & Biomedical Imaging, University of California, San Francisco, United states, [2]Department of Radiology, Beijing Ji Shui Tan Hospital, China

Disclosures: Julio Carballido-Gamio, None

MO0191 **Histomorphometric and Osteocytic Characteristics of Cortical Bone in Male Subtrochanteric Femoral Shaft**

Xiaoyu Tong*[1], Heikki Kröger[2]. [1]Kuopio Musculoskeletal Research Unit (KMRU), Institute of Clinical Medicine, University of Eastern Finland, Finland, [2]Department of Orthopaedics, Traumatology, & Hand Surgery, Kuopio University Hospital, Finland

Disclosures: Xiaoyu Tong, None

MO0192 **Trabecular Bone Microstructure is Impaired in the Proximal Femur of HIV-Infected Men with Normal Bone Mineral Density**

Galateia Kazakia, Julio Carballido-Gamio, Misung Han, Andrew Lai, Lorenzo Nardo, Luca Facchetti, Courtney Pasco, Amy Zhang, Amanda Hutton Parrott, Phyllis Tien, Roland Krug*. UCSF, United states

Disclosures: Roland Krug, None

MO0193 **Trabecular Bone Score (TBS) in Fracturing Elite Athletes**

Elliott N. Schwartz, M.D.*, Clinten Edmondson, Christelle Domantay, X.T., Patricia E. Schwartz, R.N., X.T. Northern California Institute for Bone Health, Inc., United states

Disclosures: Elliott N. Schwartz, M.D., None

OSTEOPOROSIS - ASSESSMENT: DXA

MO0194 **3D-DXA Spine: Modelling the lumbar Spine in 3D from DXA images**

Mirella Lopez Picazo*[1], Ludovic Humbert[1], Alba Magallón Baro[1], Luis del Río Barquero[2], Silvana Di Gregorio[2], Miguel Angel Gonzalez Ballester[3]. [1]Galgo Medical, Spain, [2]CETIR Grup Mèdic, Spain, [3]Universitat Pompeu Fabra - ICREA, Spain

Disclosures: Mirella Lopez Picazo, None

MO0195 **Bone component analysis with 3D-DXA and vitamin D levels in patients with Type 2 Diabetes, Latent Autoimmune Diabetes in Adults (LADA) compared to healthy controls**
Patricia Clark*[1], Miguel Angel Guagnelli[1], Rita Gomez-Diaz[2], Geraldine Gonzalez-Castelan[1], Yves Martelli[3], Ludovic Humbert[3], Neils Wacher[2]. [1]Clinical Epidemiology Unit, Hospital Infantil de México, Mexico, [2]Clinical Epidemiology Unit, Hospital de Especialidades, Centro Medico Nacional Siglo XXI, Mexico, [3]Galgo Medical, Spain
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MO0196 **DXA Errors are Common and Likely Adversely Affect Clinical Care: DXA Quality Improvement is Needed**
Karen Hansen*, Neil Binkley, Diane Krueger, Ellen Siglinsky, Ellen Siglinsky, Jessie Libber, Erin Shives, Bjoern Buehring. University of Wisconsin, United states
Disclosures: Karen Hansen, None

MO0197 **Effect of Varying Tissue Thickness in Total Body DXA Studies in the Norland Elite Scanner**
Tom Sanchez*[1], Patrick Cunniff[1], Chad Dudzek[1], Joe Joyce[1], Jingmei Wang[2]. [1]Norland at Swissray, United states, [2]Norland at Swissray, China
Disclosures: Tom Sanchez, None

MO0198 **i-Gyne: A tablet, web-based tool for integrating osteoporosis research and health care delivery in a gynecological clinic**
Win Pa Pa Thu*[1], Susan Jane Sinclair Logan[2], Lay Wai Khin[3], Saw Myat Sabai[4], Yue Luna Wang[4], Yean Ling Mayvien Teo[4], Stephen Fearns Smagula[5], Jane A. Cauley[6], Eu-Leong Yong[4]. [1]Department of Obstetrics & Gynaecology, National University of Singapore (NUS), Singapore, Singapore, [2]Department of Obstetrics & Gynaecology, National University Hospital (NUH), Singapore, Singapore, [3]Singapore Institute for Clinical Sciences - A*STAR, Singapore, Singapore, [4]Department of Obstetrics & Gynaecology, National University of Singapore (NUS), Singapore, Singapore, [5]Department of Psychiatry, Western Psychiatric Institute & Clinic, University of Pittsburgh Medical Center (Pennsylvania), United States of America, United states, [6]Department of Epidemiology, University of Pittsburgh (Pennsylvania) Graduate School of Public Health (GSPH), United States of America, United states
Disclosures: Win Pa Pa Thu, None

MO0199 **Is spine L1-L4 TBS the best vertebrae combination to predict major Osteoporotic Fracture? The OsteoLaus Cohort Study**
Hanza Mraihi*, Olivier Lamy, Marie Metzger, Berengere Aubry-Rozier, Delphine Stoll, Didier Hans. Center of Bone disease - Lausanne University Hospital, Switzerland
Disclosures: Hanza Mraihi, None

MO0200 **Is vBMD from 3D Hip analysis of a standard proximal femur DXA scan related to aBMD at the hip?**
Belinda Beck*, Amy Harding, Benjamin Weeks, Steven Watson. Griffith University, Australia
Disclosures: Belinda Beck, None

MO0201 **The Clinical Use of Trabecular Bone Score for Major Osteoporotic Fracture Prediction in Chinese Older People: The Mr. OS and Ms. OS Cohort Study in Hong Kong**
Yi Su[1], Jason Leung[2], Timothy Kwok*[2]. [1]Department of Medicine & Therapeutics, Prince of Wales Hospital, The Chinese University of Hong Kong, Hong kong, [2]Jockey Club Centre for Osteoporosis Care & Control, The Chinese University of Hong Kong, Hong kong
Disclosures: Timothy Kwok, None

MO0202 **The Effect of Rotation, when Positioning the Head, on DXA Measured Bone Mineral in the Mandible**
Chad Dudzek[1], Patrick Cunniff[1], Tom Sanchez[1], Jingmei Wang*[2]. [1]Norland at Swissray, United states, [2]Norland at Swissray, China
Disclosures: Jingmei Wang, None

OSTEOPOROSIS - ASSESSMENT: OTHER IMAGING TECHNIQUES

MO0203 **Adding VFA to DXA Produces Unique Information Not Duplicated by other Measures**
Jay Ginther*. Cedar Valley Bone Health Institute of Iowa, United states
Disclosures: Jay Ginther, None

MO0204 **Bone Microstructure of Baseball Pitchers' Elbow Analyzed by HR-pQCT**
Kiyoshi Sada*[1], Ko Chiba[1], Shiro Kajiyama[1], Narihiro Okazaki[1], Ayako Kurogi[1], Yusaku Isobe[2], Makoto Era[1], Makoto Osaki[1]. [1]Department of Orthopaedic Surgery, Nagasaki University Hospital, Japan, [2]Nagasaki University School of Medicine, Japan
Disclosures: Kiyoshi Sada, None

MO0205 **Calcaneal BMD Estimation with Foot-Size Dependent Ultrasound Measurements**
Emily Stein*[1], Fernando Rosette[1], Gangming Luo[2], Mariana Bucovsky[1], Jonathan Kaufman[2], Elizabeth Shane[1], Robert Siffert[3]. [1]Columbia University College of Physicians & Surgeons, United states, [2]CyberLogic, Inc., United states, [3]The Mount Sinai School of Medicine, United states
Disclosures: Emily Stein, None

MO0206 **Clinical Application of Bone Quality Assessment Using Scanning Confocal Acoustic Navigation (SCAN)**
Jian Jiao*[1], Marie Gelato[2], Wei Lin[1], Xiaofei Li[1], Yi-Xian Qin[1]. [1]Biomedical Engineering, Stony Brook University, United states, [2]Department of Endocrinology, Stony Brook University, United states
Disclosures: Jian Jiao, None

MO0207 **Comparative value of Vertebral Fracture Assessment and conventional spine radiography in the evaluation of vertebral fractures: a meta-analysis**
Frank Malgo*[1], Natasha Appelman-Dijkstra[1], Olaf Dekkers[2], Neveen Hamdy[1]. [1]Center for Bone Quality & Department of Medicine; Division Endocrinology, Leiden University Medical Center, Netherlands, [2]Department of Medicine; Division Endocrinology & Department of Clinical Epidemiology, Leiden University Medical Center & Department of Clinical Epidemiology, Aarhus University Hospital, Netherlands
Disclosures: Frank Malgo, None

MO0208 **Differences in Trabecular Microstructure Between African American and Caucasian Women**
Melissa S. Putman*[1], Elaine W. Yu[1], David Lin[1], Karin Darakananda[1], Joel S. Finkelstein[1], Mary L. Bouxsein[2]. [1]Massachusetts General Hospital, United states, [2]Beth Istrael Deaconess Medical Center, United states
Disclosures: Melissa S. Putman, None

MO0209 **Hidden in Plain Sight: DXA vs Plain Film X-Ray in Diagnosis of Osteopenia**
Oisín Hannigan*[1], Niamh Garry[1], Maria Smyth[1], Aoife Dillon[1], Brendan McCarthy[2], Mc Casey[3], Kevin McCarroll[1], James Mahon[4], Joe Browne[1], James Bernard Walsh[2], Rosaleen Lannon[1]. [1]Department of Medicine for the Elderly, St James Hospital, Ireland, [2]Mercers Institute for Research on Aging, St James Hospital, Ireland, [3]Deparment of Medicine for the Elderly, St James Hospital, Ireland, [4]Mercers Institute for Research on Aging, St James Hospitel, Ireland
Disclosures: Oisín Hannigan, None

MO0210 **In the Heel of the Hunt: How Good is Quantitative Ultrasound in the Diagnosis of Osteoporosis?**
James Mahon*, David Moloney, Angelina Farrellly, Deirdre Smith, Laura Mulkerrins, Maire Rafferty, Caoimhe McManus, Oisin Hannigan, Nessa Fallon, Georgina Steen, Rosaleen Lannon, Mc Casey, Jb Walsh, Kevin McCarroll. St James's Hospital, Ireland
Disclosures: James Mahon, None

MO0211 **Prevalence, incidence and future fracture prediction ability of vertebral fractures differs by radiological scoring method**
Fjorda Koromani*[1], Ling Oei[2], Katerina Trajanoska[1], Carola Zillikens M.C[2], Arfan Ikram M.A.[3], Andre G. Uitterlinden[2], Edwin Oei[4], Fernando Rivadeneira[2]. [1]Department of Internal Medicine & Epidemiology, Erasmus MC., Netherlands, [2]Department of Internal Medicine, Erasmus MC., Netherlands, [3]MD., PhD., Netherlands, [4]Department of Radiology & Nuclear Medicine, Erasmsus MC., Netherlands
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MO0212 **Transitioning to Second Generation HR-pQCT: Can Cross-Calibration Improve Agreement Between HR-pQCT Systems?**
Sarah L Manske*, Erin M Hildebrandt, Lauren A Burt, Duncan Raymond, Steven K Boyd. University of Calgary, Canada
Disclosures: Sarah L Manske, None

MO0213 **Value of Transiliac Bone Biopsies Obtained in Women with Advanced Osteoporosis to Predict Prevalent Fractures and Alteration of Micro-architecture**
Patrick Ammann*[1], Francois Herrmann[2]. [1]Division of Bone Diseases, Department of Internal Medicine Specialties, Switzerland, [2]Department of Internal Medicine, Rehabilitation & Geriatrics, Switzerland
Disclosures: Patrick Ammann, None

MO0214 **Vertebral Fracture is Associated with Decreased Size and Increased Volumetric BMD in Females and with Increased Size and Decreased Volumetric BMD in Males**
Jessica Coogan[1], Travis Eliason[1], Elizabeth Atkinson[2], Eric Orwoll[3], Ellen Quillen[4], Daniel Nicolella[1], Sundeep Khosla[2], Todd Bredbenner*[1]. [1]Southwest Research Institute, United states, [2]Mayo Clinic, United states, [3]Oregon Health & Science University, United states, [4]Texas Biomedical Research Institute, United states
Disclosures: Todd Bredbenner, None

OSTEOPOROSIS - EPIDEMIOLOGY: BONE MINERAL DENSITY

MO0215 **A Genome-wide Association Study Identifies Gender Specific Loci Influencing aBMD and BMC at Multiple Skeletal Sites in Children of European Descent**
Alessandra Chesi*[1], Jonathan Mitchell[1], Heidi Kalkwarf[2], Jonathan Bradfield[1], Joan Lappe[3], Shana McCormack[1], Vicente Gilsanz[4], Sharon Oberfield[5], Hakon Hakonarson[1], John Shepherd[6], Andrea Kelly[1], Babette Zemel[1], Struan Grant[1]. [1]Children's Hospital of Philadelphia, United states, [2]Cincinnati Children's Hospital Medical Center, United states, [3]Creighton University, United states, [4]Children's Hospital of Los Angeles, United states, [5]Columbia University, United states, [6]UCSF, United states
Disclosures: Alessandra Chesi, None

MO0216 **Association of Plasma SDF-1 with Bone Mineral Density, Body Composition and Incident Hip Fracture in Older Adults: Findings From the Cardiovascular Health Study**
Monique Bethel[1], Petra Bůžková[2], Laura Carbone[1], John Robbins[3], Howard Fink[4], Mark Hamrick[1], William Hill*[1]. [1]Augusta University, United states, [2]University of Washington, United states, [3]University of California – Davis, United states, [4]University of Minnesota, Veterans Affairs Health Care System, United states
Disclosures: William Hill, None

MO0217 **Bone Mineral Density In Diabetes And Impaired Fasting Glucose**
Natalie Marijanovic*[1], Kara Holloway[2], Julie Pasco[3], Mark Kotowicz[3]. [1]Barwon Health, Australia, [2]Deakin University, Australia, [3]Deakin University, Barwon Health., Australia
Disclosures: Natalie Marijanovic, None

