FRIDAY, OCTOBER 12, 2012

DAY-AT-A-GLANCE

Time/Event/Location **All locations in the Minneapolis Convention Center unless otherwise noted**

ASBMR REGISTRATION OPEN

7:00 am - 7:00 pm **Minneapolis Convention Center**
Hall C

WELCOME AND ANNOUNCEMENTS

8:00 am - 8:15 am **Minneapolis Convention Center**
Auditorium-Main

GERALD D. AURBACH LECTURE - PROSPECTS FOR THERAPIES WITH ADULT STEM/PROGENITOR CELLS (MSCS) OR THE PROTEINS THEY PRODUCE

8:15 am - 9:15 am **Minneapolis Convention Center**
Auditorium-Main

8:15 am Darwin J. Prockop, M.D., Ph.D.
Texas A&M Health Science Center, College of Medicine, USA
Disclosures: Darwin J. Prockop, None

PRESENTATION OF THE ASBMR GIDEON A. RODAN EXCELLENCE IN MENTORSHIP AWARD

9:15 am - 9:25 am **Minneapolis Convention Center**
Auditorium-Main

PRESENTATION OF THE ASBMR LAWRENCE G. RAISZ AWARD

9:15 am - 9:25 am **Minneapolis Convention Center**
Auditorium-Main

NETWORKING BREAK

9:30 am - 10:00 am **Minneapolis Convention Center**
Lobby B

MEET-THE-PROFESSOR SESSIONS

10:00 am - 11:00 am **Mezzanine Level-Rooms M100 – M101**

Meet-the-Professor Session: Osteoporosis in the "Old Old"
Mezzanine Level-Room M100B
Cathleen S. Colon-Emeric, M.D., M.S.
Duke University Medical Center, USA
Disclosures: Cathleen Colon-Emeric, Novartis 5; Amgen 5; Biscardia LLC 4

Meet-the-Professor Session: FGF23 in Phosphophate Metabolism
Mezzanine Level-Room M100C
Suzanne M. Jan De Beur, M.D.
Johns Hopkins University, USA
Disclosures: Suzanne Jan De Beur, Kyowa, Kirin Pharma 6

Meet-the-Professor Session: Osteocytes
Mezzanine Level-Room M100D

Jian Q. Feng, M.D., Ph.D.
Texas A&M Health Science Center, USA
Disclosures: Jian Feng, None

Meet-the-Professor Session: Arthritis and TGFβ Signaling
Mezzanine Level-Room M100E

Regis J. O'Keefe, M.D.
University of Rochester, USA
Disclosures: Regis O'Keefe, None

Meet-the-Professor Session: Bone Drugs in Children
Mezzanine Level-Room M101A

Gordon L. Klein, M.D., MPH
University of Texas Medical Branch, USA
Disclosures: Gordon Klein, Novartis 6

Meet-the-Professor Session: Transplantation Osteoporosis
Mezzanine Level-Room M101B

Solomon Epstein, M.D.
Mt Sinai School of Medicine, USA
Disclosures: Solomon Epstein, amgen 7; Merck 6

Meet-the-Professor Session: Mechanical Loading
Mezzanine Level-Room M101C

Mark L. Johnson, Ph.D.
University of Missouri, Kansas City Dental School, USA
Disclosures: Mark Johnson, None

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

MEETING OVERVIEW FOR HEALTH PROFESSIONALS

10:00 am - 11:00 am **Minneapolis Convention Center**
Auditorium Room 1

Co-Chairs
Joan M. Lappe, R.N., Ph.D.
Creighton University Osteoporosis Research Center, USA
Disclosures: Joan Lappe, None

Betsy C. McClung, R.N., M.N.
Oregon Osteoporosis Center, USA
Disclosures: Betsy McClung, None

10:00 am Basic Program Overview
Roland Baron, D.D.S., Ph.D.
Harvard School of Medicine and of Dental Medicine, USA
Disclosures: Roland Baron, None

10:30 am Clinical Program Overview
John Bilezikian, M.D.
Columbia University College of Physicians and Surgeons, USA
Disclosures: John Bilezikian, NPS Pharmaceuticals 6; Merck 6; GSK 6; Radius Pharmaceuticals 6; Amgen 2; Lilly 7; Amgen 7; Amgen 5; NPS Pharmaceuticals 2; Lilly 6

SECONDARY FRACTURE PREVENTION TASK FORCE REPORT - AN UPDATE

10:00 am - 11:00 am **Minneapolis Convention Center**
Room 101C

Co-Chairs
John Eisman, Ph.D.
Garvan Institute of Medical Research, AUSTRALIA
Disclosures: John Eisman, None

Ethel Siris, M.D.
Columbia University College of Physicians and Surgeons, USA
Disclosures: Ethel Siris, None

10:00 am Launch of the ASBMR International Task Force Report 2012
John Eisman, Ph.D.
Garvan Institute of Medical Research, AUSTRALIA
Disclosures: John Eisman, None

10:05 am The Ontario Osteoporosis Program
Earl Bogoch, M.D.
St. Michael's Hospital, CANADA
Disclosures: Earl Bogoch, None

10:15 am Kaiser Southern California - Progress Towards 100%
Richard Dell, M.D.
Kaiser, USA
Disclosures: Richard Dell, None

10:25 am Secondary Fracture Prevention Models of Care: Is More Intensive Better?
Kirtan Ganda
Concord Hospital, AUSTRALIA
Disclosures: Kirtan Ganda, None

10:30 am Real-world Cost-effectiveness Research Needs
Stuart Silverman, M.D.
Cedars-Sinai/UCLA, USA
Disclosures: Stuart Silverman, None

10:40 am Discussion and Closing
Ethel Siris, M.D.
Columbia University College of Physicians and Surgeons, USA
Disclosures: Ethel Siris, None

GRANT WRITING WORKSHOP - WRITING A PERSUASIVE GRANT

Sponsored by the ASBMR Membership Development and Education Committees

10:00 am - 11:00 am **Minneapolis Convention Center**
Auditorium Room 3

The ability to write a successful grant can determine the course of an investigator's career. A panel of experts made up of U.S. and international researchers will offer insights and tips on how to write a persuasive grant, the common mistakes that grant submitters make, and the elements in a grant application that reviewers consider most important. U.S. and international investigators at all career levels are encouraged to attend this interactive forum that will focus on the universal aspects of successful grant-writing. This session is a can't-miss opportunity for anyone writing a research grant or wanting to gain valuable insight into the grant-writing process.

Co-Chairs
Wenhan Chang, Ph.D.
Endocrine Unit, VA Medical Center, University of California, San Francisco, USA
Disclosures: Wenhan Chang, None

Marian T. Hannan, DSc, MPH
HSL Institute for Aging Research and Harvard Medical School, USA
Disclosures: Marian Hannan, None

10:00 am Speakers
Rajesh V. Thakker, M.D., FRCP
Nuffield Department of Clinical Medicine, University of Oxford, United Kingdom
Disclosures: Rajesh Thakker, Novartis 2; Ipsen 7; Novartis 5; Amgen 7; GSK 2

Nicola C. Partridge, Ph.D.
New York University College of Dentistry, USA
Disclosures: Nicola Partridge, Orthofix, Inc. 5; Orthofix, Inc. 2

10:30 am Panelists
Masaki Noda, M.D., Ph.D.
Tokyo Medical and Dental University, Japan
Disclosures: Masaki Noda, None

John S. Adams, M.D.
University of California, Los Angeles, USA
Disclosures: John Adams, Quest Diagnostics 2

NETWORKING BREAK

11:00 am - 11:30 am **Minneapolis Convention Center**
Lobby B

SYMPOSIUM - FRACTURE HEALING

11:30 am - 1:00 pm **Minneapolis Convention Center**
Auditorium-Main

Co-Chairs
Susan V. Bukata, M.D.
UCLA, USA
Disclosures: Susan Bukata, None

Mary L. Bouxsein, Ph.D.
Beth Israel Deaconess Medical Center, USA
Disclosures: Mary Bouxsein, Amgen Inc 2

11:30 am Parathyroid Hormone
Per Aspenberg, M.D.
Linkoping University, Sweden
Disclosures: Per Aspenberg, AddBIO AB 1; Eli Lilly 5; Eli Lilly 2; Amgen 8

12:00 pm Sclerostin Antibody
Michael S. Ominsky, Ph.D.
Amgen Inc., USA
Disclosures: Michael Ominsky, Amgen 1; Amgen 3

12:30 pm Bone Morphogenic Proteins
Gary Friedlaender, M.D.
Yale School of Medicine, USA
Disclosures: Gary Friedlaender, Biomimetic Therapeutics 1; Stryker 9; Biomimetic Therapeutics 6

SYMPOSIUM - REGULATION OF MESENCHYMAL STEM CELLS

Supported by an educational grant from Merck & Co, Inc.