MO0218 **Changes in Hip Structural Analysis Parameters in Relation to the Final Menstrual Period: Study of Women's Health Across the Nation (SWAN)**
Nayana Nagaraj*[1], Robert Boudreau[1], Michelle Danielson[1], Gail Greendale[2], Arun Karlamangla[2], Thomas Beck[3], Jane Cauley[1]. [1]University of Pittsburgh, United states, [2]University of California, United states, [3]Beck Radiological Innovations Inc., United states
Disclosures: Nayana Nagaraj, None

OSTEOPOROSIS - EPIDEMIOLOGY: ENVIRONMENTAL AND LIFESTYLE FACTORS

MO0219 **Poor Nutrition Status of Vitamin D: A Survey from Area with the Lowest Sunshine in China**
Pianpian Fan[1], Qin Wang*[1], Chunyan Lu[1], Yong Xu[2], Hongyi Cao[3], Xiaohua Xie[4], Xueyan Wu[5], Yan Chen[1], Ting Liu[1], Yanhong Guo[1], Jing Li[1], Decai Chen[1]. [1]West China Hospital of Sichuan University, China, [2]The Affiliated Hospital of Southwest Medical University, China, [3]Chengdu Fifth People's Hospital, China, [4]First people's Hospital of Liangshan, China, [5]Guangyuan Central Hospital, China
Disclosures: Qin Wang, None

OSTEOPOROSIS - EPIDEMIOLOGY: FALLS AND FRACTURES

MO0220 **A Case-control Study of Atypical Femur Fractures (AFF) and Control Femur Fractures**
Erik Imel*[1], George Eckert[2], Katie Allen[3], Julie Chandler[4], Joel Martin[3], Joseph Hostetler[1], Siu Hui[3], C. Conrad Johnston[1], Anne de Papp[4], Arthur Santora[4], Robert Choplin[1], Trenton Roth[1], Ziyue Liu[2]. [1]Indiana University School of Medicine, United states, [2]Indiana University Fairbanks School of Public Health, United states, [3]Regenstrief Institute, Inc., United states, [4]Merck, Sharp & Dhome, United states
Disclosures: Erik Imel, Merck, Sharp & Dhome, 100

MO0221 **A Comprehensive Assessment of Comorbidities to Predict Hip Fracture Using a Population-Based Cohort**
Shreyasee Amin*, Elizabeth Atkinson, Sara Achenbach, Terry Therneau, Sundeep Khosla. Mayo Clinic, United states
Disclosures: Shreyasee Amin, None

MO0222 **Association of Albuminuria with Risk of Incident Fracture and Rate of Hip Bone Loss: the Osteoporotic Fractures in Men (MrOS) Study**
Howard Fink*[1], Tien Vo[2], Lisa Langsetmo[2], Joshua Barzilay[3], Areef Ishani[1], Jane Cauley[4], John Schousboe[5], Nancy Lane[6], Eric Orwoll[7], Yelena Slinin[1], Kristine Ensrud[1]. [1]Veterans Affairs Health Care System, United states, [2]Division of Epidemiology, University of Minnesota School of Public Health, United states, [3]Kaiser Permanente, United states, [4]University of Pittsburgh, United states, [5]Park Nicollet Clinic, United states, [6]University of California, Davis, United states, [7]Oregon Health Sciences University, United states
Disclosures: Howard Fink, None

MO0223 **Characteristics of patients at high one-year fracture risk**
Akeem Yusuf*[1], Yan Hu[1], David Chandler[2], Barry Crittenden[2], Richard Barron[2]. [1]Chronic Disease Research Group, United states, [2]Amgen Inc., United states
Disclosures: Akeem Yusuf, None

MO0224 **Epidemiology and Time Trends of Distal Forearm Fractures in Adults - A Study of 11.2 Million Person-years in Skåne County, Sweden**
Bjorn Rosengren*[1], Daniel Jerrhag[1], Bo Abrahamsen[2], Magnus Karlsson[1]. [1]Clinical & Molecular Osteoporosis Research Unit, Departments of Clinical Sciences & Orthopedics, Malmö, Skåne University Hospital, Lund University, Sweden, [2]Odense Patient Data Explorative Network, Institute of Clinical Research, University of Southern Denmark, Odense, Denmark
Disclosures: Bjorn Rosengren, None

MO0225 **The Rationale for Using a Composite Score when Designing Future Randomized Controlled Trials in the Post-menopausal Osteoporosis Population: A Systematic Review**
Arthur Lau*[1], Herman Bami[2], Alexandra Papaioannou[3], Jonathan Adachi[1]. [1]Division of Rheumatology, Department of Medicine, McMaster University, Canada, [2]McMaster University, Canada, [3]Division of Geriatrics, Department of Medicine, McMaster University, Canada
Disclosures: Arthur Lau, Eli Lilly, 14; Amgen, 15

OSTEOPOROSIS - EPIDEMIOLOGY: MENOPAUSE AND SEX HORMONES

MO0226 **Hormone Replacement Therapy has Favorable Effects on Bone Microarchitecture, Bone Mineral Density and Body fat Mass that Persist after his Withdrawal, without Affecting Lean Mass: the OsteoLaus Cohort**
Gergios Papadakis*[1], Didier Hans[2], Elena Gonzalez-Rodriguez[1], peter vollenweider[1], Martin Preisig[3], Gerard Waeber[1], Pedro-Manuel Marques-Vidal[1], Olivier Lamy[1]. [1]internal medicine department, Switzerland, [2]Bone Unit, Switzerland, [3]psychiatry department, Switzerland
Disclosures: Gergios Papadakis, None

MO0227 **Abdominal aortic calcification identified on images from bone densitometers and long-term cardiovascular outcomes in elderly women**

Joshua Lewis*[1], John Schousboe[2], Wai Lim[3], Germaine Wong[1], Kevin Wilson[4], Douglas Kiel[5], Richard Prince[3]. [1]Centre for Kidney Research, Children's Hospital at Westmead School of Public Health, Sydney Medical School, The University of Sydney, Australia, [2]Park Nicollet Osteoporosis Center & Institute for Research & Education, Minneapolis, Division of Health Policy & Management, University of Minnesota, United states, [3]University of Western Australia School of Medicine & Pharmacology, Sir Charles Gairdner Hospital Unit, Australia, [4]Skeletal Health, Hologic, Inc., United states, [5]Institute for Aging Research, Hebrew SeniorLife, Beth Israel Deaconess Medical Center, Harvard Medical School, United states

Disclosures: Joshua Lewis, None

MO0228 **Chronic hyponatremia and association with osteoporosis in a large ethnically-diverse population**

Annette Adams*[1], Bonnie Li[1], Shirin Sundar[2], Holly Krasa[2], Joseph Chiodo[2], Siddhesh Kamat[2], John Sim[1]. [1]Kaiser Permanente Southern California, United states, [2]Otsuka Pharmaceutical Development & Commercialization, Inc, United states

Disclosures: Annette Adams, Amgen Inc, 13; Otsuka, 13; Merck, 13

MO0229 **Correlates of Osteoporotic Fractures Among Type 2 Diabetic Patients**

Inbal Goldshtein*[1], Julie Chandler[2], Ann DePapp[2], Sophia Ish–Shalom[3], Gabriel Chodick[1], Allison, martin Nguyen[2]. [1]Maccabi Healthcare Services, Israel, [2]Merck, research laboratories, United states, [3]Elisha hospital, haifa, Israel

Disclosures: Inbal Goldshtein, None

MO0230 **Determinants of fracture risk among older men with diabetes**

Richard Lee*, Richard Sloane, Carl Pieper, Cathleen Colon-Emeric. Duke University, United states

Disclosures: Richard Lee, None

MO0231 **High Incidence of Fractures in Older Cancer Patients are associated with Vitamin D Insufficiency**

Xiaotao Zhang[1], Sun Ming[2], Nizar Bhulani[1], Meghan Karuthuri[3], Peter Khalil[1], Gabriel Hortobagyi[3], Debasish Tripathy[3], Vicente Valero[3], Carlos Barcenas[3], Colin Dinney[4], Jay Shah[4], John Stroehlein[5], Holly Holmes[6], Beatrice Edwards*[7]. [1]Department of General Internal Medicine, MD Anderson Cancer Center, United states, [2]MD Anderson Cancer Center, United states, [3]Department of Breast Medical Oncology, MD Anderson Cancer Center, United states, [4]Department of Urology, MD Anderson Cancer Center, United states, [5]Department of Gastroenterology, MD Anderson Cancer Center, United states, [6]Department of Internal Medicine, University of Texas Health Science Center, United states, [7]Department of General Internal Medicine, MD Anderson Cancer Center, United states

Disclosures: Beatrice Edwards, None

MO0232 **Predictors of Imminent Risk of Non-Vertebral Fracture in Older Women: The Framingham Osteoporosis Study**

Marian Hannan*[1], Derek Weycker[2], Robert McLean[1], Shivani Sahni[1], Thomas Travison[1], Rebecca Bornheimer[2], Alyssa Dufour[1], Rich Barron[3], Douglas Kiel[1]. [1]HSL Institute for Aging Research, United states, [2]Policy Analysis Inc. (PAI), United states, [3]Global Health Economics-Amgen, United states

Disclosures: Marian Hannan, Policy Analysis Inc, 13; Merck Sharp & Dohme research grant to institution, 13

MO0233 **Risk Factors and Time Interval of Fracture Cascade Among Patients with Osteoporosis in China**

Xinling Liu[1], Ke Wang[2], Yu Chen[2], Peita Graham-Clarke*[3], Jing Wu[4]. [1]Tianjin University, China, [2]Lilly Suzhou Pharmaceutical Company, China, [3]Eli Lilly Australia Pty Ltd, Australia, [4]School of Pharmaceutical Science & Technology Tianjin University, China

Disclosures: Peita Graham-Clarke, None

MO0234 **The Dynamic Nature of Frailty in Community Dwelling Men and Women across Canada: The Canadian Multicentre Osteoporosis Study (CaMos)**
George Ioannidis*[1], Olga Gajic-Veljanoski[1], Courtney Kennedy[1], Jonathan D. Adachi[2], Claudie Berger[3], Andy Kin On Wong[4], Kenneth Rockwood[5], Susan Kirkland[5], Parminder Raina[6], Lehana Thabane[6], Alexandra Papaioannou[1], The CaMos Research Group[3]. [1]McMaster University & Hamilton Health Sciences – St. Peter's Hospital – GERAS Centre, Canada, [2]McMaster University & Hamilton Health Sciences – St. Joseph's Hospital, Canada, [3]Camos – McGill University, Canada, [4]McMaster University & University Health Network, Canada, [5]Dalhousie University, Canada, [6]McMaster University, Canada
Disclosures: George Ioannidis, None

MO0235 **The Effect of Latitude on the Risk of Hip Fractures in Chile**
Pablo Riedemann*[1], Luis Bustos[1], Oscar Neira[2], Eugene McCloskey[3], Helena Johansson[4], Daniela Riedemann[1], John Kanis[5]. [1]Universidad de la Frontera, Chile, [2]Clinica Alemana, Chile, [3]Centre for Metabolic Bone Diseases, University of Sheffield, United Kingdom, [4]Centre for Metabolic Bone Diseases, United Kingdom, [5]Centre for Metabolic Bone Disease, United Kingdom
Disclosures: Pablo Riedemann, None

OSTEOPOROSIS - HEALTH CARE DELIVERY: GENERAL

MO0236 **Determinants of Osteoporosis Screening in Men**
Cathleen Colon-Emeric*[1], Joanne LaFleur[2], Kenneth Lyles[1], Robert Adler[3], Courtney VanHoutven[4], Carl Pieper[1]. [1]Duke University, United states, [2]University of Utah, United states, [3]Richmond VAMC, United states, [4]Durham VAMC, United states
Disclosures: Cathleen Colon-Emeric, None

MO0237 **Gastrointestinal Events and Association with Adherence to Osteoporosis Medication Among Postmenopausal Osteoporotic Patients: 3 Month Observations from the Medication Use Patterns, Treatment Satisfaction, and Inadequate Control of Osteoporosis Study in Asia Pacific (MUSIC-OS-AP)**
Ankita Modi[1], Peter Ebeling[2], Mel Lee[3], Yong-Ki Min[4], Ambrish Mithal[5], Xiaoqin Yang*[1], Santwona Baidya[6], Shuvayu Sen[1], Shiva Sajjan[1]. [1]Merck & Co., Inc., United states, [2]Monash University, Australia, [3]Kaohsiung Chang Gung Memorial Hospital, Taiwan, province of china, [4]Samsung Medical Center, Korea, republic of, [5]Medanta the Medicity, India, [6]Optum, Australia
Disclosures: Xiaoqin Yang, Merck & Co., Inc., 17

MO0238 **General Practitioners' Views on Osteoporosis Management and Their Views on FRAX: A Qualitative Study**
Päivi Piispanen[1], Eva Toth-Pal[2], Helena Salminen*[3]. [1]Academic Healthcare Centre, Sweden, [2]Department of Neurobiology, Care Sciences & Society, Sweden, [3]Department of Neurobiology, Care Sciences & Society, Karolinska Institutet, Sweden
Disclosures: Helena Salminen, None

MO0239 **Impact of Hip Fracture on Health-Related Quality of Life at Hospital Admission and Up to 4 Months Follow-Up: the SPARE-HIP Prospective Cohort**

Daniel Prieto-Alhambra*[1], Ignacio Aguado-Maestro[2], Ignacio Andrés Cano[3], Mariano Barrés Carsi[4], Fátima Brañas Baztán[5], Manuel Francisco Bravo Bardají[6], José Ramón Caeiro Rey[7], Pedro Carpintero[8], Francisco Javier Carrillo[9], Ángel Castro Sauras[10], Iñigo Etxebarria-Foronda[11], Laura Ezquerra Herrando[12], Nuria Fernández González[13], Cristina Gallego Terres[14], Javier Marín Sánchez[15], Carlos Martín Hernández[16], Damián Mifsut Miedes[17], Sarah Mills Gañan[18], José Olmos Martínez[19], Ivan Perez-Coto[20], María Eugenia Portilla[21], Nazareth Quiroga Veiga[22], Mònica Salomó Domènech[23], Jordi Teixidor[24], Cristina Tejedor Carreño[25], Óscar Tendero Gómez[26], Óscar Torregrosa Suau[27], José Antonio Valverde García[28], Antonio Herrera[29], Adolf Díez-Pérez[30]. [1]NDORMS, University of Oxford, United Kingdom, [2]Department of Orthopaedic Surgery, Hospital Universitario del Río Hortega, Spain, [3]Orthopaedic Surgey, Traumatology & Rheumatology Department, Hospital Puerta del Mar, Spain, [4]Orthopaedic Surgey & Traumatology Unit, Hospital Universitario y Politécnico La Fe de Valencia, Spain, [5]Geriatric & Internal Medicine Department, Infanta Leonor University Hospital, Spain, [6]Department of Orthopaedic Surgery, Hospital Regional Universitario Carlos Haya, Spain, [7]Department of Orthopaedic Surgery, Complejo Hospitalario Universitario de Santiago de Compostela, Spain, [8]Hospital Universitario Reina Sofía, Spain, [9]Orthogeriatric Unit, Hospital Virgen de la Arrixaca, Spain, [10]Department of Geriatrics, Orthogeriatric Unit, Hospital Obispo Polanco, Spain, [11]Department of Orthopaedic Surgery, Alto Deba Hospital, Spain, [12]Orthopaedic Surgery & Traumatology Service, Hospital Clínico Universitario de Zaragoza, Spain, [13]Geriatric Medicine Department, Hospital Universitario de Getafe, Spain, [14]Orthopaedics & Traumatology Departament, Hospital Lluís Alcanyís, Spain, [15]Orthopaedic Surgey & Traumatology Service, Hospital Virgen del Puerto, Spain, [16]Orthopaedic Surgery & Traumatology Service, Hospital Universitario Miguel Servet, Spain, [17]Hospital Clínico de Valencia, Spain, [18]Department of Orthopaedic Surgery, Hospital Universitario La Paz, Spain, [19]Internal Medicine Service, RETICEF, IDIVAL, Universidad de Cantanbria, Spain, [20]Department of Orthopaedic Surgery, Hospital Universitario San Agustin, Spain, [21]Geriatric Medicine Department, Hospital Universitario San Carlos, Spain, [22]Department of Orthopaedic Surgery, Complejo Hospitalario Universitario de Pontevedra, Spain, [23]Orthopaedic Surgery & Traumatology Department, Hospital Universitario Parc Tauli, Spain, [24]Trauma Unit, Hospital Vall d Hebron Barcelona, Universitat Autónoma de Barcelona, Spain, [25]Orthopaedic Surgery & Traumatology Unit, Hospital San Pedro, Spain, [26]Department of Orthopaedic Surgery, Hospital Universitario Son Espases, Spain, [27]Bone Metabolism Unit, Internal Madicine Service, Hospital General Universitario de Elche, Spain, [28]Orthopaedic Surgery & Traumatology Department, Hospital Nuestra Señora de Sonsoles, Spain, [29]Department of Surgery, Medicine School, University of Zaragoza, Spain, [30]Department of Internal Medicine, Hospital del Mar-IMIM & Autonomous University of Barcelona, Spain

Disclosures: Daniel Prieto-Alhambra, Servier, 13; Amgen, 14

MO0240 **Structural Equation Modeling of Patients' Perception in Initiation of Osteoporosis Medication in Japan: An Analysis of Patient Survey Data**

Masayo Sato[1], Shuichi Kimura*[1], Bruce Crawford[2], Shigeto Yoshida[2], Keiko Wada[2], Xuelu Chen[2], Hajime Orimo[3]. [1]Eli Lilly Japan K.K., Japan, [2]IMS Japan K.K., Japan, [3]Tokyo Metropolitan Geriatric Hospital & Institute of Gerontology, Japan

Disclosures: Shuichi Kimura, Eli Lilly Japan K.K., 13

MO0241 **Temporal Trends Analysis of Post-fracture Management: A Population-based Study, 2000-2012**

Sonia Jean*[1], Philippe Gamache[1], Jacques P Brown[2], Louis Bessette[2], Suzanne N Morin[3]. [1]INSPQ, Canada, [2]University Laval, Canada, [3]McGill University, Canada

Disclosures: Sonia Jean, None

OSTEOPOROSIS - HEALTH CARE DELIVERY: HEALTH ECONOMICS

MO0242 **Fracture Liaision Service Return on Investment (cost off-set) Calculator**

David Lee*[1], Arnie Aldridge[2]. [1]National Bone Health Alliance, United states, [2]RTI, United states

Disclosures: David Lee, Amgen, 13

OSTEOPOROSIS - HEALTH CARE DELIVERY: OUTCOME STUDIES

MO0243 **Estimating the Long-Term Functional Burden of Osteoporosis-Related Fractures**
Andrew Mulcahy[1], Shira Fischer[1], Lionel Pinto*[2], Orla Hayden[1], Rich Barron[2]. [1]RAND Corporation, United states, [2]Amgen Inc., United states
Disclosures: Lionel Pinto, Amgen Inc, 13

MO0244 **The rate of self-reported gastrointestinal events among osteoporotic women: Month 12 Results of the Medication Use Patterns, Treatment Satisfaction and Inadequate Control of Osteoporosis Study (MUSIC-OS)**
Ankita Modi*[1], Shuvayu Sen[2], Jonathan Adachi[3], Silvano Adami[4], Bernard Cortet[5], Alun Cooper[6], Piet Geusens[7], Dan Mellström[8], Joop van den Bergh[9], Paul Keown[10], Jessica Weaver[2], Shiva Sajjan[2]. [1]Center for Observational & Real-World Evidence, Merck & Co., Inc., United states, [2]Center for Observational & Real-World Evidence, Merck & Co., Inc, United states, [3]St Joseph's Healthcare & McMaster University, Canada, [4]Department of Medicine, University of Verona, Italy, [5]Department of Rheumatology, University Hospital of Lille, France, [6]Bridge Medical Center, United Kingdom, [7]Department of Rheumatology, Maastricht University Medical Center, Netherlands, [8]Department of Internal Medicine & Geriatrics, Gothenburg University, Sweden, [9]Department of Rheumatology, Maastricht University Medical Center, Maastricht & Department of Internal Medicine, VieCuri Medical Center, Venlo, Netherlands, [10]Syreon Corporation, Canada
Disclosures: Ankita Modi, Employee of Merck and Co., Inc., 17

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: CALCIUM AND VITAMIN D

MO0245 **Cut-points for Associations Between Vitamin D Status and Multiple Musculoskeletal Outcomes in Middle-aged Women**
Feitong Wu*[1], Karen Wills[1], Laura Laslett[1], Brian Oldenburg[2], Markus Seibel[3], Graeme Jones[4], Tania Winzenberg[4]. [1]Menzies Institute for Medical Research, University of Tasmania, Hobart, Tasmania, Australia, Australia, [2]School of Population & Global Health, University of Melbourne, Australia, [3]Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia, [4]Menzies Institute for Medical Research, University of Tasmania, Australia
Disclosures: Feitong Wu, None

MO0246 **Influences of Dietary Vitamin D Restriction on Bone Strength, Body Composition, and Muscle in Rats Fed a High-fat Diet**
Yuno Oku*[1], Rieko Tanabe[1], Kanae Nakaoka[1], Asako Yamada[1], Seiko Noda[1], Ayumi Hoshino[1], Mayu Haraikawa[2], Masae Goseki-Sone[1]. [1]Japan Women's University, Japan, [2]Seitoku University, Japan
Disclosures: Yuno Oku, None

MO0247 **Milk and alternatives intervention and bone mineral acquisition in 14 to 18 y postmenarcheal girls: Preliminary results at 12 months from a 2-year randomized controlled trial**
May Slim*[1], Catherine Vanstone[1], Suzanne Morin[2], Elham Rahme[1], Hope Weiler[1]. [1]McGill University, Canada, [2]McGill University Health Center, Canada
Disclosures: May Slim, None

MO0248 **Optimal vitamin D status and its relationship with bone and mineral metabolism in Hong Kong Chinese**
Raymond YH LEUNG[1], Bernard MY CHEUNG[1], Uyen-Sa Nguyen[2], Annie WC KUNG[1], Kathryn CB Tan[1], Ching-Lung CHEUNG*[1]. [1]The University of Hong Kong, Hong kong, [2]University of Massachusetts Medical School, United states
Disclosures: Ching-Lung CHEUNG, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: EXERCISE

MO0249 **Bone mineral accrual during puberty and its association with serum levels of growth hormone and insulin-growth factor I in vocational ballet dancers**
Tânia Amorim*[1], José Maia[2], George S. Metsios[1], Andreas D. Flouris[3], Matthew Wyon[1], José Carlos Machado[2], Franklim Marques[2], Nuno Adubeiro[4], Luísa Nogueira[4], Yiannis Koutedakis[3]. [1]University of Wolverhampton, United Kingdom, [2]University of Porto, Portugal, [3]University of Thessaly, Greece, [4]Polytechnic Institute of Porto, Portugal
Disclosures: Tânia Amorim, None

MO0250 **Can Exercise Protect Against the Age-associated Declines in Vertebral Height? The ProAct65+ Bone Study**

Rachel L Duckham*[1], Tahir Masud[2], Rachael Taylor[3], Denise Kendrick[4], Hannah Carpenter[4], Dawn A Skelton[5], Susie Dinan-Young[6], Steve Iliffe[4], Richard Morris[7], Hayley Ladd[8], Katherine Brooke-Wavell[8]. [1]Institute for Physical Activity & Nutrition Research, Deakin University, Australia, [2]Healthcare for Older People, Nottingham University Hospitals NHS Trust, United Kingdom, [3]Healthcare for Older People, Nottingham University Hospitals NHS Trust, United Kingdom, [4]School of Medicine, University of Nottingham, United Kingdom, [5]School of Health & Life Sciences, United Kingdom, [6]Department of Primary Care & Population Health, University College London, United Kingdom, [7]School of Social & Community Medicine, University of Bristol, United Kingdom, [8]School of Sport, Exercise & Health Sciences, Loughborough University, United Kingdom

Disclosures: Rachel L Duckham, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: GENERAL

MO0251 **The effects of dried plum supplementation on bone mRNA expression levels of Dkk-1, Sclerostin, β-catenin, Runx2, and Cx43 in ovariectomized rat model of osteoporosis**

Lama Almaiman*[1], Bahram Arjmandi[2], Shirin Hooshmand[1]. [1]San Diego State University, United states, [2]Florida State University, United states

Disclosures: Lama Almaiman, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: INTERACTIONS

MO0252 **A 5% Increase in Trabecular (Spine) Bone Density Occurs in the First six Months After Weaning (Factors Affecting Bone Formation After Breastfeeding Pilot Study [FABB-Pilot])**

Sandra Cooke-Hubley*[1], Beth J. Kirby[1], Chrissy Wells[1], Gerry Mugford[1], James Valcour[1], Jonathan D. Adachi[2], Christopher S. Kovacs[1]. [1]Memorial University, Canada, [2]McMaster University, Canada

Disclosures: Sandra Cooke-Hubley, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: OTHER NUTRIENTS

MO0253 **Effect of 12-week Tocotrienol Supplementation on Bone Biomarkers, Safety, and Quality of Life in Postmenopausal Osteopenic Women: A Randomized Double-blinded Placebo-controlled Study**

Chwan-Li Shen*[1], Shengping Yang[1], Michael Tomison[1], Amanda Romero[1], Carol Felton[1], Peishuan Tsai[1], Barbara Pence[1], Huanbiao Mo[2]. [1]Texas Tech University Health Sciences Center, United states, [2]Georgia State University, United states

Disclosures: Chwan-Li Shen, None

MO0254 **Higher total vitamin C intake is not associated with higher grip strength in adults: The Framingham Offspring Study**

Shivani Sahni*[1], Paul F. Jacques[2], Alyssa B. Dufour[1], Douglas P. Kiel[3], Robert R. McLean[1], Marian T. Hannan[1]. [1]Institute for Aging Research, HSL, Harvard Medical School, United states, [2]Jean Mayer USDA HNRCA, Tufts University School of Nutrition, United states, [3]Institute for Aging Research, HSL, Harvard Medical School, United states

Disclosures: Shivani Sahni, General Mills Bell Institute for Health and Nutrition, 13; PAI Inc., 13

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE MODELING AND REMODELING

MO0255 **Characterizing the osteoanabolic epigenome of aging-related bone loss in humans**

Matthias Ring[1], Hiroaki Saito[1], Hanna Taipaleenmäki[1], Zeynab Najafova[2], Katharina Jähn[1], Andreas Gasser[1], Carl Haasper[3], Roland Gessler[1], Thorsten Gehrke[3], Steven Johnsen[2], Eric Hesse*[1]. [1]Department of Trauma, Hand & Reconstructive Surgery, University Medical Center Hamburg-Eppendorf, Germany, [2]Clinic for General, Visceral & Pediatric Surgery, University Medical Center Göttingen, Germany, [3]HELIOS ENDO Clinic, Germany

Disclosures: Eric Hesse, None

MO0256 **Repair of Bone Defects in Bisphosphonate-treated Osteoporotic Mice**
Michel Hauser*[1], Mark Siegrist[2], Silvia Dolder[1], Willy Hofstetter[1]. [1]Group of Bone Biology & Ortopaedic Research / University of Bern, Switzerland, [2]Group of Bone Biology & Ortopaedic Research /university of Bern, Switzerland
Disclosures: Michel Hauser, None

MO0257 **The balance between bone resorption and formation during intracortical osteonal bone remodeling: a study of transiliac bone biopsies from women**
Christina Møller Andreasen*[1], Jean-Marie Delaisse[2], Bram C. J. van der Eerden[3], Dorie Birkenhäger-Frenkel[4], Johannes P. T. M. van Leeuwen[4], Ming Ding[1], Thomas Levin Andersen[2]. [1]Orthopaedic Research Laboratory, Department of Orthopaedic Surgery & Traumatology, Odense University Hospital, Institute of Clinical Research, University of Southern Denmark, Denmark, [2]Department of Clinical Cell Biology, Vejle Hospital/ Lillebaelt Hospital, Institute of Regional Health Research, University of Southern Denmark, Denmark, [3]Laboratory for Calcium & Bone Metabolism, Department of Internal Medicine, Erasmus MC, Denmark, [4]Laboratory for Calcium & Bone Metabolism, Department of Internal Medicine, Erasmus MC, Rotterdam, Denmark
Disclosures: Christina Møller Andreasen, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GENERAL