11:30 am - 1:00 pm **Minneapolis Convention Center**
Room 101C

Co-Chairs
Darwin Prockop, M.D., Ph.D.
Texas A&M Health Science Center, USA
Disclosures: Darwin Prockop, None

Cun-Yu Wang, Ph.D., D.D.S.
UCLA, USA
Disclosures: Cun-Yu Wang, None

11:30 am **Flexible Bones: Integrated vs. Differential Control of Stem Cells and Lineages in the Stromal System**
Paolo Bianco, M.D.
Universita La Sapienza, Italy
Disclosures: Paolo Bianco, None

12:00 pm **The Wnt/ Planar Cell Polarity Pathway Regulates Directional Skeletal Morphogenesis**
Yingzi Yang, Ph.D.
NIH, USA
Disclosures: Yingzi Yang, NIH 3

12:30 pm **Adult Stem Cell Biology: A Tale of Ovaries, Menopause and their Impact on Bone Health**
Jonathan Tilly, Ph.D.
Harvard Medical School, USA
Disclosures: Jonathan Tilly, OvaScience, Inc 4

NETWORKING BREAK

1:00 pm - 1:30 pm **Minneapolis Convention Center**
Lobby B

FRACTURE HEALING: CREATING A PATH TO REGULATORY SUCCESS

1:30 pm - 3:00 pm **Minneapolis Convention Center**
Auditorium Room 1

Co-Chairs
Vicki Rosen, Ph.D.
Harvard School of Dental Medicine, Boston, MA
Disclosures: Vicki Rosen, None

Gary Friedlaender, M.D.
Yale University School of Medicine, New Haven, CT
Disclosures: Gary Friedlaender, None

1:30 pm **FDA Perspective and History**
Theresa Kehoe, M.D.
U.S. Food and Drug Administration, USA
Disclosures: Theresa Kehoe, None

1:40 pm **European Perspective**
Hamish Simpson, M.D.
University of Edinburgh, United Kingdom
Disclosures: Hamish Simpson, None

1:50 pm **Functional Outcomes**
Mohit Bhandari, M.D., M.Sc., Ph.D., F.R.C.S.C.
McGill University, Canada
Disclosures: Mohit Bhandari, None

2:00 pm **Clinical Academic Perspective**
Regis O'Keefe, M.D.
University of Rochester Medical Center, USA
Disclosures: Regis O'Keefe, None

2:10 pm **Panel Discussion**

2:30 pm **Q&A, Audience Discussion**

SYMPOSIUM - FRACTURE RISK ASSESSMENT

1:30 pm - 3:00 pm **Minneapolis Convention Center**
Auditorium-Main

Co-Chairs
John T. Schousboe, M.D., Ph.D.
Park Nicollet Clinic, University of Minnesota, USA
Disclosures: John Schousboe, None

Ghada El-Hajj Fuleihan, M.D., MPH
American University of Beirut-Medical Center, Lebanon
Disclosures: Ghada El-Hajj Fuleihan, None

1:30 pm **FRAX**
Bess Dawson-Hughes, M.D.
Tufts University, USA
Disclosures: Bess Dawson-Hughes, Eli Lilly 5; Cytochroma 5; Pfizer 5; Servier 5; Danone 5; Wright Medical 5; Merck 5; Pfizer 2

2:00 pm **Other Fracture Risk Calculators**
William D. Leslie, M.D., MSc, FRCPC
University of Manitoba, Canada
Disclosures: William Leslie, Amgen 8; Amgen 2; Genzyme 2

2:30 pm **Beyond Risk Calculators: Back to Clinical Judgment**
Michael R. McClung, M.D.
Oregon Osteoporosis Center, USA
Disclosures: Michael McClung, Merck 2; Novartis 7; Merck 6; Lilly 6; Amgen 2; Amgen 7; Merck 7; Amgen 6; Warner-Chilcott 7; GSK 7

SYMPOSIUM - REGULATION OF BONE THROUGH TGF-BETA SUPER FAMILY RECEPTORS

Supported by an educational grant from Merck & Co, Inc.

1:30 pm - 3:00 pm **Minneapolis Convention Center**
Room 101C

Co-Chairs
Roland Baron, D.D.S., Ph.D.
Harvard School of Medicine and of Dental Medicine, USA
Disclosures: Roland Baron, Dr. Baron feels that this is too complicated and does not have time to complete this portion. 9

Di Chen, M.D., Ph.D.
Rush University Medical Center, USA
Disclosures: Di Chen, None

1:30 pm **The Role of TGF-β in Osteoarthritis**
Wim Van Den Berg, Ph.D.
Radboud University Nijmegen Medical Centre,
Disclosures: Wim Van Den Berg, None

2:00 pm **BMP Signaling in Bone Development and Repair**
Vicki Rosen, Ph.D.
Harvard School of Dental Medicine, USA
Disclosures: Vicki Rosen, CollPlant, Inc 6

2:30 pm **TGF-β1 in Bone Remodeling and Osteoarthritis**
Xu Cao, Ph.D.
Johns Hopkins University, USA
Disclosures: Xu Cao, None

ASBMR/ECTS CO-SPONSORED STATE-OF-THE-ART LECTURES - BONE-MUSCLE INTERACTIONS DURING DEVELOPMENT

3:15 pm - 4:45 pm **Minneapolis Convention Center**
Room 101C

Co-Chairs
Karyn Esser, Ph.D.
University of Kentucky, USA
Disclosures: Karyn Esser, Merck 6

Thomas L. Clemens, Ph.D.
Johns Hopkins University, USA
Disclosures: Thomas Clemens, None

3:15 pm **Muscle and Connective Tissue Interactions during Development and Regeneration**
Gabrielle Kardon, Ph.D.
University of Utah, USA
Disclosures: Gabrielle Kardon, None

3:45 pm **Tissue Interactions in the Developing Limb Musculoskeletal System**
Malcolm Logan, Ph.D.
MRC National Institute for Medical Research, United Kingdom
Disclosures: Malcolm Logan, None

4:15 pm **Muscle-induced Mechanical Loads Regulate Key Aspects of Skeletogenesis**
Eli Zelzer, Ph.D.
Weizmann Institute, Israel
Disclosures: Eli Zelzer, None

ASBMR/ECTS CLINICAL DEBATE - FRAX IS MORE USEFUL THAN INDIVIDUAL RISK FACTORS FOR IDENTIFYING PATIENTS WHO WILL EXPERIENCE LARGER REDUCTIONS IN FRACTURE RISK WITH TREATMENT

3:30 pm - 4:30 pm **Minneapolis Convention Center**
Auditorium-Main

Co-Chairs
Suzanne M. Jan De Beur, M.D.
Johns Hopkins University, USA
Disclosures: Suzanne Jan De Beur, Kyowa, Kirin Pharma 6

Adolfo Diez-Perez, M.D., Ph.D.
Autonomous University of Barcelona, Spain
Disclosures: Adolfo Diez-Perez, Novartis 8; Eli Lilly 5; Active Life Inc 1; Eli Lilly 8; Merck 9; Pfizer 5; AMGEN 8; AMGEN 5

3:30 pm **For Argument**
Eugene V. McCloskey, M.D., MRCP, M.B.
University of Sheffield, United Kingdom
Disclosures: Eugene McCloskey, None

4:00 pm **Against Argument**
Dennis M. Black, Ph.D.
University of California, San Francisco, USA
Disclosures: Dennis Black, Roche 2; Amgen 2; Novartis 2; Merck 2

PRESENTATION OF THE ASBMR WILLIAM F. NEUMAN AWARD

4:30 pm - 4:35 pm **Minneapolis Convention Center**
Auditorium-Main

NETWORKING BREAK

4:30 pm - 5:00 pm **Minneapolis Convention Center**
Lobby B

ORAL POSTER SESSION 1 (BASIC)

5:00 pm - 5:45 pm **Minneapolis Convention Center**
Auditorium Room 1

Moderators:
Pamela Gehron Robey, Ph.D.
National Institute of Dental and Craniofacial Research, USA
Disclosures: Pamela Robey, None

Nicola C. Partridge, Ph.D.
New York University College of Dentistry, USA
Disclosures: Nicola Partridge, None

5:05 pm FR0225 **The Inositol Polyphosphate/Protein Kinase Cδ Signaling Cascade is Required for the Connexin43-dependent Amplification of Runx2 Activity**
Corinne Niger[1], Maria Luciotti[2], Atum Buo[1], Carla Hebert[2], Vy Ma[2], Joseph Stains*[1]. [1]University of Maryland School of Medicine, USA, [2]University of Maryland, USA
Disclosures: Joseph Stains, None

5:10 pm FR0226 **A FoxO1-Independent Action of Canonical Wnt signaling in Osteoblasts Regulates Bone Resorption**
Aruna Kode*, Ioanna Mosialou, John S Manavalan, Stavroula Kousteni. Columbia University Medical Center, USA
Disclosures: Aruna Kode, None

5:15 pm FR0273 **Osteocyte-Produced Microvesicles: a Potential Mechanism for Communication with Osteoblasts and Osteoclasts**
Pat Veno, Matt Prideaux, Vladimir Dusevich, Lynda Bonewald, Sarah Dallas*. University of Missouri - Kansas City, USA
Disclosures: Sarah Dallas, None

5:25 pm FR0261 **Foxp3$^+$ CD8 T-Cells Can Suppress Bone Turnover in Response to RANKL Administration and in Ovariectomized Mice.**
Reggie Aurora*, Zachary Buchwald, Jennifer Kiesel, Deborah Novack, Richard Di Paolo. Washington University in St. Louis School of Medicine, USA
Disclosures: Reggie Aurora, None

5:30 pm **Low Femoral and High Vertebral Bone Phenotype in α_{2C}AR Knockout Mice**
FR0427 Marilia Teixeira*[1], Gisele M Martins[2], Cristiane Costa[2], Cecilia Gouveia[3]. [1]University of Sao Paulo, Brazil, [2]Institute of Biomedical Science, Brazil, [3]University of Sao Paulo, Institute of Biomedical Sciences, Brazil
Disclosures: Marilia Teixeira, None

5:35 pm **2012 ASBMR YOUNG INVESTIGATOR AWARD**
FR0186 **Modulation of Osteoclast Formation by Cyclically-Strained Myotubes Is Mediated by IL-6**
Petra Juffer*[1], Richard T. Jaspers[2], Jenneke Klein-Nulend[3], Astrid D. Bakker[1]. [1]Department of Oral Cell Biology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & VU University Amsterdam, Research Institute MOVE, Amsterdam, Netherlands, [2]Research Institute MOVE, Faculty of Human Movement Sciences, VU University Amsterdam, Amsterdam, The Netherlands, Netherlands, [3]ACTA-VU University Amsterdam, Dept Oral Cell Biology (Rm # 11N-63), The Netherlands
Disclosures: Petra Juffer, None