MO0258 **Administration of B-blocker (propranolol) to ovariectomized mouse insignificantly prevents decrease of bone formation in spite of increase in *neuropeptide Y mRNA* expression in hypothalamus**
Shinya Tanaka*[1], Takuto Tsuchiya[2], Akinori Sakai[3], Hiromi Oda[1]. [1]Department of orthopaedics, Saitama medical university, Japan, [2]Department of Environmental health, University of occupational & environmental health, Japan, Japan, [3]Department of orthopaedics, University of occupational environmental health, Japan, Japan
Disclosures: Shinya Tanaka, None

MO0259 **Allogeneic Hematopoietic Stem Cell Transplant (alloHSCT) is Associated With Rapid Loss of Bone Mineral Density and Fat Mass**
Mohammed Almohaya*[1], Raewyn Broady[1], Alina Gerrie[1], Pamela Plantinga[2], Qun Yang[3], David Kendler[1]. [1]University of British Columbia, Canada, [2]Simon Fraser University, Canada, [3]ProHealth Clinical Research Centre, Canada
Disclosures: Mohammed Almohaya, None

MO0260 **Can Golden Syrian Hamsters Serve as a Model for Ovarian Hormone Deficiency-Induced Bone Loss?**
Negin Navaei*[1], Shirin Pourafshar[2], Neda Akhavan[3], Elizabeth Foley[3], Kelli George[3], Bahram Ajrmandi[3]. [1]Florida State University; Center for Advancing Exercise & Nutrition Research on Aging (CAENRA), College of Human Sciences, Florida State University, Tallahassee, FL, United states, [2]Florida State University, Tallahassee, Florida; Center for Advancing Exercise & Nutrition Research on Aging (CAENRA), College of Human Sciences, Florida State University, Tallahassee, FL, United states, [3]Florida State University; Center for Advancing Exercise & Nutrition Research on Aging (CAENRA), College of Human Sciences, Florida State University, Tallahassee, FL, United states
Disclosures: Negin Navaei, None

MO0261 **Endotoxin and bone turnover markers in postmenopausal Saudis with and without osteoporosis**
Ibrahim Aziz, Nasser Al-Daghri*, Majed Alokail, Sobhy Yakout. King Saud University, Saudi arabia
Disclosures: Nasser Al-Daghri, None

MO0262 **Establishing an early bone development model for osteoporosis-related genes in zebrafish (*D. rerio*)**
Chen Shochat Carvalho[1], Ram Harari*[1], David Karasik[2]. [1]Faculty of Medicine in the Galilee, Bar Ilan University, Israel, [2]Faculty of Medicine in the Galilee, Bar Ilan University, Israel
Disclosures: Ram Harari, None

MO0263 **Pharmacological Inhibition of ATP Release Through Pannexin-1 Channels Increases Bone Mass and Reduces Bone Resorption in Aging Mice**
Rafael Pacheco-Costa*[1], Emily Atkinson[1], Hannah Davis[1], Innocent Byiringiro[1], Roger Thompson[2], Teresita Bellido[1], Lilian Plotkin[1]. [1]Indiana University School of Medicine, United states, [2]Hotchkiss Brain Institute, Department of Cell Biology & Anatomy, University of Calgary, Canada
Disclosures: Rafael Pacheco-Costa, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GLUCOCORTICOIDS AND OTHER DRUGS

MO0264 **Profile of a novel nonsteroidal glucocorticoid receptor modulator in preclinical and clinical studies: The case for improving translational correlation**
Yanfei Ma*, Henry Bryant, Matthew Carson, Xiaoping Ruan, Christine Cheng, Mary D. Adrian, Charzad Montrose-Rafizadeh, Richard Zink, Michael J. Coghlan. Eli Lilly Company, United states
Disclosures: Yanfei Ma, Eli Lilly Company, 17

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: DIABETES

MO0265 **Glycemic Control, Familiarity and Disease Duration Are Associated With Multiple Fragility Fractures In Type 1 Diabetes**
Giulia Leanza*[1], Dario Pitocco[2], Ernesto Maddaloni[1], Luna Zanoboni[1], Rocky Strollo[1], Silvia Manfrini[1], Paolo Pozzilli[1], Ann Schwartz[3], Andrea Palermo[1], Nicola Napoli[1]. [1]Campus Bio-Medico University of Rome, Italy, [2]Policlinico Gemelli, Italy, [3]UCSF School of Medicine, United states
Disclosures: Giulia Leanza, None

MO0266 **Type 1 Diabetes and Bone Microarchitecture Assessment with Trabecular Bone Score (TBS): A Descriptive Study**
Julie Gilmour*[1], Sandra Kim[2], Anita Colquhoun[2], Wei Wu[2]. [1]St.Michael's Hospital, Canada, [2]Women's College Hospital, Canada
Disclosures: Julie Gilmour, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: DRUGS, OTHER THAN GLUCOCORTICOIDS

MO0267 **Changes in Bone Mineral Density and Biochemical Markers of Bone Turnover in Postmenopausal Women with Breast Cancer Initiating Aromatase Inhibitor Therapy**
Vit Zikan*[1], Martina Zimovjanova[2], Dana Michalska[1], Maria Raskova[1], Lubos Petruzelka[2]. [1]Third Department of Medicine - Department of Endocrinology & Metabolism, First Faculty of Medicine, Charles University in Prague & General University Hospital in Prague, Czech Republic, Czech republic, [2]Department of Oncology, First Faculty of Medicine, Charles University in Prague & General University Hospital in Prague, Czech Republic, Czech republic
Disclosures: Vit Zikan, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: GLUCOCORTICOIDS

MO0268 **Effects of Once a Week Administration of the New Synthetic Product of 1-34 Teriparatide on Glucocorticoid-Induced Osteoporosis in Japanese Patients**
Ikuko Tanaka*[1], Mari Ushikubo[2], Misako Higashiba[2], Erika Takei[2], Keisuke Izumi[2], Kumiko Akiya[2], Shigenori Tamaki[1], Hisaji Oshima[2]. [1]Nagoya Rheumatology Clinic, Japan, [2]Tokyo Medical Center, Japan
Disclosures: Ikuko Tanaka, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: HIV

MO0269 **Bone Loss in HIV Infection: What's the B cell got to do with it?**
Kehmia Titanji*[1], Aswani Vunnava[2], Anandi AN Sheth[2], Cecile Delille Lahiri[2], Jeffrey L Lennox[2], Antonina Foster[2], Ighovwerha Ofotokun[2], M. Neale Weitzmann[3]. [1]Emory University School of Medicine, Department of Medicine, Division of Endocrinology, Metabolism & Lipids, United states, [2]Emory University School of Medicine, Department of Medicine, Division of Infectious Diseases, United states, [3]Emory University School of Medicine, Department of Medicine, Division of Endocrinology, Metabolism & Lipids & Atlanta VA Medical Center, United states
Disclosures: Kehmia Titanji, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: MOBILITY DISORDERS, DISUSE OSTEOPOROSIS

MO0270 **Effect Of Recent Spinal Cord Injury On The OPG/RANKL System And Its Relationship With Bone Loss And Antiosteoporotic Response To Denosumab Therapy**
Laia Gifre*[1], Joan Vidal[2], Silvia Ruiz-Gaspà[3], Enric Portell[2], Ana Monegal[1], Africa Muxi[4], Núria Guañabens[1], Pilar Peris[1]. [1]Rheumatology Department. Metabolic Bone Diseases Unit. Hospital Clinic of Barcelona, Spain, [2]Spinal Cord Unit. Neurorehabilitation Institute Guttmann, Badalona, Spain, [3]CIBERehd. Hospital Clínic of Barcelona, Spain, [4]Nuclear Medicine Department. Hospital Clínic of Barcelona, Spain
Disclosures: Laia Gifre, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: OTHER CONDITIONS OR DISEASES

MO0271 **Changes in gene and protein expression in osteoblastic cell line SCP1 after stimulation with adult crohns'disease patient serum**
Martina Blaschke[1], Regine Koepp[1], Marina Komrakova[2], Matthias Schieker[3], Heide Siggelkow*[4]. [1]Department of Gastroenterology & gastrointestinal Oncology, Germany, [2]Department of Trauma Surgery & Reconstructive Surgery, Germany, [3]Experimental Surgery & Regenerative Medicine, Germany, [4]Clinic of Gastroenterology & gastrointestinal Oncology, Germany
Disclosures: Heide Siggelkow, None

MO0272 **Comparative Study between "Minodronate with Eldecalcitol" and "Denosumab" as the Treatment after 2-Year Daily Teriparatide in Osteoporosis in Patients with Rheumatoid Arthritis – Results in 12 Months -**
Yuji Hirano*[1], Masaaki Isono[1], Takayasu Ito[2]. [1]Rheumatology, Toyohashi Municipal Hospital, Japan, [2]Ito Orthopaedic Clinic, Japan
Disclosures: Yuji Hirano, None

MO0273 **ASBMR 2016 Annual Meeting Young Investigator Award**
Continuous improvement of impaired trabecular bone microarchitecture after 3 years on gluten-free diet: A prospective longitudinal HR-pQCT study in women with celiac disease
María Belen Zanchetta*[1], Vanesa Carla Longobardi[1], Florencia Costa[1], Fernando Silveira[2], Cesar Bogado[1], Julio Cesar Bai[1], Jose Ruben Zanchetta[1]. [1]MD, Argentina, [2]Ph, Argentina
Disclosures: María Belen Zanchetta, None

MO0274 **Cortical Density Is Lower in Patients with Graves' Disease Compared to Healthy Controls**
Sofie Malmstroem*[1], Diana Grove-Laugesen[2], Eva Ebbehoej[1], Klavs Wûrgler Hansen[3], Torquil Watt[4], Lars Rejnmark[5]. [1]Department of Endocrinology & Internal Medicine, Aarhus University Hospital, Denmark, [2]Department of Endocrinology & Internal Medicine, Aarhus University Hospital, Denmark, [3]Medical Department, Regional Hospital Silkeborg, Denmark, [4]Department of Medical Endocrinology, Rigshospitalet, Denmark, [5]Department of Endocrinology & Internal Medicine, Denmark
Disclosures: Sofie Malmstroem, None

MO0275 **Denosumab is safe in organ transplant patients for management of osteoporosis**
Ejigayehu Abate*, Melody Beers. Mayo Clinic, United states
Disclosures: Ejigayehu Abate, None

MO0276 **Early and Sustained Changes in Bone Metabolism After Severe Burn Injury**
Gabriela Katharina Muschitz[1], Elisabeth Maurer[2], Roland Kocijan[3], Andreas Baierl[4], Alexandra Fochtmann[5], Judith Haschka[3], Heinrich Resch[3], Peter Pietschmann[6], Thomas Rath[5], Christian Muschitz*[3]. [1]Division of Plastic & Reconstructive Surgery, Medical University Vienna, Austria, [2]Department of Plastic, Reconstructive & Aesthetic Surgery, the Medical University Innsbruck, Innsbruck, Austria, [3]St. Vincent Hospital – Medical Department II - Academic Teaching Hospital of the Medical University of Vienna, Austria, [4]Department of Statistics & Operations Research, the University of Vienna, Oskar-Morgenstern-Platz 1, Austria, [5]Division of Plastic & Reconstructive Surgery, Department of Surgery, the, Austria, [6]Department of Pathophysiology & Allergy Research, Center for Pathophysiology, Infectiology & Immunology, the Medical University of Vienna, Austria
Disclosures: Christian Muschitz, None

MO0277 **Severe Deterioration of Cortical and Trabecular Bone Microarchitecture in Patients with Inflammatory Bowel Disease**
Judith Haschka*[1], Simon Hirschmann[2], Arnd Kleyer[1], Matthias Englbrecht[1], Francesca Faustini[1], David Simon[1], Camille Figueiredo[1], Louis Schuster[1], Christian Muschitz[3], Roland Kocijan[3], Heinrich Resch[3], Raja Atreya[2], Juergen Rech[1], Marcus Neurath[2], Georg Schett[1]. [1]University of Erlangen-Nuremberg, Department of Internal Medicine 3, Germany, [2]University of Erlangen-Nuremberg, Department of Internal Medicine 1, Germany, [3]VINFORCE Study Group, St. Vincent Hospital Vienna, Austria
Disclosures: Judith Haschka, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: SMOKING, ALCOHOL AND OTHER ENVIRONMENTAL FACTORS

MO0278 **Bone microarchitecture and circulating bone turnover markers in patients with liver cirrhosis caused by alcoholic and nonalcoholic steatohepatitis (ASH/NASH)**
Heinrich Resch*[1], Robert Wakolbinger[1], Gerd Bodlaj[1], Afrodite Zendeli[1], Peter Pietschmann[2], Christian Muschitz[1]. [1]St. Vincent Hospital – Medical Department II - VINFORCE Academic Teaching Hospital of the MUV, Stumpergasse 13, 1060 Vienna, Austria, [2]Department of Pathophysiology & Allergy Research, Center for Pathophysiology, Infectiology & Immunology, Medical University of Vienna. Währinger Gürtel 18-20, 1090 Vienna, Austria, Austria
Disclosures: Heinrich Resch, None

OSTEOPOROSIS - SECONDARY OSTEOPOROSIS: TRANSPLANTATION

MO0279 **Liver Transplantation and Bone Density**
Zlata Kmecova*[1], Lubomir Skladany[1], Juraj Svac[1], Juraj Payer[2]. [1]Faculty Hospital of F.D. Roosevelt, Banska Bystrica, Slovakia, [2]V. internal clinic of University Hospital, Bratislava, Slovakia
Disclosures: Zlata Kmecova, None

OSTEOPOROSIS - TREATMENT: ANABOLIC AGENTS

MO0280 **Abaloparatide-SC is an Effective Treatment Option for Postmenopausal Osteoporosis: Review of the Number Needed to Treat Compared with Teriparatide**
E. Michael Lewiecki*[1], Gary Hattersley[2], Gregory Williams[3], Ming-Yi Hu[3], Lorraine A Fitzpatrick[3], Jean-Yves Reginster[4]. [1]New Mexico Clinical Research & Osteoporosis, United states, [2]Radius Health, Inc., United states, [3]Radius Health, Inc, United states, [4]Department of Public Health Sciences, Epidemiology & Health Economics, Belgium
Disclosures: E. Michael Lewiecki, Radius Health, 14; Amgen, 14; Eli Lilly, 13; Amgen, 13; Eli Lilly, 14; Shire, 15; Merck, 13

MO0281 **Effect of investigational treatment abaloparatide-SC for prevention of major osteoporotic fracture or any fracture is independent of baseline fracture probability**
Ev McCloskey*[1], H Johansson[1], Nc Harvey[2], A Oden[1], H Jiang[3], S Modin[3], L Fitzpatrick[4], Ja Kanis[1]. [1]University of Sheffield, United Kingdom, [2]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [3]Radius Health Inc, United states, [4]Radius Health Inc, United Kingdom
Disclosures: Ev McCloskey, None

MO0282 **Effects of Teriparatide and Denosumab, Alone or Combined, on Circulating Sclerostin in Postmenopausal Women**
Joy Tsai*, Sherri-Ann Burnett-Bowie, Benjamin Leder. Massachusetts General Hospital, United states
Disclosures: Joy Tsai, None

MO0283 **Low-dose RANKL as a potential therapeutic for postmenopausal osteoporosis**
Anna Cline-Smith[1], Elena Shashkova[1], Jesse Gibbs[2], Deborah Novack[3], Rajeev Aurora*[1]. [1]Saint Louis University School of Medicine, United states, [2]Washington University School of Medicine, United states, [3]Washington University in Saint Louis, United states
Disclosures: Rajeev Aurora, None

MO0284 **The Efficacy of Parathyroid Hormone Analogues in Combination With Bisphosphonates for the Prevention of Osteoporotic Fractures. A Simulation Meta-Analysis of Randomized Controlled Trials**
Abdulhafez Selim[1], Sahar Ghoname*[2], Paula Karabelas[3]. [1]PCOM, United states, [2]Ain Shams University School of Medicine, Egypt, [3]AEBM, United states
Disclosures: Sahar Ghoname, None

OSTEOPOROSIS - TREATMENT: ANTIRESORPTIVE AGENTS

MO0285 **Acute Phase Reactions After Intravenous Infusion of Zoledronic Acid in Japanese Patients with Osteoporosis: Sub-analyses of the Phase III (ZONE) Study**
Satoshi Tanaka[1], Masataka Shiraki[2], Momoko Ohashi[1], Satoko Ueda*[1], Toshitaka Nakamura[3]. [1]Asahi Kasei Pharma Corporation, Japan, [2]Research Institute & Practice for Involutional Diseases, Japan, [3]Gotanda Rehabilitation Hospital, Japan
Disclosures: Satoko Ueda, Asahi Kasei Pharma, 17

MO0286 **Anti-resorptive activity of anti-hypertensive agent ACEi in older men**
Nahid Rianon*[1], BeJier Edwards[1], Phetsamong Nhonthachit[1], Amanda Messick[2], Robert Gagel[3], Scott M Smith[4]. [1]University of Texas Medical School at Houston, United states, [2]JES Tech, Houston, TX, United states, [3]University of Texas M. D. Anderson Cancer Center, United states, [4]NASA JSC, United states
Disclosures: Nahid Rianon, None

MO0287 **Early Changes in Bone Turnover Markers Predict Longer-Term Changes in Bone Mineral Density But Not Microstructure in Frail Elderly Women**
Mary Kotlarczyk*, Subashan Perera, Mary Anne Ferchak, David Nace, Neil Resnick, Susan Greenspan. University of Pittsburgh, United states
Disclosures: Mary Kotlarczyk, None

MO0288 **Effect of Denosumab Treatment on BMD as Assessed by DXA and QCT in Postmenopausal Osteoporosis With and Without Prior Bisphosphonates Treatment**
Koji Ishikawa*[1], Tomoaki Toyone[1], Tsuchiya Koki[1], Wakako Sakamoto[1], Takuma Kuroda[1], Hiroshi Ito[2], Takashi Nagai[2], Katsunori Inagaki[2]. [1]Department of Orthopaedic Surgery, Showa University School of Medicine, 1-5-8 Hatanodai, Shinagawa-ku, Tokyo 142-8666, Japan, Japan, [2]Department of Orthopaedic Surgery, Showa University School of Medicine, Japan
Disclosures: Koji Ishikawa, None

MO0289 **Identifying Incomplete Atypical Femoral Fractures with Single-Energy Absorptiometry Femur Exam: Declining Prevalence**
Malachi McKenna*[1], Fergus McKiernan[2], Bernie McGowan[3], Carmel Silke[3], Kathleen Bennett[4], Susan van der Kamp[1], Paul Ward[5], Conor Hurson[5], Eric Heffernan[5]. [1]St. Vincent's University Hospital, Ireland, [2]Marshfield Clinic Research Foundation, United states, [3]The North Western Rheumatology Unit, Our Lady's Hospital, Ireland, [4]Division of Population & Health Sciences, Royal College of Surgeons in Ireland, Ireland, [5]St. Vincent's University Hospital, Ireland
Disclosures: Malachi McKenna, None

MO0290 **iPTH Elevation after Denosumab Use is not Associated with Anabolic Effect**
Se-Min Kim*, Mark O. Goodarzi, Stuart L. Silverman. Cedars-Sinai Medical Center, United states
Disclosures: Se-Min Kim, None

MO0291 **Offset of Effect of Oral Bisphosphonates on Bone in Postmenopausal Osteoporosis: the TRIO Study**
Kim Naylor[1], Margaret Paggiosi[1], Fatma Gossiel[1], Nicola Peel[2], Eugene McCloskey[1], Jennifer Walsh[1], Richard Eastell*[1]. [1]University of Sheffield, United Kingdom, [2]Sheffield Teaching Hospitals NHS Foundation Trust, United Kingdom
Disclosures: Richard Eastell, None

MO0292 **Significant Bone Loss After Stopping Denosumab Treatment**
Maria Belen Zanchetta*[1], Juan Boailchuk[2], Fabio Massari[1], Fernando Silveira[2], Cesar Bogado[1], Jose Ruben Zanchetta[1]. [1]IDIM, Universidad del Salvador, Argentina, [2]IDIM, Argentina
Disclosures: Maria Belen Zanchetta, None

OSTEOPOROSIS - TREATMENT: FRACTURE REPAIR

MO0293 **Radiological Follow-up Results of Cemented Vertebrae after Vertebroplasty**
Jin Hwan Kim*, Kyoung Hwan Koh, Jung Hoon Kim. Department of Orthopedic Surgery, Inje University, Ilsan Paik Hospital, Korea, republic of
Disclosures: Jin Hwan Kim, None

OSTEOPOROSIS - TREATMENT: OTHER AGENTS

MO0294 **Atypical Femur Fractures: A Survey of Current Practices in Orthopaedic Surgery**
Prism Schneider*[1], Michelle Wall[2], Jacques Brown[3], Angela Cheung[4], Edward Harvey[2], Suzanne Morin[2]. [1]University of Calgary, Canada, [2]McGill University, Canada, [3]University Laval, Canada, [4]University of Toronto, Canada
Disclosures: Prism Schneider, None

OSTEOPOROSIS - TREATMENT: QUALITY OF LIFE

MO0295 **Comparison of the Medium-term Outcome After the Treatment of Osteoporotic Insufficiency Fractures by Means of Balloon Sacroplasty (BSP) and Radiofrequency Sacroplasty (RFS) in Comparison: A Prospective Randomised Study**
Reimer Andresen*[1], Sebastian Radmer[2], Julian Ramin Andresen[3], Hans-Christof schober[4]. [1]Institute of Diagnostic & Interventional Radiology/Neuroradiology, WKK Heide, Germany, [2]Centre for Orthopaedics, Berlin, Germany, [3]Werner Heisenberg high school, Heide, Germany, [4]Department of Internal Medicine I, Municipal Hospital Suedstadt Rostock, Germany
Disclosures: Reimer Andresen, None

PARACRINE REGULATORS: BONE MORPHOGENETIC PROTEINS AND TRANSFORMING GROWTH FACTORS

MO0296 **Transcriptomic Analysis of Whole Bone Marrow Cultures Treated with Osteoinductive Agents: BMP-2 (bone morphogenetic protein 2) or TPO (thrombopoietin)**
Marta B. Alvarez*[1], Paul J. Childress[1], Nabarun Chakraborty[2], Duncan E. Donohue[2], Rasha Hammamieh[2], Todd O. McKinley[3], Melissa A. Kacena[3]. [1]Indiana University School of Medicine, United states, [2]US Army Center for Environmental Health Research, United states, [3]Indiana University School of Medicine, Department of Orthopaedic Surgery, United states
Disclosures: Marta B. Alvarez, None

PARACRINE REGULATORS: CYTOKINES AND IMMUNOMODULATORS

MO0297 **Necrotic Bone Stimulates Pro-inflammatory Responses in Macrophages Through the Activation of Toll-like receptor 4**
Naga Suresh Adapala*, Harry K.W. Kim, Ryosuke Yamaguchi, Matthew Phipps, Olumide Aruwajoye. Texas Scottish Rite Hospital for Children, United states
Disclosures: Naga Suresh Adapala, None

PARACRINE REGULATORS: PTHRP AND OTHER PARACRINE REGULATORS

MO0298 **Effect of targeted overexpression of Notch signaling in periosteal progenitor cells**
Emilie ROEDER*, Brya Matthews, Ivo Kalajzic. Uconn health, United states
Disclosures: Emilie ROEDER, None

MO0299 **The Anabolic Actions of PTH Are Mediated in Part through a Colony Stimulating Factor 1-Sphingosine-1-Phosphate Paracrine Loop**
Gang-Qing Yao*[1], Meiling Zhu[2], Ben-hua Sun[1], Joanne Walker[1], Karl Insogna[1]. [1]Yale University School of Medicine, United states, [2]Yale School, United states
Disclosures: Gang-Qing Yao, None

PARACRINE REGULATORS: WNT SIGNALING

MO0300 **Romosozumab Blocks the Binding of Sclerostin to the Two Key Wnt Signaling Co-receptors, LRP5 and LRP6, but not to LRP4**
Jianhua Gong, Jin Cao, Joanne Ho, Ching Chen, Chris Paszty*. Amgen Inc., United states
Disclosures: Chris Paszty, Amgen Inc., 17

PRECLINICAL MODELS – NUTRITION: GENERAL

MO0301 **A High-Fat Diet Induces Changes in the Bone Composition of Murine Humeri Independent of Total Body Bone Mineral Density**
Michael-John G. Beltejar*[1], Jun Zhang[2], Dana A. Godfrey[1], Michael J. Zuscik[1], Douglas Adams[3], Cheryl L. Ackert-Bicknell[1]. [1]Center for Musculoskeletal Research, University of Rochester Medical Center, United states, [2]Department of Orthopedics, Zhejiang Provincial People's Hospital, China, [3]Department of Orthopaedic Surgery, University of Connecticut Health, United states
Disclosures: Michael-John G. Beltejar, None

MO0302 **Positive Effects of Olive oil on Bone Morphometry and Biomechanics in Ovariectomized rat**
Manuel Díaz-Curiel*[1], Blanca Torrubia[2], Marta Martin-Fernandez[2], Angel Alberich-Bayarri[3], Concepcion De la Piedra[2]. [1]Instituto de Investigaciones Médicas Fundación Jiménez Díaz, Spain, [2]Biochemistry Research Instituto de Investigaciones Médicas Fundación Jiménez Díaz, Spain, [3]Biomedical Imaging Research Group (GIBI230), La Fe Polytechnics & University Hospital, La Fe Health Research Institute, Spain
Disclosures: Manuel Díaz-Curiel, None

PRECLINICAL MODELS – NUTRITION: MICRONUTRIENTS

MO0303 **Effect of Age and Dietary Phosphorus Intake on Intestinal Phosphorus Absorption in Male Rats**
Colby Vorland*, Pamela Lachcik, James Fleet, Kathleen Hill Gallant. Purdue University, United states
Disclosures: Colby Vorland, None

PRECLINICAL MODELS – PHARMACOLOGY: ANTIRESORPTIVES

MO0304 **Evaluation of Bone Turnover After Bisphosphonate Withdrawal and its Influence on Implant Osseointegration**
Rafael Scaf de Molon*[1], Fausto Frizzera[1], Mario Henrique Arruda Verzola[1], Gabriela Giro[2], Sotirios Tetradis[3], Silvana Regina Peres Orrico[1]. [1]Department of Diagnosis & Surgery, School of Dentistry at Araraquara, Sao Paulo State University, Brazil, [2]Department of Periodontology & Oral Implantology, Dental Research Division, Guarulhos University, Brazil, [3]Division of Diagnostic & Surgical Sciences, UCLA School of Dentistry, Los Angeles, United states
Disclosures: Rafael Scaf de Molon, None

MO0305 **Icaritin, a Prenylated Flavonoid, Mediates Proteasomal Degradation of TRAF6 thereby Suppressing Osteoclastogenesis and Preventing Ovariectomy-induced Bone Loss**
Ee Min Tan*[1], Lei Li[2], Nicholas Chew[3], Eu Leong Yong[4]. [1]National University of Singapore, Yong Loo Lin School of Medicine, Department of Obstetrics & Gynaecology, Singapore, [2]National University of Singapore, Yong Loo Lin School of Medicine, Singapore, [3]National University Health System, Department of Infectious Diseases, Singapore, [4]National University Health System, Department of Obstetrics &, Singapore
Disclosures: Ee Min Tan, None

PRECLINICAL MODELS – PHARMACOLOGY: BONE-FORMING AGENTS

MO0306 **Homing and Biodistribution of ALLOB®, an allogeneic osteoblastic cell therapy product**
Sandra Pietri*[1], Sabrina Ena[2], Enrico Bastianelli[1]. [1]Bone Therapeutics, Belgium, [2]skeletal cell therapy support, Belgium
Disclosures: Sandra Pietri, None

MO0307 **Investigation of the effect of sequential treatment with zoledronic acid followed by weekly parathyroid hormone or vice versa in ovariectomized rats**
Taku Shimizu*, Tomoya Tanaka, Teruki Kobayashi, Ikuyo Kudo, Aya Takakura, Ryoko Takao-Kawabata, Toshinori Ishizuya. Pharmaceuticals Research Center, Asahi Kasei Pharma Corporation, Japan
Disclosures: Taku Shimizu, Asahi Kasei Pharma Corporation, 17