ORAL POSTER SESSION 2 (BASIC)

5:00 pm - 5:45 pm **Minneapolis Convention Center**
Auditorium Room 3

Moderators:
Kenneth E. White, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Kenneth White, None

Steven L. Teitelbaum, M.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Steven Teitelbaum, None

5:05 pm **Diet Induced Obesity Enhances Bone Marrow Myeloproliferation by Down-regulating Runx1**
FR0229 **and Crebbp Expression**
Benjamin Adler*[1], Danielle Green[1], M. Ete Chan[1], Clinton Rubin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Benjamin Adler, None

5:10 pm **E-selectin ligand 1 Regulates Bone Homeostasis via Modulating TGF-β Bioavailability in**
FR0179 **Bone Microenvironment**
Tao Yang*[1], Ingo Grafe[2], Yangjin Bae[1], Shan Chen[1], Ming-ming Jiang[1], Terry Bertin[1], Yuqing Chen[1], Brendan Lee[3]. [1]Baylor College of Medicine, USA, [2]Department of Molecular & Human Genetics, Baylor College of Medicine, USA, [3]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Tao Yang, None

5:15 pm **2012 ASBMR YOUNG INVESTIGATOR AWARD**
FR0440 **Parathyroid Hormone-related Protein (PTHrP) Potentiates Myeloid-Derived Suppressor Cells (MDSCs) within the Bone Marrow via Osteoblast-Derived Interleukin (IL)-6 and Vascular Endothelial Growth Factor (VEGF)-A**
Serk In Park*[1], Amy Koh[1], Fabiana Soki[2], Laurie McCauley[2]. [1]University of Michigan, USA, [2]University of Michigan School of dentistry, USA
Disclosures: Serk In Park, None

5:25 pm **The Role of Activation Functions 1 and 2 of Estrogen Receptor-α for the Effects of Estradiol**
FR0428 **and Selective Estrogen Receptor Modulators (SERMs) in Male Mice**
Anna Borjesson*[1], Sara Windahl[2], Marie Lagerquist[3], Cecilia Engdahl[2], Helen Farman[2], Antti Koskela[4], Klara Sjogren[5], Jenny Kindblom[3], Alexandra Stubelius[2], Ulrika Islander[2], Maria C Antal[6], Andrée Krust[6], Pierre Chambon[6], Juha Tuukkanen[4], Claes Ohlsson[7]. [1]Sahlgrenska University Hospital, Clinical Pharmacology Lab, Sweden, [2]Center for Bone & Arthritis Research, Sahlgrenska Academy, Sweden, [3]Sahlgrenska University Hospital, Sweden, [4]University of Oulu, Finland, [5]Centre for Bone & Arthritis Research, Sweden, [6]Institut de Génétique et de Biologie Moléculaire et Cellulaire, France, [7]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden
Disclosures: Anna Borjesson, None

5:30 pm **Novel Link Between CSF-1 and Lung Cancer Bone Metastasis**
FR0172 Sherry Abboud Werner*[1], Fermin Tio[2], Thomas Prihoda[3], Diane Horn[3], Jaclyn Hung[3]. [1]University of Texas Health Science Center at San Antonio, USA, [2]South Texas Veterans Health Care System, USA, [3]University of Texas Health Science Center, USA
Disclosures: Sherry Abboud Werner, None

5:35 pm **2012 ASBMR YOUNG INVESTIGATOR AWARD**
FR0447 **Osteoclast Activation by IAP Antagonists Opposes their Potential Anti-cancer Effects and Enhances Bone Metastasis**
Chang Yang*[1], Jennifer Davis[2], Lynne Collins[2], Suwanna Vangveravong[2], Robert Mach[2], David Piwnica-Worms[2], Katherine Weilbaecher[1], Roberta Faccio[1], Deborah Novack[1]. [1]Washington University in St Louis School of Medicine, USA, [2]Washington University in St. Louis, USA
Disclosures: Chang Yang, None

ORAL POSTER SESSION 3 (CLINICAL)

5:00 pm - 5:45 pm **Minneapolis Convention Center**

Auditorium-Main

Moderators:
John S. Adams, M.D.
University of California, Los Angeles, USA
Disclosures: John Adams, None

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

5:05 pm **The Efficacy of High-Dose Oral Vitamin D_3 Administered Once a Year: Increased Fracture**
FR0401 **Risk Is Associated With 1,25 Vitamin D Level at 3-Months Post Dose**
Kerrie Sanders*[1], Gustavo Duque[2], Peter Ebeling[3], Thomas McCorquodale[2], Markus Herrmann[4], Catherine Shore-Lorenti[5], Geoffrey Nicholson[6]. [1]NorthWest Academic Centre, The University of Melbourne, Western Health, Australia, [2]Ageing Bone Research Program, University of Sydney, Australia, [3]The University of Melbourne, Australia, [4]ANZAC Research Institute, The University of Sydney, Concord, Australia, Australia, [5]NorthWest Academic Centre, University of Melbourne, Australia, [6]The University of Queensland, Australia
Disclosures: Kerrie Sanders, None

5:10 pm **The Safety of Long-Term Use of Different Doses of Vitamin D3 Plus Calcium in Older**
FR0402 **Caucasian and African American Women**
Vinod Yalamanchili*[1], Munro Peacock[2], Lynette Smith[3], J. Christopher Gallagher[1]. [1]Creighton University Medical Center, USA, [2]Indiana University Medical Center, USA, [3]University of Nebraska Medical Center, USA
Disclosures: Vinod Yalamanchili, None

5:15 pm **Older Men with either High or Low Serum 25-hydroxy Vitamin D levels have Significantly**
FR0349 **Increased Fracture Risk: Results from the Prospective CHAMP Study.**
Kerrin Bleicher*[1], Markus Seibel[2], Robert Cumming[3], Vasikaran Naganathan[4]. [1]University of Sydney, Australia, [2]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [3]School of Public Health, University of Sydney, Australia, [4]Centre for Education & Research on Ageing, University of Sydney, Australia
Disclosures: Kerrin Bleicher, None

5:25 pm **Treatment of Male Osteoporosis: Risedronate, Teriparatide or Both**
FR0365 Marcella Walker*[1], Natalie Cusano[2], Megan Romano[2], James Sliney[2], Chiyuan Zhang[1], Donald McMahon[2], John Bilezikian[2]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA
Disclosures: Marcella Walker, None

5:30 pm FR0409 **Treatment with an Inhibitor of Fatty Acid Synthase Reverses Bone Loss in Ovariectomized Mice**
Sandra Bermeo*[1], Wei Li[2], Christopher Vidal[3], Daniele Cultrone[4], Mamdouh Khalil[5], Gustavo Duque[6]. [1]PhD Student, Australia, [2]University of Sydney, Nepean Clinical School, Australia, [3]University of Sydney, Australia, [4]Ageing Bone Research Program, Sydney Medical School Nepean, The University of Sydney, Australia, [5]ANZAC Research Institute, Australia, [6]Ageing Bone Research Program, University of Sydney, Australia
Disclosures: Sandra Bermeo, None

5:35 pm FR0021 **Effects of High-Impact Training on Femoral Neck Structure in Postmenopausal Women with mild osteoarthritis: 12-Month Randomized Controlled Exercise Intervention (ISRCTN58314639)**
Ari Heinonen*[1], Eija Janhunen[1], Juhani Multanen[2], Timo Jamsa[3], Urho Kujala[1], Miika Nieminen[4], Ilkka Kiviranta[5], Arja Häkkinen[1]. [1]Department of Health Sciences, University of Jyväskylä, Finland, [2]University of Jyväskylä, Finland, [3]University of Oulu, Finland, [4]Department of Medical Technology, Institute of Biomedicine, University of Oulu, Finland, [5]Department of Orthopaedics & Traumatology, University of Helsinki, Finland
Disclosures: Ari Heinonen, None

ORAL POSTER SESSION 4 (CLINICAL)

5:00 pm - 5:45 pm **Minneapolis Convention Center**
Room 101C

Moderators:
Ann V. Schwartz, Ph.D.
University of California, San Francisco, USA
Disclosures: Ann Schwartz, None

Piet Geusens, M.D., Ph.D.
University Hasselt, Belgium
Disclosures: Piet Geusens, None

5:05 pm FR0040 **Osteoimmunology in Adolescent Obesity: Delay of Trabecular Bone Development is Paralleled by Shift of Bone Marrow Immune Cells to Adipose Tissue**
M. Ete Chan*[1], Danielle Green[1], Benjamin Adler[1], Gabriel Pagnotti[1], Denis Nguyen[1], Clinton Rubin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: M. Ete Chan, None

5:10 pm FR0013 **Inter and Intramuscular Adiposity Explains Only a Proportion of the Association between Muscle Density and Fractures**
Andy Kin On Wong*[1], Karen Beattie[1], Aakash Bhargava[1], Sami Shaker[1], Colin Webber[2], Christopher Gordon[1], Laura Pickard[1], Alexandra Papaioannou[2], Jonathan Adachi[3], The CaMos Research Group[4]. [1]McMaster University, Canada, [2]Hamilton Health Sciences, Canada, [3]St. Joseph's Hospital, Canada, [4]McGill University, Canada
Disclosures: Andy Kin On Wong, None

5:15 pm FR0280 **The Effects of Acute Hyperinsulinemia on Bone Metabolism in Healthy Adults**
Kaisa Ivaska*[1], H. Kalervo Vaananen[1], Maikki Heliovaara[2], Pertti Ebeling[2], Heikki Koistinen[2]. [1]University of Turku, Finland, [2]Helsinki University Hospital, Finland
Disclosures: Kaisa Ivaska, None