MO0308 **Local Osteolytic Effect of BMP-2 in Sheep Lumbar Spinal Fusion**
Hsin Chuan Pan*[1], Soonchul Lee[2], Xinli Zhang[1], Jia Shen[1], Chencaho Wang[3], A. Simon Turner[4], Howard B. Seim[4], Janette N. Zara[5], Jin Hee Kwak[1], Kang Ting[1], Chia Soo[5]. [1]Division of Growth & Development & Section of Orthodontics, School of Dentistry, University of California, Los Angeles, United states, [2]Department of Orthopaedic Surgery, CHA Bundang Medical Center, CHA University, School of Medicine, United states, [3]Department of Plastic Surgery, The First Hospital of China Medical University, United states, [4]Department of Veterinary Sciences, Colorado State University, United states, [5]Department of Orthopaedic Surgery & the Orthopaedic Hospital Research Center, University of California, Los Angeles, Los Angeles, United states
Disclosures: Hsin Chuan Pan, None

MO0309 **Sclerostin Antibody Markedly Reverses the Severe Sublesional Bone Loss in Rats after Prolonged Spinal Cord Injury**
Wei Zhao*[1], Xiaodong Li[2], Yuanzhen Peng[1], Jianping Pan[1], Michael Ominsky[2], Jian Q. Feng[3], Hua Zhu Ke[4], Christopher Cardozo[1], William A. Bauman[1], Weiping Qin[5]. [1]James J. Peters VA Medical Center, United states, [2]Amgen Inc., United states, [3]Baylor College of Dentistry, TX A&M, United states, [4]UCB Pharma, United Kingdom, [5]James J. Peters VA Medical Center/Icahn School of Medicine at Mount Sinai, United states
Disclosures: Wei Zhao, None

PRECLINICAL MODELS – PHARMACOLOGY: OTHERS

MO0310 **An ^{18}F Analogue of Clodronate for PET Bone Imaging**
Charles McKenna*[1], Amirsoheil Negahbani[1], Boris Kashemirov[1], Hongsheng Li[2], Kai Chen[2]. [1]Department of Chemistry, University of Southern California, United states, [2]Molecular Imaging Center, Department of Radiology, University of Southern California, United states
Disclosures: Charles McKenna, None

MO0311 **Differential Response of Bone and Kidney to ACEI in db/db mice: A Potential Effect of Captopril on Accelerating Bone Loss**
Yan Zhang*[1], Man-Sau Wong[2], Qi Shi[1], Yong-Jun Wang[3]. [1]Spine Disease Research Institute, Longhua Hospital, Shanghai University of Traditional Chinese Medicine, China, [2]Department of Applied Biology & Chemical Technology, The Hong Kong Polytechnic University, China, [3]School of Rehabilitation Science, Shanghai University of Traditional Chinese Medicine, China
Disclosures: Yan Zhang, None

MO0312 **MGMR™: The Next Generation Carbon Nanotubes for Biomedical Applications**
Michaela Reagan*[1], Aaron Tasset[2], Heather Fairfield[1], Joe Dillon[2], Carolyne Falank[1]. [1]Maine Medical Center Research Institute, United states, [2]BioPact Ventures, United states
Disclosures: Michaela Reagan, BioPact LLC, 13

MO0313 **Prolonged Pharmacokinetic and Pharmacodynamic Actions of a Pegylated Parathyroid Hormone Peptide Fragment**
Jun Guo*, Ashok Khatri, Thomas Dean, Monica Reyes, Braden Corbin, John T. Potts, Jr., Harald Jüppner, Thomas J. Gardella. Endocrine Unit, Massachusetts General Hospital & Harvard Medical School, United states
Disclosures: Jun Guo, None

MO0314 **Selective Serotonin Reuptake Inhibitors (SSRIs) Impair bone mass accrual Through a Brain Serotonin/Sympathetic nervous system (SNS) pathway**
Maria Jose Ortuno*[1], Samuel Rombinson[1], Riccardo Paone[2], Yung-yu Huang[1], Edward Guo[1], John J. Mann[1], Patricia Ducy[1]. [1]Columbia University, United states, [2]University of L'Aquila, Italy
Disclosures: Maria Jose Ortuno, None

MO0315 **Selective Serotonin Reuptake Inhibitors Impair Fracture Healing**
Anna Josephson*, Vivian Bradaschia Correa, Devan Mehta, Philipp Leucht. New York University School of Medicine, United states
Disclosures: Anna Josephson, None

RARE BONE DISEASES: FIBROUS DYSPLASIA

MO0316 **Bone marrow failure and extramedullary hematopoiesis in fibrous dysplasia/McCune-Albright syndrome**
Cemre Robinson, MD*[1], Andrea Estrada, MD[2], David E. Kleiner, MD, PhD[3], Alison M. Boyce, MD[1], Revi Mathew, MD[4], Robert Stanton, MD[5], Haydar Frangoul, MD, MS[4], Edward Hsiao, MD, PhD[6], Michael T. Collins, MD[1]. [1]Section on Skeletal Diseases & Mineral Homeostasis, Craniofacial & Skeletal Diseases Branch, National Institute of Dental & Craniofacial Research, National Institutes of Health, Bethesda, MD, USA., United states, [2]Division of Endocrinology & Diabetes, Children's National Health System, Washington, D.C., United states, [3]National Cancer Institute, National Institutes of Health, Bethesda, MD, USA., United states, [4]The Children's Hospital at TriStar Centennial, Nashville, TN, USA., United states, [5]Nemours Children's Hospital, Orlando, Florida, USA., United states, [6]Endocrine Division, University of California San Francisco, San Francisco, CA, USA., United states
Disclosures: Cemre Robinson, MD, None

RARE BONE DISEASES: HYPOPHOSPHATASIA

MO0317 **Determination of the Minimal Clinically Important Difference in the Six-Minute Walk Test for Patients with Hypophosphatasia**
Ioannis Tomazos*, Scott Moseley, Eileen Sawyer, Uchenna Iloeje. Alexion Pharmaceuticals, Inc, United states
Disclosures: Ioannis Tomazos, Alexion Pharmaceuticals, Inc, 16; Alexion Pharmaceuticals, Inc, 17

MO0318 **Does Pyrophosphate Inhibit Bone Resorption?**
Aaron A Kwaasi[1], James E Dunford[2], Frank Hal Ebetino[3], R Graham G Russell*[4]. [1]The Botnar Research Centre, University of Oxford, UK, United Kingdom, [2]The Botnar Research Centre, University of Oxford, UK, United Kingdom, [3]Department of Chemistry, University of Rochester, USA, United states, [4]The Botnar Research Centre, University of Oxford, & The Mellanby Centre for Bone Research, University of Sheffield, United Kingdom
Disclosures: R Graham G Russell, None

RARE BONE DISEASES: HYPOPHOSPHATEMIC RICKETS

MO0319 **Clinical and Radiographic Characteristics of Adult X-linked Hypophosphatemia (XLH) in a Cohort of Patients Treated with KRN23, an Antibody to FGF23**
Mary Ruppe*[1], Munro Peacock[2], Tom Weber[3], Anthony Portale[4], Karl Insogna[5], Erik Imel[2], Diana Luca[6], Alison Skrinar[6], Matt Mealiffe[6], Javier San Martin[6], Thomas Carpenter[5]. [1]Houston Methodist Hospital, United states, [2]Indiana University School of Medicine, United states, [3]Duke University, United states, [4]University of California, San Francisco, United states, [5]Yale University School of Medicine, United states, [6]Ultragenyx Pharmaceutical Inc., United states
Disclosures: Mary Ruppe, None

MO0320 **Nuclear Isoforms of Fibroblast Growth Factor 2 Modulate Dentin Mineralization in HMWTg Mice**
Johnny Joseph*, Anushree Banerjee, Mina Mina, Patience Meo Burt, Erxia Du, Liping Xiao, Marja M Hurley. UConn Health, United states
Disclosures: Johnny Joseph, None

RARE BONE DISEASES: OSTEOGENESIS IMPERFECTA

MO0321 **Atypical Femur Fractures in Osteogenesis Imperfecta**

Pamela Trejo*, Francis Glorieux, Frank Rauch. Shriners Hospital for Children Canada, Canada

Disclosures: Pamela Trejo, None

MO0322 **Effect of Bisphosphonates on Bone Mineral Density and other Health Outcomes in Type 1 Osteogenesis Imperfecta**

Jaskaran Bains[1], Kate Citron[1], Erin Carter[1], David Cuthbertson[2], Jay Shapiro[3], Robert Steiner[4], Peter Smith[5], Michael Bober[6], Tracy Hart[7], Jeffery Krischer[2], Peter Byers[8], Francis Glorieux[9], Frank Rauch[9], Sandesh Nagamani[10], Vernon Sutton[11], Brendan Lee[10], Cathleen Raggio*[1]. [1]Hospital for Special Surgery, United states, [2]College of Medicine, University of South Florida, United states, [3]Kennedy Krieger Institute, United states, [4]Oregon Health & Science University, United states, [5]Shriners Hospital for Children, United states, [6]Alfred I. DuPont Hospital for Children, United states, [7]Osteogenesis Imperfecta Foundation, United states, [8]University of Washington, United states, [9]Shriners Hospital for Children & McGill University, Canada, [10]Baylor College of Medicine, United states, [11]Texas Children's Hospital, United states

Disclosures: Cathleen Raggio, None

MO0323 **Mortality and causes of death in patients with osteogenesis imperfecta. A register-based national cohort study**

Lars Folkestad*[1], Jannie Dahl Hald[2], Vladmimir Canudas-Romo[3], Jeppe Gram[4], Anne Pernille Hermann[5], Bente Langdahl[6], Bo Abrahamsen[7], Kim Brixen[8]. [1]Department of Endocrinology, Odense University Hospital, Denmark, [2]Department of Endocrinology & Internal medicine, Århus University Hospital, Denmark, [3]Max-Planck Odense Center on the Bioemography of aging, Denmark, [4]Hospital of Southwest Denmark, Denmark, [5]Department of Endocrinology, Odense Universityhospital, Denmark, [6]Aarhus University, Denmark, [7]Department of Medicine, Holbæk Hospital, Denmark, [8]Department of Clinical Research, University of Southern Denmark, Denmark

Disclosures: Lars Folkestad, AstraZeneca, 15; Genzyme, 15

MO0324 **Mutation in the Collagen-specific Molecular Chaperone Hsp47 Causes Endoplasmic Reticulum Stress in Osteoblast Cells of Osteogenesis imperfecta patients**

vandana Dhiman*[1], Sanjay Bhadada[1], Naresh Sachdeva[1], Amanjit Bal[1], Anuradha Chakraborti[1], Anil Bhansali[1], Nirmal Raj Gopinathan[1], D K Dhawan[2]. [1]PGIMER, Chandigarh, India, India, [2]Panjab University, India

Disclosures: vandana Dhiman, None

RARE BONE DISEASES: OTHER RARE BONE DISEASES

MO0325 ***PLS3*** **Sequencing in Childhood-onset Primary Osteoporosis Identifies Two Novel Mutations**

Anders J Kämpe*[1], Alice Costantini[1], Riikka E Mäkitie[2], Nina Jäntti[1], Helena Valta[3], Minna Pekkinen[2], Mervi Mäyränpää[4], Fulya Taylan[1], Hong Jiao[5], Outi Mäkitie[6]. [1]Department of Molecular Medicine & Surgery & Center for Molecular Medicine, Karolinska Institutet, Stockholm, Sweden, Sweden, [2]Folkhälsan Institute of Genetics & University of Helsinki, Helsinki, Finland, Finland, [3]Children's Hospital, University of Helsinki & Helsinki University Hospital, Helsinki, Finland, Finland, [4]Children's Hospital, University of Helsinki & Helsinki University Hospital, Helsinki, Finland, Sweden, [5]Department of Biosciences & Nutrition, & Science for Life Laboratory, Karolinska Institutet, Stockholm, Sweden, Sweden, [6]Department of Molecular Medicine & Surgery, Karolinska Institutet, Sweden; Folkhälsan Institute of Genetics & University of Helsinki, Helsinki, Finland; Children's Hospital, University of Helsinki & Helsinki University Hospital, Helsinki, Finland, Sweden

Disclosures: Anders J Kämpe, None

MO0326 **Activin A activates the ACVR1 (R206H) receptor in human primary dermal fibroblasts of fibrodysplasia ossificans progressiva patients**
Dimitra Micha[1], Marelise Eekhoff*[2], Coen Netelenbos[2], Vinitha kandiah[1], Teun de Vries[3], Gerard Pals[1], Nathalie Bravenboer[4]. [1]Department of Clinical Genetics, VU University Medical Center, Netherlands, [2]Internal Medicine, Endocrinology section, VU University Medical Center, Netherlands, [3]Department of Oral Cell Biology, ACTA, VU University, Netherlands, [4]Department of Clinical Chemistry, VU University Medical Center, MOVE Research Institute, Netherlands
Disclosures: Marelise Eekhoff, None

MO0327 **Bone Material Properties Assessment by Microindentation in Patients with Type 1 Gaucher's Disease**
Sabina Herrera*[1], Marc Molto[2], Roberto Guerri-Fernandez[3], Elena Cabezudo[1], Silvana Novelli[1], Jordi Esteve[1], Albert Hernandez[1], Inmaculada Roig[1], Xavier Solanich[1], Daniel Prieto-Alhambra[3], Xavier Nogues[3], Jordi Pérez-López[3], Adolfo Díez-Pérez[3]. [1]MD, Spain, [2]PhD, Spain, [3]MD, PhD, Spain
Disclosures: Sabina Herrera, None

MO0328 **Establishment of Tet-On C2C12 Cells Express ALK2 Responsible for Fibrodysplasia Ossificans Progressiva and Diffuse Intrinsic Pontine Glioma**
Takenobu Katagiri*, Satoshi Ohte, Sho Tsukamoto, Mai Kuratani, Aiko Machiya, Keigo Kumagai. Saitama Medical University, RCGM, Japan
Disclosures: Takenobu Katagiri, None