5:25 pm FR0311 **Lower Vertebral Body Bone Strength in Subjects with Prevalent Fracture Assessed by High Resolution Axial Skeleton Quantitative Computerized Tomography**
Rene Rizzoli*[1], Fanny Merminod[1], Mélany Hars[2], Bert Rietbergen[3]. [1]University Hospital, Switzerland, [2]Hôpitaux Universitaires De Genève, Switzerland, [3]Eindhoven University of Technology, The netherlands
Disclosures: Rene Rizzoli, None

5:30 pm FR0341 **A Distal Forearm Fracture in Childhood Increases the Risk for Fracture during Adulthood in Men, but not in Women**
Shreyasee Amin*[1], L. Joseph Melton[1], Sara Achenbach[1], Elizabeth Atkinson[1], Mark Dekutoski[1], Salman Kirmani[1], Philip Fischer[1], Sundeep Khosla[2]. [1]Mayo Clinic, USA, [2]College of Medicine, Mayo Clinic, USA
Disclosures: Shreyasee Amin, Merck & Co, 5

5:35 pm FR0133 **Vitamin D2 and D3 Replacement Effectiveness in Patients with Chronic Liver Disease**
Dorota Krajewski, Julia (Julianna) Barsony*. Georgetown University Hospital, USA
Disclosures: Julia (Julianna) Barsony, None

DISCOVERY HALL GRAND OPENING

5:45 pm - 7:00 pm **Minneapolis Convention Center**
Discovery Hall-Hall B

MINORITY INVESTIGATOR RECEPTION

Sponsored by the ASBMR Membership Development Committee and Minority Investigator Subcommittee

5:45 pm - 7:00 pm **Minneapolis Convention Center**
Discovery Hall-Hall B, Young Investigators Lounge

Underrepresented minority attendees are invited to join ASBMR leadership, including the ASBMR Minority Subcommittee members, at this special reception. Take advantage of this forum for sharing your common experiences and unique challenges with your peers. The Reception will be held concurrently with the Welcome Reception and the Plenary Poster Session in a designated area adjacent to the ASBMR Networking Center in the ASBMR Discovery Hall.

NEW INVESTIGATOR/NEW MEMBER/FIRST-TIME ATTENDEE RECEPTION

Sponsored by the ASBMR Membership Development Committee and Young Investigator Subcommittee

5:45 pm - 7:00 pm **Minneapolis Convention Center**
Discovery Hall-Hall B, Young Investigators Lounge

The ASBMR Membership Development Committee and Young Investigator Subcommittee members will be present for this meet-and-greet networking event. This reception promotes professional relationships between new investigators (early-career stage) and ASBMR leadership to encourage building a network of career-long contacts. The New Investigator Reception is held concurrently with the Welcome Reception and the Plenary Poster Session in an area adjacent to the ASBMR Networking Center in the Discovery Hall.

WELCOME RECEPTION AND PLENARY POSTER SESSION

5:45 pm - 7:00 pm **Minneapolis Convention Center**
Discovery Hall-Hall B

FR0001 **A FoxO1/ATF4 Synergism in Osteoblasts Adversely Affects Glucose Metabolism by Promoting Osteocalcin Carboxylation**
Aruna Kode*, Ioanna Mosialou, Stavroula Kousteni. Columbia University Medical Center, USA
Disclosures: Aruna Kode, None

FR0002 **Age-Related Impairment of the Mechanostat is Sex Specific and Associated with Impaired Cell-Cycle Progression and Decreased Mechanosensitivity**
Lee Meakin*[1], Gabriel Galea[1], Toshihiro Sugiyama[2], Lance Lanyon[3], Joanna Price[1]. [1]University of Bristol, United Kingdom, [2]Yamaguchi University School of Medicine, Japan, [3]Royal Veterinary College, United Kingdom
Disclosures: Lee Meakin, None

FR0004 **Differential Expression of MicroRNAs in Human Mesenchymal Stem Cells with Age May Be Related to Musculoskeletal Disorders**
Sudharsan Periyasamy-Thandavan*[1], Sergi Mas[2], Sadanand Fulzele[1], Mark Hamrick[1], Xingming Shi[1], Carlos Isales[3], Norman Chutkan[1], Randy Ruark[1], John Hinson[1], Monte Hunter[1], Raymond Corpe[1], Hongyan Xu [1], William Hill[4]. [1]Georgia Health Sciences University, USA, [2]Universitat de Barcelona, Spain, [3]Medical College of Georgia, USA, [4]Georgia Health Sciences University & Charlie Norwood VAMC, USA
Disclosures: Sudharsan Periyasamy-Thandavan, None

FR0005 **Levels of Serum Sclerostin Are Related with Atherosclerotic Disease in Type 2 Diabetes**
Rebeca Reyes-Garcia*[1], Pedro Rozas-Moreno[2], Antonia Garcia-Martin[1], Sonia Morales-Santana[3], Beatriz Garcia-Fontana[1], Manuel Muñoz-Torres[1]. [1]Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio, Spain, [2]Endocrinology Division. Hospital General de Ciudad Real. Ciudad Real, Spain., Spain, [3]Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio; Proteomic Research Service, Fundación para la Investigación Biosanitaria de Andalucía Oriental -Alejandro Otero- (FIBAO), Spain
Disclosures: Rebeca Reyes-Garcia, None

FR0006 **The Adipokine Leptin Enhances the Proliferation and Differentiation of Aged Primary Myoblasts in vitro**
Matthew Bowser*[1], Sadanand Fulzele[2], William Hill[3], Xingming Shi[2], Carlos Isales[4], Mark Hamrick[2]. [1]Georgia Health Science University, USA, [2]Georgia Health Sciences University, USA, [3]Georgia Health Sciences University & Charlie Norwood VAMC, USA, [4]Medical College of Georgia, USA
Disclosures: Matthew Bowser, None

FR0008 **The Role of Ramp3 in Development of an Aging Phenotype**
Fiona McGuigan*[1], Kristina Akesson[2], Peter Grabowski[3], Gareth Richards[3], Timothy Skerry[4]. [1]University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, [2]Skåne University Hospital, Malmö, Sweden, [3]University of Sheffield, United Kingdom, [4]University of Sheffield Medical School, United Kingdom
Disclosures: Fiona McGuigan, None

FR0013 **Inter and Intramuscular Adiposity Explains Only a Proportion of the Association between Muscle Density and Fractures**
Andy Kin On Wong*[1], Karen Beattie[1], Aakash Bhargava[1], Sami Shaker[1], Colin Webber[2], Christopher Gordon[1], Laura Pickard[1], Alexandra Papaioannou[2], Jonathan Adachi[3], The CaMos Research Group[4]. [1]McMaster University, Canada, [2]Hamilton Health Sciences, Canada, [3]St. Joseph's Hospital, Canada, [4]McGill University, Canada
Disclosures: Andy Kin On Wong, None

FR0014 **Prevalent Fractures are Associated with Frailty: Baseline Data from the Canadian Multicentre Osteoporosis Study**
Courtney Kennedy*[1], George Ioannidis[1], Jonathan Adachi[2], Kenneth Rockwood[3], Lehana Thabane[1], Laura Pickard[1], Alexandra Papaioannou[4]. [1]McMaster University, Canada, [2]St. Joseph's Hospital, Canada, [3]Dalhousie University, Canada, [4]Hamilton Health Sciences, Canada
Disclosures: Courtney Kennedy, None

FR0020 **Effect of a Multifactorial Fall-and-Fracture Risk Assessment and Management Program on Gait and Balance and Disability in Hospitalized Older Adults: a Controlled Study**
Andrea Trombetti*, Mélany Hars, François Herrmann, René Rizzoli, Serge Ferrari. Division of Bone Diseases, University Hospitals & Faculty of Medicine of Geneva, Switzerland
Disclosures: Andrea Trombetti, None

FR0021 **Effects of High-Impact Training on Femoral Neck Structure in Postmenopausal Women with mild osteoarthritis: 12-Month Randomized Controlled Exercise Intervention (ISRCTN58314639)**
Ari Heinonen*[1], Eija Janhunen[1], Juhani Multanen[2], Timo Jamsa[3], Urho Kujala[1], Miika Nieminen[4], Ilkka Kiviranta[5], Arja Häkkinen[1]. [1]Department of Health Sciences, University of Jyväskylä, Finland, [2]University of Jyväskylä, Finland, [3]University of Oulu, Finland, [4]Department of Medical Technology, Institute of Biomedicine, University of Oulu, Finland, [5]Department of Orthopaedics & Traumatology, University of Helsinki, Finland
Disclosures: Ari Heinonen, None

FR0022 **The Effects of Whole-Body Vibration and High Impact Aerobic Training on Bone Metabolism and Fall Risk in Postmenopausal Women**
EKIN ILKE SEN*[1], Sina Esmaeilzadeh[1], NURTEN ESKIYURT[2]. [1]ISTANBUL UNIVERSITY, ISTANBUL FACULTY OF MEDICINE, Turkey, [2]Istanbul University, Turkey
Disclosures: EKIN ILKE SEN, None

FR0024 **Is the Relationship Between Spine Bone Mineral Density (BMD) and Prevalent Vertebral Fractures In Children Impacted by the Choice of BMD Reference Data?**
Leanne M. Ward*[1], Nathalie Alos[2], Stephanie Atkinson[3], David Cabral[4], Robert Couch[5], Elizabeth A. Cummings[6], Ronald Grant[7], Paivi M. Miettunen[8], Helen Nadel[4], Celia Rodd[9], Robert Stein[10], David Stephure[8], Shayne Taback[11], Mary Ann Matzinger[1], Nazih Shenouda [1], Brian Lentle[4], Frank Rauch[9], Kerry Siminoski[5], , and the Canadian STOPP Consortium[12]. [1]University of Ottawa, Canada, [2]Université de Montréal, Canada, [3]McMaster University, Canada, [4]University of British Columbia, Canada, [5]University of Alberta, Canada, [6]Dalhousie University, Canada, [7]University of Toronto, Canada, [8]University of Calgary, Canada, [9]McGill University, Canada, [10]University of Western Ontario, Canada, [11]University of Manitoba, Canada, [12]Canadian Pediatric Bone Health Working Group, Canada
Disclosures: Leanne M. Ward, None

FR0031 **Maternal vitamin D levels in pregnancy and offspring bone mass at age 9: findings from a UK prospective birth cohort study**
Andrew Wills, Adrian Sayers*, Jon Tobias, Debbie Lawlor. University of Bristol, United Kingdom
Disclosures: Adrian Sayers, None

FR0032 **The Response of Cortical Bone to High Impact Activity is Attenuated in Girls: Findings from a Cross-sectional PQCT Study in Adolescents**
Kevin Deere[1], Adrian Sayers*[2], Joern Rittweger[3], J.H. Tobias[4]. [1]Bristol University, United Kingdom, [2]University of Bristol, United Kingdom, [3]2Division of Space Physiology, Institute ofAerospace Medicine, Germany, [4]Avon Orthopaedic Centre, United Kingdom
Disclosures: Adrian Sayers, None

FR0034 **The Greater Fracture Risk in Adolescent Males Extends Through Mid-Adulthood in the United Kingdom**
Kevin Haynes[1], Michelle Denburg*[2], Justine Shults[3], Mary Leonard[4]. [1]University of Pennsylvania, USA, [2]The Children's Hospital of Philadelphia, USA, [3]Children's Hospital & Philadelphia, USA, [4]Children's Hospital of Philadelphia, USA
Disclosures: Michelle Denburg, None

FR0037 **Sclerostin has Differential Effects on Bone Mineral Density and Strength Parameters in Adolescent Athletes Compared with Non-Athletes**
Pouneh Fazeli*[1], Kathryn Ackerman[2], Lisa Pierce[3], Gabriela Guereca[3], Mary Bouxsein[4], Anne Klibanski[5], Madhusmita Misra[3]. [1]Massachusetts General Hospital & Harvard Medical School, USA, [2]Brigham & Women's Hospital, USA, [3]Massachusetts General Hospital, USA, [4]Beth Israel Deaconess Medical Center, USA, [5]Massachusetts General Hospital, Harvard Medical School, USA
Disclosures: Pouneh Fazeli, None

FR0040 **Osteoimmunology in Adolescent Obesity: Delay of Trabecular Bone Development is Paralleled by Shift of Bone Marrow Immune Cells to Adipose Tissue**
M. Ete Chan*[1], Danielle Green[1], Benjamin Adler[1], Gabriel Pagnotti[1], Denis Nguyen[1], Clinton Rubin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: M. Ete Chan, None

FR0043 **Pharmacological Evaluation of a CNP Analogue for the Treatment of Achondroplasia**
Florence Lorget*[1], Nabil Kaci[2], Jeff Peng[1], Catherine Benoist-Lasselin[2], Emilie Mugniery[2], Todd Oppeneer[1], Dan Wendt[1], Sherry Bullens[1], Stuart Bunting[1], Laurie Tsuruda[1], Charles O'Neill[1], Federico Di Rocco[2], Arnold Munnich[2], Laurence legeai-Mallet[2]. [1]BioMarin Pharmaceutical Inc, USA, [2]INSERM, U781 - Hopital Necker-enfants malades, France
Disclosures: Florence Lorget, BioMarin, 3

FR0045 **Alendronate and PTH Dose-Dependent Improvements in Microarchitecture Lead to Improved Bone Strength despite Reductions in Tissue Material Properties**
Andrea Trinward*[1], Steven Tommasini[2], Sarah Manske[1], Alvin Acerbo[3], Lisa Miller[4], Stefan Judex[1]. [1]Stony Brook University, USA, [2]Yale University School of Medicine, USA, [3]Brookhaven National Laboratody, USA, [4]Brookhaven National Laboratory, USA
Disclosures: Andrea Trinward, None

FR0049 **Cortical Porosity and Bone Strength Assessment in Postmenopausal Women with Atypical Fractures of the Femur and Long Term Bisphosphonate Therapy**
Maria Belen Zanchetta*[1], Vanesa Longobardi[2], Fernando Silveira[2], Maria Dielh[2], Mirena Buttazzoni[2], ANA GALICH[3], Cesar Bogado[4], Jose Ruben Zanchetta[1]. [1]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [2]MD, Argentina, [3]Instituto De Investigaciones Metabolicas, Argentina, [4]Idim, Argentina
Disclosures: Maria Belen Zanchetta, None

FR0051 **Evidence of Narrower Tibiae with Increased vBMD in Stress Fractured Royal Marine Recruits Compared with Matched Controls: An Investigation of Radius and Tibia Bone Mass using pQCT**
Trish Davey*[1], Susan A. Lanham-New[2], Adrian J. Allsopp[3], Pat Taylor[4], Cyrus Cooper[5], Joanne L. Fallowfield[3]. [1]Institute of Naval Medicin, United Kingdom, [2]Nutrition & Metabolism Department, University of Surrey, United Kingdom, [3]Institute of Naval Medicine, United Kingdom, [4]University Hospital Southampton, United Kingdom, [5]University of Southampton, United Kingdom
Disclosures: Trish Davey, None

FR0056 **Losing Trabecular Plates and Axial BV/TV in Hip Fractures**
Bin Zhou*[1], Ji Wang[1], Ian Parkinson[2], Xiaowei Liu[3], C. David L. Thomas[4], John G. Clement[4], Nick Fazzalari[5], X Guo[1]. [1]Columbia University, USA, [2]SA Pathology & Hanson Institute, Australia, [3]University of Pennsylvania, USA, [4]Melbourne Dental School, Australia, [5]Institute of Medical & Veterinary Science, Australia
Disclosures: Bin Zhou, None

FR0057 **Major Gender-related Differences in Bone Mass and Strength in Aged *Sost* Knockout Mice**
Behzad Javaheri[1], Amber Stern*[2], Nuria Lara[2], Mark Dallas[3], Alexander Robling[4], Mark Johnson[5]. [1]School of Dentistry The University of Missouri-Kansas City, USA, [2]University of Missouri - Kansas City, USA, [3]UMKC School of Dentistry, USA, [4]Indiana University, USA, [5]University of Missouri, Kansas City Dental School, USA
Disclosures: Amber Stern, None

FR0060 **Muscle Strength Predicts Radial Bone Structure and Strength in Adolescent Boys and Girls**
Vina Tan*[1], Heather Macdonald[2], SoJung Kim[2], Christine Voss[3], Joan Wharf Higgins[4], Patti-Jean Naylor[4], Heather McKay[2]. [1]Robert HN Ho Research Centre, Canada, [2]University of British Columbia, Canada, [3]Center for Hip Health & Mobility, Canada, [4]University of Victoria, Canada
Disclosures: Vina Tan, None

FR0068 **Lower Osteocyte Lacunar Density in Osteons of Alendronate Treated Canine**
Joseph Geissler*[1], Devendra Bajaj[2], Shahir Monsuruddin[3], Matthew Allen[4], David Burr[4], J. Fritton[5]. [1]New Jersey Institute of Technology, New Jersey Medical School, USA, [2]NJ Medical School Orthopaedics, USA, [3]NJ Institute of Technology Biomedical Engineering, USA, [4]Indiana University School of Medicine, USA, [5]New Jersey Medical School, USA
Disclosures: Joseph Geissler, None

FR0072 **Mechanical Strain Downregulates C/EBPβ in MSC and Decreases Endoplasmic Reticulum Stress**
Maya Styner*[1], Mark Meyer[2], Kornelia Galior[3], Natasha Case[1], Buer Sen[4], Zhihui Xie[5], William Thompson[6], J. Pike[2], Janet Rubin[1]. [1]University of North Carolina, Chapel Hill, School of Medicine, USA, [2]University of Wisconsin-Madison, USA, [3]UNC-CH School of Medicine, USA, [4]University of North Carolina At Chapel Hill, USA, [5]University of North Carolina, Department of Medicine, USA, [6]University of Delaware, USA
Disclosures: Maya Styner, None

FR0073 **Planar Cell Polarity Signaling directs Osteoblast Proliferation and Wolff's Law for Dynamic Strain**
Gabriel Galea*[1], Lee Meakin[1], Hanna Taipaleenmaki[2], Noureddine Zebda[1], Toshihiro Sugiyama[3], Gary Stein[2], Lance Lanyon[4], Andre Van Wijnen[2], Joanna Price[1]. [1]University of Bristol, United Kingdom, [2]University of Massachusetts Medical School, USA, [3]Yamaguchi University School of Medicine, Japan, [4]Royal Veterinary College, United Kingdom
Disclosures: Gabriel Galea, None

FR0076 **Bone Density and Strength Differences Among Elite Female Athletes in Weight-Bearing Versus Non Weight-Bearing Sports**
Brett Bruininks[1], Lesley Scibora*[2]. [1]Concordia College (Moorhead), USA, [2]University of Minnesota, USA
Disclosures: Lesley Scibora, None

FR0077 **Diffuse Microdamage Induced in Cortical Bone in vivo Repairs without Bone Remodeling**
Zeynep Seref-Ferlengez*[1], Oran Kennedy[2], Mitchell Schaffler[1]. [1]City College of New York, USA, [2]The City College of New York, USA
Disclosures: Zeynep Seref-Ferlengez, None

FR0079 **Muscle volume does not affect the osteogenic response to compressive loading in the distal radius of young women**
Karen Troy*, Varun Bhatia, William Edwards. University of Illinois at Chicago, USA
Disclosures: Karen Troy, None