MO0329 **Impaired Chondrocyte Hypertrophic Differentiation Potential is Associated with Abnormal Glycosaminoglycan Accumulation in Mucopolysaccharidosis VII Dogs**
Sun Peck*[1], Jennifer Kang[1], Maurizio Pacifici[2], George Dodge[1], Neil Malhotra[1], Mark Haskins[1], Eileen Shore[1], Lachlan Smith[1]. [1]University of Pennsylvania, United states, [2]The Children's Hospital of Philadelphia, United states
Disclosures: Sun Peck, None

MO0330 **Paradigm Shift: Jaw Surgery in Selected Fibrodysplasia Ossificans Progressiva Patients Could Offer Better Quality of Life and Precede Drug Treatment Trial**
Coen Netelenbos*[1], Marelise Eekhoff[2], Pieter Raijmakers[1], Robert van Es[3]. [1]VUmc, Netherlands, [2]VUmc FOP Expert Center, Netherlands, [3]UMC, Netherlands
Disclosures: Coen Netelenbos, None

MO0331 **Whole Body Computed Tomography (CT) Versus Dual Energy x-ray Absorptiometry (DXA) Imaging for Assessing Heterotopic Ossification (HO) in Fibrodysplasia Ossificans Progressiva (FOP)**
Frederick S. Kaplan[1], Robert J. Pignolo[2], Stacy E. Smith[3], Sarah E. Warner[4], Edward C. Hsiao[5], Carmen De Cunto[6], Maja Di Rocca[7], Harry K. Genant[8], Donna R. Grogan*[9]. [1]The University of Pennsylvania, United states, [2]The University of Pennsylvania Perelman School of Medicine, United states, [3]Division of Musculoskeletal Imaging & Intervention, Dept. of Radiology, Brigham & Women's Hospital, Harvard Medical School, United states, [4]PAREXEL Medical Imaging, United states, [5]Division of Endocrinology & Metabolism, University of California, San Francisco, United states, [6]Department of Pediatrics/Hospital Italiano de Buenos Aires, Argentina, [7]Unit of Rare Diseases, Department of Pediatrics, Gaslini Institue, Italy, [8]UCSF/BioClinica, United states, [9]Clementia Pharmaceuticals Inc., United states
Disclosures: Donna R. Grogan, None

SARCOPENIA, MUSCLE AND FALLS: FALLS ASSESSMENT AND EPIDEMIOLOGY

MO0332 **BODY COMPOSITION IN A HELTHY POPULATION OF CURITTIBA, BRAZIL**
THAISA JONASSON*, TATIANA LEMOS COSTA, CAROLINA MOREIRA, CESAR BOGUSZEWSKI, VICTORIA BORBA. Endocrine Division (SEMPR) - Federal University of Paraná, Brazil
Disclosures: THAISA JONASSON, None

MO0333 **Prevalence of sarcopenia according to different consensus definitions in patients with a recent clinical fracture**

Caroline E Wyers*[1], Lisanne Vranken[1], Robert Y van der Velde[2], Piet P Geusens[3], Joop PW van de Bergh[4]. [1]Maastricht UMC+, Department of Internal Medicine; VieCuri Medical Center, Department of Internal Medicine, Netherlands, [2]VieCuri Medical Center, Department of Internal Medicine; Maastricht UMC+, Department of Internal Medicine, Netherlands, [3]Maastricht UMC+, Department of Internal Medicine subdivision of Rheumatology; University of Hasselt, Netherlands, [4]VieCuri Medical Center, Department of Internal Medicine; Maastricht UMC+, Department of Internal Medicine; University of Hasselt, Netherlands

Disclosures: Caroline E Wyers, None

SARCOPENIA, MUSCLE AND FALLS: GENERAL

MO0334 **Cross-sectional and Longitudinal Associations Between Skeletal Muscle Mass and Vitamin D Status in a Homogeneous Cohort of 65-year Old Subjects**

Andrea Trombetti*, Mélany Hars, Thierry Chevalley, Emmanuel Biver, René Rizzoli, Serge Ferrari. Division of Bone Diseases, Department of Internal Medicine Specialties, Geneva University Hospitals & Faculty of Medicine, Switzerland

Disclosures: Andrea Trombetti, None

MO0335 **Predicting impact force during a fall onto the outstretched hand using a single-spring-model**

James Johnston*[1], Chantal Kawalilak[1], Joel Lanovaz[2], Saija Kontulainen[2]. [1]Department of Mechanical Engineering, University of Saskatchewan, Canada, [2]College of Kinesiology, University of Saskatchewan, Canada

Disclosures: James Johnston, None

MO0336 **The Association Between Muscle Mass Deficits Estimated from Bioelectrical Impedance Analysis and Bone Mineral Density in Adults**

Hee-Jeong Choi*[1], Hye-Yoen Jang[1], Byeong-Yeon Yu[2], Hyeok-Jung Kown[3]. [1]Department of Family Medicine, Eulji University School of Medicine, Korea, republic of, [2]Department of Family Medicine, Konyang University School of Medicine, Korea, republic of, [3]Department of Family Medicine, Konkuk University School of Medicine, Korea, republic of

Disclosures: Hee-Jeong Choi, None

SARCOPENIA, MUSCLE AND FALLS: SARCOPENIA DEFINITION, ASSESSMENT AND EPIDEMIOLOGY

MO0337 **Characteristics of Regional Bone Mineral Density and Soft Tissue Composition in Japanese Elderly Women with Sarcopenia and Sarcopenic Obesity**

Shinjiro Takata*. Department of Orthopedics & Rehabilitation Medicine, Tokushima National Hospital, National Hospital Organization, Japan

Disclosures: Shinjiro Takata, None

MO0338 **FNIH SARCOPENIA CRITERIA IN COPD PATIENTS HAD BETTER CORRELATION WITH GAIT SPEED COMPARED TO FOUR DIFFERENT METHODS**

TATIANA LEMOS COSTA*[1], FABIO Marcelo Costa[2], THAISA JONASSON[1], CAROLINA MOREIRA[1], LEDA RABELO[3], CESAR BOGUSZEWSKI[1], VICTORIA BORBA[1]. [1]Endocrine Division (SEMPR) - Federal University of Paraná, Brazil, [2]DIVISION OF PNEUMOLOGY- FEDERAL UNIVERSITY OF PARANA, Brazil, [3]DIVISION OF PNEUMOLOLOGY- FEDERAL UNIVERSITY OF PARANA, Brazil

Disclosures: TATIANA LEMOS COSTA, None

MO0339 **Relationship of vitamin D with skeletal muscle volume, muscle strength, and physical performance**

Akiko Kuwabara*[1], Naoko Tsugawa[1], Misora Ao[2], Hiroko Takaoka[3], Kaoru Aoyama[3], Tetsuo Nakano[4], Kiyoshi Tanaka[2]. [1]Osaka Shoin Women's University, Japan, [2]Kyoto Women's University, Japan, [3]LifeIn Kyoto, Japan, [4]Tamana Central Hospital, Japan

Disclosures: Akiko Kuwabara, None

SKELETAL DEVELOPMENT: GROWTH AND DEVELOPMENT

MO0340 **Clinical Feasibility of Oral Administration of Meclozine for the Treatment of Short Stature in Achondroplasia**
Masaki Matsushita*[1], Hiroshi Kitoh[1], Kenichi Mishima[1], Naoki Ishiguro[1], Kinji Ohno[2]. [1]Department of Orthopaedic Surgery, Nagoya University Graduate School of Medicine, Japan, [2]Division of Neurogenetics, Center for Neurological Diseases & Cancer, Nagoya University Graduate School of Medicine, Japan
Disclosures: Masaki Matsushita, None

MO0341 **Direct Effects of Nicotine Exposure on Murine Calvaria**
Emily Durham*, R. Nicole Howie, Laurel Black, Graham Warren, Amanda LaRue, James Cray. MUSC, United states
Disclosures: Emily Durham, None

MO0342 **Epiphyseal versus Metaphyseal Trabecular Microarchitecture: Regional Ontogenetic Patterns in the Human Proximal Tibia**
Jesse Goliath*[1], James Gosman[1], Zachariah Hubbell[1], Timothy Ryan[2]. [1]Department of Anthropology, The Ohio State University, United states, [2]Department of Anthropology, Center for Quanitiative Imaging, Pennsylvania State University, United states
Disclosures: Jesse Goliath, None

MO0343 **Nell-1 Deficiency in Cranial Neural Crest Cells Results in Microcephalic Phenotype**
Mengliu Yu[1], Hsinchuan Pan[2], Justine Tanjaya[2], Chenshuang Li[2], Shen Jia[2], Eric Chen[2], Xiaoyan Chen[1], Huiming Wang[3], Kang Ting[2], Chia Soo[4], Xinli Zhang*[5]. [1]Section of Orthodontics, Division of Growthand DevelopmentSchool of Dentistry, University of California, Los Angeles; The Affiliated Stomatologic Hospital, Zhejiang University, United states, [2]Section of Orthodontics, Division of Growthand DevelopmentSchool of Dentistry, University of California, Los Angeles, United states, [3]The Affiliated Stomatologic Hospital, Zhejiang University, China, [4]Orthopaedic Hospital Research Center, University of California, Los Angeles, United states, [5]Section of Orthodontics, Division of Growth & DevelopmentSchool of Dentistry, University of California, Los Angeles, United states
Disclosures: Xinli Zhang, None

MO0344 **Perlecan/HSPG2: Novel Signaling Role in Early Chondrogenesis and Chondro-Osseous Boundary Formation**
Brian Grindel, Mary Farach-Carson, Jerahme Martinez*. Rice University, United states
Disclosures: Jerahme Martinez, None

MO0345 **Phosphate Deficiency Leads to a Phase Shift in Circadian Oscillation During Fracture Healing**
Takashi Noguchi*, Amira Hussein, Nina Horowitz, Deven Carroll, Louis Gerstenfeld. Department of Orthopedic Surgery, School of Medicine, Boston University, United states
Disclosures: Takashi Noguchi, None

LATE-BREAKING POSTERS III

12:30 pm - 2:30 pm **Georgia World Congress Center**

ASBMR Discovery Hall - Expo Hall A1

BIOMECHANICS AND BONE QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

LB-MO0346 **Both TBS and volumetric BMD are associated with pedicle screw pull-out strength: an ex-vivo feasibility study**
R Winzenrieth*[1], J Choisne[2], J-M Valiadis[2], P Le Nost[1], S Kolta[3], C Lelong[4], W Skalli[2]. [1]R&D department, Medimaps, France, [2]Institut de Biomecanique Huamine Georges Charpak, Arts et Metiers ParisTech, France, [3]CEMO, Cochin Hospital, AP-HP, France, [4]Medimaps, France
Disclosures: R Winzenrieth, Medimaps, 17

BONE TUMORS AND METASTASIS: BONE TUMOR MICROENVIRONMENT

LB-MO0347 Hematopoietic Stem Cell-derived Osteoblasts Enhance Tumorigenicity in the Osteosarcoma Microenvironment

Uday Baliga*, Inhong Kang, Ying Xiong, Shilpak Chatterjee, Meenal Mehrotra. Medical University of South Carolina, United states

Disclosures: Uday Baliga, None

ENERGY METABOLISM AND BONE: DIABETES AND BONE (ANIMAL MODELS)

LB-MO0348 Type 2 Diabetes Impairs Insulin-Stimulated Bone Blood Flow and Compromises Bone Biomechanical Properties in Hyperphagic OLETF Rats

Pam Hinton*, Laura Ortinau, Rebecca Dirkes, Matthew Richard, R. Scott Rector, T. Dylan Olver. University of Missouri, United states

Disclosures: Pam Hinton, None

ENERGY METABOLISM AND BONE: DIABETES AND BONE (ANIMAL MODELS)

LB-MO0349 Androgens Enhance the Adverse Metabolic Effects of Glucocorticoids

Sylvia Gasparini[1], Lee J. Thai[2], Marie C. Weber[3], Holger Henneicke[2], Sarah Kim[2], Hong Zhou[2], Markus J. Seibel*[4]. [1]The University of Sydney, Australia, [2]ANZAC Research Institute, Australia, [3]A, Australia, [4]University of Sydney, Australia

Disclosures: Markus J. Seibel, None

GENETIC MODELS OF MUSCULOSKELETAL DISEASES: ANIMAL MODELS

LB-MO0350 Genetic disruption of compensatory Wnt inhibitor expression reveals a context-dependent, highly osteo-anabolic role for Dkk1 inhibition in the skeleton

Phillip C. Witcher[1], Alison L. Adaniya[1], Emily N. Adaniya[1], Gabriela G. Loots[2], Alexander G. Robling*[1]. [1]Indiana University School of Medicine, United states, [2]Lawrence Livermore National Laboratory, United states

Disclosures: Alexander G. Robling, None

GENOMICS, TRANSCRIPTOMICS, PROTEOMICS AND METABOLOMICS OF MUSCULOSKELETAL DISEASE: GENETIC ASSOCIATION STUDIES

LB-MO0351 Prediction of Putative Causal Variants and Genes at BMD GWAS Loci

Basel Al-Barghouthi*[1], Charles Farber[2]. [1]Center for Public Health Genomics & Department of Biochemistry & Molecular Genetics, School of Medicine, University of Virginia, United states, [2]Center for Public Health Genomics & Departments of Public Health Sciences & Biochemistry & Molecular Genetics, School of Medicine, University of Virginia, United states

Disclosures: Basel Al-Barghouthi, None

MECHANOBIOLOGY: GENERAL

LB-MO0352 Feeding After Overnight Fast Enhances Bone's Response To Mechanical Loading In Mice

Hasmik J Samvelyan*[1], John C Mathers[2], Tim M Skerry[1]. [1]The Mellanby Centre for Bone Research, The MRC-Arthritis Research UK Centre for Integrated Research Into Musculoskeletal Ageing, Department of Oncology & Metabolism, The University of Sheffield, UK, United Kingdom, [2]Human Nutrition Research Centre, Institute of Cellular Medicine, Newcastle University, UK, United Kingdom

Disclosures: Hasmik J Samvelyan, None

MUSCULOSKELETAL PROGENITOR CELLS AND LINEAGE DETERMINATION: MULTI-LINEAGE

LB-MO0353 CyclinD1 regulates the balance between the osteogenic and chondrogenic differentiation of mesenchymal cells that constitutively express Nanog

Toru Ogasawara*, Jun-pei Imamura, Yasuyuki Fujii. The University of Tokyo, Japan

Disclosures: Toru Ogasawara, None

OSTEOARTHRITIS AND OTHER JOINT DISORDERS: GENERAL

LB-MO0354 Knee Osteoarthritis and Risk of Fall Injuries among Older Adults: the Health ABC Study
Kamil Barbour*[1], Robert Boudreau[2], Naoko Sagawa[2], Jane Cauley[2], Michael Nevitt[3], Tomoko Fujii[2], Kushang Patel[4], Elsa Strotmeyer[5]. [1]Arthritis Program, Division of Population Health, NCCDPHP, CDC, United states, [2]Department of Epidemiology, University of Pittsburgh, Pittsburgh, PA, USA, United states, [3]University of California, San Francisco, CA, USA, United states, [4]Center for Pain Research on Impact, Measurement, & Effectiveness, Department of Anesthesiology, & Pain Medicine, University of Washington, Seattle, USA., United states, [5]Department of Epidemiology, University of Pittsburgh, Pittsburgh, PA, USA, United states
Disclosures: Kamil Barbour, None

LB-MO0355 Arthritis prevalence, defined by self-report and symptomatology, according to age, sex and social disadvantage in six low and middle income countries: The World Health Organization Study on global AGEing and adult health (SAGE) Wave 1
Sharon Brennan-Olsen*[1], Selina Cook[1], Michelle Leech[2], Steve Bowe[1], Richard Page[1], Nirmala Naidoo[3], Paul Kowal[4], Julie Pasco[1], Sarah Hosking[1], Mohammadreza Mohebbi[1]. [1]Deakin University, Australia, [2]Monash University, Australia, [3]World Health Organization, Switzerland, [4]University of Newcastle, Australia
Disclosures: Sharon Brennan-Olsen, None

OSTEOBLASTS – MATRIX PROTEINS AND FUNCTION: HORMONAL AND LOCAL REGULATION

LB-MO0356 Dexamethasone-induced Poldip2 expression possibly recapitulating the osteoblast aging was suppressed by a longevity factor basic-FGF
Sakie Katsumura*[1], Yoichi Ezura[1], Kathy Griendling[2], Masaki Noda[3]. [1]Tokyo Medical & Dental University, Japan, [2]Emory Unuversity, United states, [3]Yokohama City Minato Red Cross Hospital, Japan
Disclosures: Sakie Katsumura, None

OSTEOCLASTS - FUNCTION: BONE RESORPTION MECHANISMS

LB-MO0357 Profilin1 Deficiency in Osteoclasts Causes Osteolytic Erlenmeyer-Flask Deformity of the Femurs Due to the Increased Migratory Potential
Jumpei Shirakawa[1], Yoichi Ezura*[2], Tadayoshi Hayata[3], Yayoi Izu[4], Ralph Botcher[5], Reinhard Fässler[5], Masaki Noda[6]. [1]School of Dental Medicine Tsurumi University, Japan, [2]Tokyo Medical & Dental University, Japan, [3]University of Tsukuba, Japan, [4]Chiba Institute of Science, Japan, [5]Max Planck Institute of Biochemistry, Germany, [6]Yokohama City Minato Red Cross Hospital, Japan
Disclosures: Yoichi Ezura, None

OSTEOPOROSIS - ASSESSMENT: BONE QUALITY

LB-MO0358 Baseline femoral neck width predicts inter-individual differences in structural and mass changes during the menopausal transition
Karl Jepsen*[1], Andrew Kozminski[1], Erin Bigelow[1], Stephen Schlecht[1], Robert Goulet[1], Sioban Harlow[1], Jane Cauley[2], Carrie Karvonen-Gutierrez[1]. [1]University of Michigan, United states, [2]University of Pittsburgh, United states
Disclosures: Karl Jepsen, None

LB-MO0359 Women with Type 2 Diabetes Have Lower Cortical Porosity than Women without Diabetes, and Higher Glucose is Associated with Reduced Cortical Porosity
Marit Osima*[1], Rita Kral[2], Ragnar Joakimsen[3], Erik F Eriksen[4], Åshild Bjørnerem[5]. [1]Department of Community Medicine, UiT The Arctic University of Norway, Norway, [2]Department of Medical Biology, UiT The Arctic University of Norway, Norway, [3]Department of Clinical Medicine, UiT The Arctic University of Norway, Norway, [4]Department of Clinical Endocrinology, Oslo University Hospital, Norway, [5]Department of Obstetrics & Gynaecology, University Hospital of North Norway, Norway
Disclosures: Marit Osima, None

OSTEOPOROSIS - EPIDEMIOLOGY: BONE MINERAL DENSITY

LB-MO0360 Genetic Profiling Predicts Bone Loss and Bone Mineral Density

Thao P. Ho-Le*[1], Hanh M. Pham[2], Jacqueline R. Center[3], John A. Eisman[4], Hung T. Nguyen[1], Tuan V. Nguyen[5]. [1]Centre for Health Technologies, University of Technology, Sydney, Australia, [2]Bone Biology Division, Garvan Institute of Medical Research, Australia, [3]Bone Biology Division, Garvan Institute of Medical Research; UNSW Medicine, UNSW Australia, Australia, [4]Bone Biology Division, Garvan Institute of Medical Research; UNSW Medicine, UNSW Australia; Notre Dame University School of Medicine, Sydney, Australia, [5]Centre for Health Technologies, University of Technology, Sydney; Bone Biology Division, Garvan Institute of Medical Research; UNSW Medicine, UNSW Australia, Australia

Disclosures: Thao P. Ho-Le, None

OSTEOPOROSIS - EPIDEMIOLOGY: FALLS AND FRACTURES

LB-MO0361 Persistence of excess mortality following individual types of fragility fracture: A relative survival analysis

Thach Tran*[1], Dana Bliuc[1], Tuan V Nguyen[1], John A Eisman[1], Louise Hansen[2], Bo Abrahamsen[3], Peter Vestergaard[2], Tineke van Geel[4], Piet Geusens[5], Joop van den Bergh[5], Jacqueline R Center[1]. [1]Garvan Institute of Medical Research, Australia, [2]Aalborg University, Denmark, [3]University of Sourthen Denmark, Denmark, [4]Maastricht University, Netherlands, [5]Maastricht University Medical Center, Netherlands

Disclosures: Thach Tran, None

OSTEOPOROSIS - HEALTH CARE DELIVERY: GENERAL

LB-MO0362 Presence of Vertebral Fractures and Disc Disease in Post Menopausal Females with Height Loss as a Possible Screening Method for Osteoporosis

Nicola Berman*[1], Gregory Chang[2], Stephen Honig[3]. [1]NYU Department of Rheumatology, United states, [2]NYU Department of Radiology, United states, [3]New York University Department of Rheumatology, United states

Disclosures: Nicola Berman, None

OSTEOPOROSIS – NUTRITION, DIETARY SUPPLEMENTS AND PHYSICAL ACTIVITY: GENERAL

LB-MO0363 Sedentary time and diaphyseal cortical bone outcomes in American adolescents

Simon Higgins*[1], Joseph Kindler[2], Thomas Mahar[1], Elizabeth Hathaway[1], Emma Laing[2], Michael Schmidt[1], Ellen Evans[1], Richard Lewis[2]. [1]University of Georgia, Department of Kinesiology, United states, [2]University of Georgia, Department of Foods & Nutrition, United states

Disclosures: Simon Higgins, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE MODELING AND REMODELING

LB-MO0364 Female-Specific Role of Progranulin to Suppress Bone Formation

Liping Wang*[1], Theresa Roth[1], Robert Nissenson[2]. [1]San Francisco VA Medical Center, United states, [2]San Francisco VA Medical Center; Department of Medicine, University of California, San Francisco, United states

Disclosures: Liping Wang, None

OSTEOPOROSIS - TREATMENT: ANABOLIC AGENTS

LB-MO0365 PF708, A Therapeutic Equivalent Candidate to FORTEO® (Teriparatide), Demonstrates Clinical Pharmacokinetic And Pharmacodynamic Equivalence to the Reference Product

Hubert Chen*[1], Hongfan Jin[1], Jonathan Lee[1], Randall Stoltz[2]. [1]Pfenex Inc, United states, [2]Covance Clinical Research Unit, United states

Disclosures: Hubert Chen, Pfenex Inc, 17

OSTEOPOROSIS - TREATMENT: ANTIRESORPTIVE AGENTS

LB-MO0366 Rebound-associated bone loss after non-renewal of long-term denosumab treatment offsets 10-year gains at the total hip within 12 months

Albrecht W Popp*, Helene Buffat, Christoph Senn, Kurt Lippuner. Department of Osteoporosis, Bern University Hospital, University of Bern, Switzerland

Disclosures: Albrecht W Popp, Labatec, 101; Gilead, 101; Amgen CH, 101

LB-MO0367 An Unusual Case of Atypical Femur Fracture Long After Discontinuation of Longterm Alendronate Therapy for Osteopenia

Sudhaker D. Rao*, Shijing Qiu, Shiri Levy, Mahalakshmi Honasoge. Henry Ford Hospital, United states

Disclosures: Sudhaker D. Rao, None

OSTEOPOROSIS - TREATMENT: FRACTURE REPAIR

LB-MO0368 Potential of a rapidly-gelling chitosan sponge for cell encapsulation of adipose-derived stem cells

Timothee Baudequin*[1], Hadil Al-Jallad[2], Laila Benameur[1], Reggie Hamdy[2], Maryam Tabrizian[3]. [1]Department of Biomedical Engineering, McGill University, Canada, [2]Shriners Hospital for Children & McGill University, Canada, [3]Faculty of Dentistry, McGill University, Canada

Disclosures: Timothee Baudequin, None

PRECLINICAL MODELS – NUTRITION: GENERAL

LB-MO0369 Post-Weaning Endocortical Bone Formation Rate is Increased in Rats Fed a Low Calcium Diet During Lactation

Matthew Meagher*, Ryan Ross, D. Rick Sumner. Rush University Medical Center, United states

Disclosures: Matthew Meagher, None

PRECLINICAL MODELS – PHARMACOLOGY: OTHERS

LB-MO0370 Cell-Permeable BMP2 for Bone Healing Therapy Induces Osteogenesis

Hynuji Lee*[1], Whajung Cho[2], Jeongmin Kim[2], Junho Jang[2], Yongdae Jeong[2], Mijeong Kim[2], Daewoong Jo[3]. [1]Metabolic Disease Lab I, Cellivery R&D Institute, Cellivery Therapeutics, Inc., F9, K-BIZ DMC Tower, 189 Sungam-Ro, Mapo-Gu, Korea, republic of, [2]Metabolic Disease Lab , Cellivery R&D Institute, Cellivery Therapeutics, Inc., F9, K-BIZ DMC Tower, 189 Sungam-Ro, Mapo-Gu, Korea, republic of, [3]Cellivery Therapeutics, Inc., F9, K-BIZ DMC Tower, 189 Sungam-Ro, Mapo-Gu, Korea, republic of

Disclosures: Hynuji Lee, None

RARE BONE DISEASES: HYPOPHOSPHATEMIC RICKETS

LB-MO0371 Raman spectroscopy in HYP mouse teeth and bone reveal tooth dentin as a proxy for XLH bone carbonate ion substitution

Carolyn Macica*[1], Holger Petermann[2], Catherine Skinner[2], Steven Tommasini[3]. [1]Frank H. Netter, M.D., School of Medicine at Quinnipiac University, United states, [2]Yale University, United states, [3]Yale University School of Medicine, United states

Disclosures: Carolyn Macica, None

RARE BONE DISEASES: OSTEOGENESIS IMPERFECTA

LB-MO0372 OASIS Deficiency Associated with Tissue Specific Effects on Collagen I, Aberrant Osteoblast Ultrastructure and Low Levels of Glycosaminoglycans/Matrix in Bone in Patient with Severe OI caused by Homozygous Premature Stop Codon in *CREB3L1*

Katarina Lindahl*[1], Eva Astrom[2], Anca Dragomir[1], Sofie Symoens[3], Paul Coucke[3], Sune Larsson[1], Eleftherios Paschalis[4], Paul Roschger[4], Sonja Gamsjaeger[4], Klaus Klaushofer[4], Nadja Fratzl-Zelman[4], Andreas Kindmark[1]. [1]Uppsala University, Sweden, [2]Karolinska Institute, Sweden, [3]Center for Medical Genetics, Ghent University Hospital, Belgium, [4]Ludwig Boltzmann Institute of Osteology, Austria

Disclosures: Katarina Lindahl, None

RARE BONE DISEASES: OTHER RARE BONE DISEASES

LB-MO0373 Clinical and Radiographic Appearance of ONJ in Patients with Osteoporosis vs. Bone Malignancy
Kaycee Walton, Edwin Eshaghzadeh, Sanjay Mallya, Tara Aghaloo, Sotirios Tetradis*.
UCLA School of Dentistry, United states
Disclosures: Sotirios Tetradis, None

PLENARY SYMPOSIUM-DETERMINANTS OF SKELETAL AGING

Supported by an Educational Grant from Merck & Co., Inc.

2:30 pm - 4:00 pm **Georgia World Congress Center**
Sidney Marcus Auditorium – Building A

Co-Chairs
Robert Pignolo, M.D., Ph.D.
University of Pennsylvania, USA
Disclosures: Robert Pignolo, None

Rivka Dresner-Pollak, M.D.
Hadassah-Hebrew University Medical Center, Israel
Disclosures: Rivka Dresner-Pollak, None

2:30 pm **Role of Genetics and Aging**
Simon Melov, PhD
Buck Institute for Research on Aging, USA
Disclosures: Simon Melov, None

2:55 pm **Treatments to Delay Aging**
Amy Wagers, Ph.D.
Harvard Stem Cell Institute, USA
Disclosures: Amy Wagers, None

3:20 pm **Senescence and Aging**
Benjamin Alman, M.D., FRCSC
Duke Medicine, USA
Disclosures: Benjamin Alman, None

CLOSING RECEPTION

4:00 pm - 5:00 pm *Sidney Marcus Foyer Building A*