FR0085 **Directed Differentiation of Embryonic Stem Cells to Chondrocyte and Osteoblast lineages: The Role of RhoA/ROCK Signaling**
Dalea Bukhary*[1], Fraser McDonald[2], Agamemnon E Grigoriadis[3]. [1]King's College London/UK, King Abdulaziz University/Saudi Arabia, United Kingdom, [2]King's College London Dental Institute, United Kingdom, [3]Dept Craniofacial Dev & Stem Cell Biology, King's College London, United Kingdom
Disclosures: Dalea Bukhary, None

FR0086 **Ethanol Modulates Canonical Wnt Signaling And FoxO Activation In Acute and Chronic Binge Models of Ethanol-Induced Deficient Fracture Repair**
Philip Roper*[1], Rachel Nauer[1], Kristen Lauing[1], John Callaci[2]. [1]Loyola University Medical Center, USA, [2]Loyola University of Chicago, USA
Disclosures: Philip Roper, None

FR0089 **Runx2 Control Chondrocyte Proliferation through Direct Regulation of Cell Cycle Genes**
Haiyan Chen*[1], Farah Ghori-Javed[1], Rosa Serra[1], Soraya Gutierrez[2], Amjad Javed[1]. [1]University of Alabama at Birmingham, USA, [2]Universidad De Concepcion, Chile
Disclosures: Haiyan Chen, None

FR0090 **Smad2/3 Mediated TGFbeta Signaling Regulates Chondrocyte Proliferation and Differentiation in Postnatal Growth Plate and Maintains Articular Cartilage Integrity**
Weiguang Wang*, Karen Lyons, Buer Song. University of California, Los Angeles, USA
Disclosures: Weiguang Wang, None

FR0091 **The FOP R206H Alk2 Mutation Enhances BMP-Induced Chondrogenic Differentiation**
Andria Culbert*, Salin Chakkalakal, Robert Caron, Eileen Shore. University of Pennsylvania, USA
Disclosures: Andria Culbert, None

FR0092 **The Transcription Factor FoxC1 Regulates Chondrogenesis Together with Gli2 through Induction of PTHrP**
Michiko Yoshida*[1], Kenji Hata[1], Rikako Takashima[2], Sachiko Iseki[3], Teruko Takano-Yamamoto[4], Riko Nishimura[1], Toshiyuki Yoneda[1]. [1]Osaka University Graduate School of Dentistry, Japan, [2]Osaka University, Japan, [3]Section of Molecular Craniofacial Embryology, Graduate School, Tokyo Medical & Dental University, Japan, [4]Tohoku University, Japan
Disclosures: Michiko Yoshida, None

FR0095 **Knockdown of Tribbles Homolog 3 (TRIB 3) Results in Cell and Context Specific Effects on Bone, Fat and the Hematopoietic System**
Rakesh Verma*[1], Anne Breggia[2], Phuong Le[1], Sheila Bornstein[2], Donald Wojchowski[1], Clifford Rosen[2]. [1]Maine Medical Center Research Institute, USA, [2]Maine Medical Center, USA
Disclosures: Rakesh Verma, None

FR0098 **HIF-1α is Essential for the Development of the Nucleus Pulposus**
Laura Mangiavini*[1], Tremika LeShan Wilson[2], Alexander Robling[3], Irving Shapiro[4], Makarand Risbud[5], Ernestina Schipani[1]. [1]Indiana University School of Medicine, USA, [2]Department of Medicine, Indiana University School of Medicine, USA, [3]Indiana University, USA, [4]Thomas Jefferson University, USA, [5]Department of Orthopedics Surgery, Thomas Jefferson University, USA
Disclosures: Laura Mangiavini, None

FR0099 **Manipulating the Notch Pathway to Accelerate Fracture Repair**
Cuicui Wang*[1], Jie Shen[1], Kiminori Yukata[2], Michael Zuscik[3], Regis O'Keefe[1], Hani Awad[4], Matthew Hilton[4]. [1]University of Rochester, USA, [2]University of Tokushima Graduate School, Japan, [3]University of Rochester School of Medicine & Dentistry, USA, [4]University of Rochester Medical Center, USA
Disclosures: Cuicui Wang, None

FR0100 **Periosteal PTHrP Regulates Cortical Bone Modeling During Linear Growth**
Meina Wang*[1], Joshua VanHouten[2], Randy Johnson[3], Arthur Broadus[2]. [1]Yale University, USA, [2]Yale University School of Medicine, USA, [3]M.D. Anderson Cancer Center, USA
Disclosures: Meina Wang, None

FR0103 **SULF1/SULF2 Expression in Osteochondral Cells and Their Role in Bone Development and Fracture Repair**
Gul Zaman*[1], Mittal Shah[1], Jajesh Dudhia[1], Chantal Chenu[2], Andrew Pitsillides[1], Gurtej Dhoot[1]. [1]The Royal veterinary College, United Kingdom, [2]Royal Veterinary College, United Kingdom
Disclosures: Gul Zaman, None

FR0105 **Computational Simulation of Osteopontin ASARM Peptide Binding to Crystal Faces of Hydroxyapatite**
Ahmad Mansouri[1], David L. Masica[2], Jeffrey J. Gray[2], Marc McKee*[1]. [1]McGill University, Canada, [2]Johns Hopkins University, USA
Disclosures: Marc McKee, None

FR0116 **Critical Role of PTH Receptor Phosphorylation in Regulating Acute Effects of PTH on Renal Hemodynamics**
Akira Maeda*[1], Makoto Okazaki[2], Hiroko Segawa[1], Abdul Abou-Samra[3], Harald Jueppner[1], John Potts[1], Thomas Gardella[1]. [1]Massachusetts General Hospital, USA, [2]Chugai Pharmaceutical. Co., Ltd., Japan, [3]Wayne State University, School of Medicine, USA
Disclosures: Akira Maeda, Chugai Pharmaceutical Co., Ltd., 3

FR0117 **Induction of Bone Marrow Apoptosis Impacts PTH Anabolic Actions in Bone.**
Amy Koh*[1], Sun Wook Cho[2], Glenda Pettway[1], Laurie McCauley[3]. [1]University of Michigan, USA, [2]Seoul National University Hospital, South Korea, [3]University of Michigan School of Dentistry, USA
Disclosures: Amy Koh, None

FR0119 **Proton Generation by Osteoblasts/Osteocytes in Response to PTH/PTHrP**
Katharina Jähn*[1], Matt Prideaux[2], Hong Zhao[2], Sarah Dallas[1], Lynda Bonewald[1]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri-Kansas City, USA
Disclosures: Katharina Jähn, None

FR0124 **FGF23 Suppresses Chondrocyte Proliferation and Maturation in the Presence of Soluble Alpha-klotho both in vitro and in vivo**
Masanobu Kawai*[1], Saori Kinoshita[2], Yasuhisa Ohata[3], Kazuaki Miyagawa[4], Miwa Yamazaki[1], Keiichi Ozono[5], Toshimi Michigami[6]. [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, Japan, [4]Osaka Medical Center, Japan, [5]Osaka University Graduate School of Medicine, Japan, [6]Osaka Medical Center, Research Institute for Maternal & Child Health, Japan
Disclosures: Masanobu Kawai, None

FR0125 **Persistent Hyperparathyroidism Is a Major Risk Factor for Fractures in the Five Years after Renal Transplantation**
Rose-marie Javier*[1], Peggy Perrin[2], Sophie Caillard[2], Laura Braun[2], Françoise Heibel[2], Bruno Moulin[3]. [1]University Hospital, France, [2]Nephrology-Transplantation Department, France, [3]Nephrology-Transplantation Department, Strasbourg, France
Disclosures: Rose-marie Javier, None

FR0129 **Rapid Decrease in Plasma Calcium Concentration by Treatment with ONO-5334, a Cathepsin K Inhibitor, in the Rabbit Hypercalcemia Model Induced by PTHrP**
Yasuo Ochi*[1], Hiroyuki Yamada[2], Yasutomo Nakanishi[1], Satoshi Nishikawa[1], Yasuaki Hashimoto[1], Hiroshi Mori[1], Masafumi Sugitani[1], Yutaka Shichino[1], Kazuhito Kawabata[1]. [1]Ono Pharmaceutical Co., Ltd., Japan, [2]ONO PHARMA UK LTD., United Kingdom
Disclosures: Yasuo Ochi, None

FR0130 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Genome Wide DNA Methylation Array in Genetic Hypercalciuric Stone-forming (GHS) Rats Reveals that Vitamin D Receptor (VDR) Regulates Crystalin Zeta (CryZ) Gene Expression through DNA Methylation
Hongwei Wang*[1], Baisheng Fu[1], Jinhua wang[1], David Bushinsky[2], Murray Favus[1]. [1]University of Chicago, USA, [2]University of Rochester, USA
Disclosures: Hongwei Wang, None

FR0131 **Increased *Sost* Expression in *Hyp*-mouse Bone: A Primary Factor Underlying Abnormal Mineralization and Osteomalacia**
Baozhi Yuan*[1], Stephen Bowman[1], Ying Liu[2], Robert Blank[1], Min Liu[3], Hua Zhu Ke[3], Jian Feng[2], Marc Drezner[1]. [1]University of Wisconsin, USA, [2]Texas A&M Health Science Center, USA, [3]Amgen Inc., USA
Disclosures: Baozhi Yuan, None

FR0132 **The Effect of Antenatal Vitamin D Supplementation on Early Neonatal Calcium Homeostasis**
Jennifer Harrington*[1], Abdullah Al Mahmud[2], Rubhana Raqib[2], Abdullah Baqui[3], Daniel Roth[4]. [1]The Hospital for Sick Children, Canada, [2]ICDDR B, Bangladesh, [3]The John Hopkins Bloomberg School of Public Health, USA, [4]The Hospital for Sick Children, Department of Pediatrics, University of Toronto, Canada
Disclosures: Jennifer Harrington, None

FR0133 **Vitamin D2 and D3 Replacement Effectiveness in Patients with Chronic Liver Disease**
Dorota Krajewski, Julia (Julianna) Barsony*. Georgetown University Hospital, USA
Disclosures: Julia (Julianna) Barsony, None

FR0136 **Familial Hypocalciuric Hypercalcemia Type 2 (FHH2) Is Caused by a Mutation of G Protein Alpha 11 ($G\alpha_{11}$)**
Fadil Hannan*[1], M. Andrew Nesbit[2], Sarah Howles[2], Nigel Rust[3], Maurine Hobbs[4], Hunter Heath[5], Rajesh Thakker[2]. [1]Oxford University, United Kingdom, [2]Nuffield Department of Clinical Medicine, University of Oxford, United Kingdom, [3]Sir William Dunn School of Pathology, University of Oxford, United Kingdom, [4]Core Research Facilities, University of Utah, USA, [5]Indiana University School of Medicine, USA
Disclosures: Fadil Hannan, None

FR0144 **Modifications of Bone Material Properties Early Detected after One Year of Menopause in Women**
Delphine Farlay*[1], Yohann Bala[2], Susan Bare[3], Joan Lappe[4], Robert Recker[4], Georges Boivin[5]. [1]INSERM, UMR1033; Université De Lyon, France, [2]University of Melbourne, Dept. of Medicine, Australia, [3]Osteoporosis Research Center, Creighton University, USA, [4]Creighton University Osteoporosis Research Center, USA, [5]INSERM, UMR1033 ; Universite De Lyon, France
Disclosures: Delphine Farlay, None

FR0145 **Aortic Calcification, Arterial Stiffness, and Vascular Wnt mRNAs Are Increased In Atherosclerotic LDLR-/- Mice Lacking Smooth Muscle Cell LRP6**
Jian Su Shao*[1], Abraham Behrmann[2], Karen Krchma[2], Su-Li Cheng[1], Linda Halstead[3], Attila Kovacs[2], Bart Williams[4], Dwight Towler[3]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University, USA, [3]Washington University in St. Louis, USA, [4]Van Andel Research Institute, USA
Disclosures: Jian Su Shao, None

FR0146 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Calcium Supplementation and Cardiovascular Events
Vaishali Patel*[1], James Vacek[2], Rajib Bhattacharya[3]. [1]The University of Kansas Medical Center, USA, [2]KUMC, USA, [3]KU Medical Center, USA
Disclosures: Vaishali Patel, None

FR0148 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Tissue-nonspecific Alkaline Phosphatase Upregulation in Vascular Smooth Muscle Cells Is Sufficient to Cause Medial Vascular Calcification
Campbell Sheen*[1], Wei Wang[2], Manisha Yadav[3], Jose Luis Millan[4]. [1]Sanford Burnham Medical Research Institute, USA, [2]Sanford Burnham Medical Reaearch Institute, USA, [3]Burnham Institute for Medical Research, USA, [4]Sanford-Burnham Medical Research Institute, USA
Disclosures: Campbell Sheen, None

FR0151 **Genotype-Phenotype Correlations and Pharmacogenetic Studies in 140 Swedish Families with Osteogenesis Imperfecta**

Katarina Lindahl*[1], Carl-Johan Rubin[2], Eva Åström[3], Barbro Malmgren[4], Andreas Kindmark[5], Osten Ljunggren[5]. [1]Endocrinology, Sweden, [2]Uppsala University, Sweden, [3]Department of Woman & Child Health, Division of Pediatric Neurology, Karolinska Institutet, Sweden, [4]Karolinska Institutet, Department of Dental Medicine, Division of Pediatric Dentistry, POB 4064 SE-14104, Sweden, [5]Uppsala University Hospital, Sweden

Disclosures: Katarina Lindahl, None

FR0157 **Osteoblast-targeted expression of an activating mutation of Gsa in mice mimics van Buchem's disease/Sclerosteosis rather than Fibrous Dysplasia (FD), and does not alter the hematopoietic microenvironment/niche**

Stefano Michienzi*[1], Isabella Saggio[2], Stefania Cersosimo[1], Cristina Remoli[1], Rossella Costa[1], Graham R Davis[3], Alberto Di Consiglio[1], Emanuela Spica[1], Benedetto Sacchetti[1], Ana Cumano[4], Pamela Gehron Robey[5], Kenn Holmbeck[6], Alan Boyde[3], Mara Riminucci[1], Paolo Bianco[7]. [1]University La Sapienza, Italy, [2]Sapienza University of Rome, Italy, [3]Queen Mary University of London, United Kingdom, [4]Pasteur Institute, France, [5]NIH/NIDCR, USA, [6]NIDCR, USA, [7]Universita La Sapienza, Italy

Disclosures: Stefano Michienzi, None

FR0160 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
The Prostaglandin Transporter Encoding Gene *SLCO2A1 I*s Mutated in Primary Hypertrophic Osteoarthropathy and Isolated Digital Clubbing

Jirko Kühnisch*[1], Wenke Seifert[2], Beyhan Tüysüz Tüysüz[3], Christof Specker[4], Ad Brouwers[5], Denise Horn[1]. [1]Institute of Medical & Human Genetics, Charité - University Medicine of Berlin, Germany, [2]Institute for Vegetative Anatomy, Charité - University Medicine of Berlin, Germany, [3]Cerrahpasa Medical Faculty, Department of Pediatric Genetics, Istanbul University, Turkey, [4]Dept. of Rheumatology & Clinical Immunology, Centre for Internal Medicine, Kliniken Essen Süd, Germany, [5]Department of Internal Medicine, Gelderse Vallei Hospital, Ede, Netherlands

Disclosures: Jirko Kühnisch, None

FR0169 **Bone Healing Enhancement through Inhibition of Sclerostin by Monoclonal Antibody in Rat Osteotomy Model**

Pui Kit Suen*[1], Yixin HE[2], Dick Ho Kiu Chow[1], Le Huang[1], Zhong Liu[1], Chi Wai Man[1], Lizhen Zheng[3], Tao Tang[1], Chaoyang Li[4], Hua Zhu Ke[4], Ge Zhang[5], Ling Qin[6]. [1]The Chinese University of Hong Kong, Hong Kong, [2]The Cuinese University of Hong Kong, Hong Kong, [3]Prince of Wales Hospital, Hong Kong, [4]Amgen Inc., USA, [5]Price of Wales Hospital, Hong Kong, [6]Chinese University of Hong Kong, Hong Kong

Disclosures: Pui Kit Suen, None

FR0170 **Duffy Antigen Receptor for Chemokines (Darc) Regulates Chondrogenesis and Bone Formation During Fracture Repair**

Charles Rundle*, Subburaman Mohan, Bouchra Edderkaoui. Jerry L. Pettis Memorial VA Medical Center, USA

Disclosures: Charles Rundle, None

FR0171 **Hyperactive WNT Signaling Causes Preaxial Polydactyly in *Sclerostin*/*Sostdc1* Double Knockouts**

Nicole Collette*[1], Cristal Yee[2], Deepa Murugesh[1], Richard Harland[3], Gabriela Loots[4]. [1]Lawrence Livermore National Laboratory, USA, [2]University of California, Merced, USA, [3]University of California, Berkeley, USA, [4]Lawrence Livermore National Laboratory, UC Merced, USA

Disclosures: Nicole Collette, None

FR0172 **Novel Link Between CSF-1 and Lung Cancer Bone Metastasis**

Sherry Abboud Werner*[1], Fermin Tio[2], Thomas Prihoda[3], Diane Horn[3], Jaclyn Hung[3]. [1]University of Texas Health Science Center at San Antonio, USA, [2]South Texas Veterans Health Care System, USA, [3]University of Texas Health Science Center, USA

Disclosures: Sherry Abboud Werner, None

FR0174 **Transgenic Overexpression of Ephrin B1 in Osteoblasts Promotes a Skeletal Anabolic Response to Mechanical Loading in Mice**
Weirong Xing*[1], Chandrasekhar Kesavan[2], Shaohong Cheng[3], Subburaman Mohan[2]. [1]Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, [2]Jerry L. Pettis Memorial VA Medical Center, USA, [3]VA Loma Linda Health Care Systems, USA
Disclosures: Weirong Xing, None

FR0177 **Alternative Splicing, Polyadenylation, and MicroRNAs Targeting Insulin-like Growth Factor-1 in Osteoblasts**
Spenser Smith[1], Catherine Kessler[1], Clifford Rosen[2], Anne Delany*[1]. [1]University of Connecticut Health Center, USA, [2]Maine Medical Center, USA
Disclosures: Anne Delany, None

FR0178 **Conditional Deletion of IGF-I Receptor by Osterix Driven Cre-Recombinase Impairs Both Cartilage and Bone Formation**
Yongmei Wang*[1], Hashem ElAlieh[2], Cha K Fong[2], Daniel Bikle[3]. [1]Endocrine Unit, University of California, San Francisco/VA Medical Center, USA, [2]Endocrine Unit University of California, San Francisco/San Francisco VA Medical Center, USA, [3]Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA
Disclosures: Yongmei Wang, None

FR0179 **E-selectin ligand 1 Regulates Bone Homeostasis via Modulating TGF-β Bioavailability in Bone Microenvironment**
Tao Yang*[1], Ingo Grafe[2], Yangjin Bae[1], Shan Chen[1], Ming-ming Jiang[1], Terry Bertin[1], Yuqing Chen[1], Brendan Lee[3]. [1]Baylor College of Medicine, USA, [2]Department of Molecular & Human Genetics, Baylor College of Medicine, USA, [3]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Tao Yang, None

FR0186 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Modulation of Osteoclast Formation by Cyclically-Strained Myotubes Is Mediated by IL-6
Petra Juffer*[1], Richard T. Jaspers[2], Jenneke Klein-Nulend[3], Astrid D. Bakker[1]. [1]Department of Oral Cell Biology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & VU University Amsterdam, Research Institute MOVE, Amsterdam, Netherlands, [2]Research Institute MOVE, Faculty of Human Movement Sciences, VU University Amsterdam, Amsterdam, The Netherlands, Netherlands, [3]ACTA-VU University Amsterdam, Dept Oral Cell Biology (Rm # 11N-63), The netherlands
Disclosures: Petra Juffer, None

FR0188 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Muscle-derived Humoral Factor, Osteoglycin (OGN), Links Muscle to Bone
Ken-ichiro Tanaka*[1], Toshitsugu Sugimoto[1], Susumu Seino[2], Hiroshi Kaji[3]. [1]Shimane University School of Medicine, Japan, [2]Kobe University Graduate School of Medicine, Japan, [3]Kinki University Faculty of Medicine, Japan
Disclosures: Ken-ichiro Tanaka, None

FR0189 **Physical Activity in Relation to Serum Sclerostin, Insulin-like Growth Factor-1 and Bone Turnover Markers in Healthy Young Men : A Cross-sectional and a Longitudinal Study**
Mohammed-Salleh Ardawi*[1], Abdulrahman Al-Sibiany[2], Talal Bakhsh[3], Mohammed Qari[4]. [1]Center of Excellence for Osteoporosis Research & Faculty of Medicine, Saudi arabia, [2]Center of Excellence for Osteoporosis Research & Department of General Surgery, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi arabia, [3]Center of Excellence for Osteoporosis Research, & Department of General Surgery, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi arabia, [4]Center of Excellence for Osteoporosis Research,and Department of Hematology,Faculty of Medicine, & KAU Hospital, King Abdulaziz University, Saudi arabia
Disclosures: Mohammed-Salleh Ardawi, None

FR0191 **The *PPP6R3/LRP5* locus influences lean mass in children of different ethnic background and highlights pleiotropic effects and muscle-bone interactions**
Carolina Medina-Gomez*[1], Denise Heppe[2], Karol Estrada[3], Joyce Van Meurs[3], Albert Hofman[4], Yi-Hsiang Hsu[5], David Karasik[6], Vincent Jaddoe[7], Maria Zillikens[8], Andre Uitterlinden[9], Fernando Rivadeneira[3]. [1]Erasmus Medical Center, The Netherlands, [2]The Generation R Study Group, Erasmus Medical Center, Rotterdam, The Netherlands, Netherlands, [3]Erasmus University Medical Center, The Netherlands, [4]Department of Epidemiology, Erasmus Medical Center, Rotterdam, The Netherlands, Netherlands, [5]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [6]Hebrew SeniorLife, USA, [7]The Generation R Study, Erasmus Medical Center, Rotterdam, The Netherlands, Netherlands, [8]Erasmus Mc, The Netherlands, [9]Rm Ee 575, Genetic Laboratory, The Netherlands
Disclosures: Carolina Medina-Gomez, None

FR0197 **Bone Formation is Compromised by Disruption of Runx2-WW-domain Protein Interaction**
Yang Lou*[1], Weibing Zhang[2], Marcio Beloti[3], Dana Frederick[4], Andre Van Wijnen[4], Gary Stein[4], Janet L. Stein[4], Jane Lian[4]. [1]University of Massachusetts, USA, [2]Univ of Massachusetts Medical School, USA, [3]School of Dentistry of Ribeirao Preto, University of Sao Paulo, Brazil, [4]University of Massachusetts Medical School, USA
Disclosures: Yang Lou, None

FR0199 **Characterization of the Skeletal Phenotype in Osteoactivin Transgenic Mice**
Nagat Frara*[1], Fabiola Delcarpio-Cano[1], Robin Pixley[1], Roshanak Razmpour[1], Christina Mundy[2], Fouad Moussa[3], Samir Abdelmagid[3], Steven Popoff[2], Fayez Safadi[3]. [1]Temple University, USA, [2]Temple University School of Medicine, USA, [3]Northeast Ohio Medical University, USA
Disclosures: Nagat Frara, None

FR0201 **Dlx3 Inactivation in Osteoblasts Results in Defective Endochondral Bone Formation**
Juliane Isaac*[1], Olivier Duverger[2], Hong-Wei Sun[3], Stacey Russell[4], Gary Stein[5], Jane Lian[5], Maria I Morasso[2]. [1]Developmental Skin Biology Section, NIAMS/NIH, USA, [2]Developmental Skin Biology Section, NIAMS, National Institutes of Health, USA, [3]Biodata Mining & Discovery Section, NIAMS, National Institutes of Health, USA, [4]Departments of Cell Biology & Orthopedic Surgery, University of Massachusetts Medical School, USA, [5]University of Massachusetts Medical School, USA
Disclosures: Juliane Isaac, None

FR0204 **Modulating Osteogenic Differentiation of Induced Pluripotent Stem (iPS) Cells Through Direct Inhibition of SOX9 by MicroRNA-335-5p and MicroRNA-342-3p**
Mengqi Huang*, Yuhua Hu, Qisheng Tu, Jake Jinkun Chen. Tufts University School of Dental Medicine, USA
Disclosures: Mengqi Huang, None

FR0209 **Ubiquitin E3 ligase Itch negatively regulates osteoblast differentiation from mesenchymal stem cells**
Hengwei Zhang*[1], Lei Shu[2], Brendan Boyce[2], Lianping Xing[3]. [1]Univeristy of Rochester, USA, [2]University of Rochester Medical Center, USA, [3]University of Rochester, USA
Disclosures: Hengwei Zhang, None

FR0211 **Collagen 10-Expressing Chondrocytes Have the Capacity to Become Osteoblasts *In Vivo***
Xin Zhou*[1], Klaus von der Mark[2], Stephen Henry[3], Takako Hattori[4], Benoit de Crombrugghe[1]. [1]MD Anderson Cancer Center, USA, [2]Department of Experimental Medicine 1, Nikolaus-Fiebiger-Center of Molecular Medicine, University of Erlangen-Nuremberg, Germany, [3]University of Texas MD Anderson, USA, [4]Department of Biochemistry & Molecular Dentistry, Okayama University Graduate School of Medicine, Dentistry, & Pharmaceutical Science, Japan
Disclosures: Xin Zhou, None

FR0212 **Epigenetic control of Osx-target genes during osteoblast differentiation through NO66 histone demethylase**
Krishna Sinha*[1], Hideyo Yasuda[2], Xin Zhou[3], Benoit DeCrombrugghe[1]. [1]UT MD Anderson Cancer Center, USA, [2]U.T.M.D. Anderson Cancer Center, USA, [3]MD Anderson Cancer Center, USA
Disclosures: Krishna Sinha, None

FR0217 **Preconditioning Mouse Periosteal Cells to Hypoxia by Inactivation of the *Phd2* Oxygen Sensor Improves *In Vivo* Ectopic Bone Formation**
Steve Stegen*[1], Nick Van Gastel[2], Riet Van Looveren[2], Peter Carmeliet[3], Frank Luyten[4], Geert Carmeliet[5]. [1]Laboratory of Clinical & Experimental Endocrinology, KU Leuven & Prometheus, Division of Skeletal Tissue Engineering, KU Leuven, Belgium, [2]Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, [3]Laboratory of Angiogenesis & Neurovascular Link, Vesalius Research Center, VIB & Laboratory of Angiogenesis & Neurovascular Link, Vesalius Research Center, KU Leuven, Belgium, [4]University Hospitals KU Leuven, Belgium, [5]Katholieke Universiteit Leuven, Belgium
Disclosures: Steve Stegen, None

FR0218 **Runx2 and Osterix Molecular Complex Synergistically Regulate Osteogenic Genes**
Harunur Rashid*[1], Haiyan Chen[2], Changyan Ma[1], Krishna Sinha[3], Benoit DeCrombrugghe[3], Amjad Javed[2]. [1]Department of Oral & Maxillofacial Surgery, University of Alabama at Birmingham, USA, [2]University of Alabama at Birmingham, USA, [3]UT MD Anderson Cancer Center, USA
Disclosures: Harunur Rashid, None

FR0223 **PPR-Dependent Signaling in Osteoprogenitors Regulates Bone Marrow Hematopoietic Stem Cell and Leukocyte Niches**
Cristina Panaroni*[1], Rhiannon Chubb[2], Joy Wu[2]. [1]Endocrine Unit, Massachusetts General Hospital, USA, [2]Massachusetts General Hospital, USA
Disclosures: Cristina Panaroni, None

FR0225 **The Inositol Polyphosphate/Protein Kinase Cδ Signaling Cascade is Required for the Connexin43-dependent Amplification of Runx2 Activity**
Corinne Niger[1], Maria Luciotti[2], Atum Buo[3], Carla Hebert[2], Vy Ma[2], Joseph Stains*[1]. [1]University of Maryland School of Medicine, USA, [2]University of Maryland, USA, [3]University of Maryland, School of Medicine, USA
Disclosures: Joseph Stains, None

FR0226 **A FoxO1-Independent Action of Canonical Wnt signaling in Osteoblasts Regulates Bone Resorption**
Aruna Kode*, Ioanna Mosialou, John S Manavalan, Stavroula Kousteni. Columbia University Medical Center, USA
Disclosures: Aruna Kode, None

FR0227 **Activated G_s Signaling in Immature Osteoblasts Alters the Hematopoietic Stem Cell Niche in Mice**
Edward Hsiao*[1], Koen Schepers[1], Mark Scott[2], Trit Garg[1], Emmanuelle Passegue[1]. [1]University of California, San Francisco, USA, [2]Gladstone Institute for Cardiovascular Disease, USA
Disclosures: Edward Hsiao, None

FR0229 **Diet Induced Obesity Enhances Bone Marrow Myeloproliferation by Down-regulating Runx1 and Crebbp Expression**
Benjamin Adler*[1], Danielle Green[1], M. Ete Chan[1], Clinton Rubin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Benjamin Adler, None

FR0230 **Disruption of Hematopoietic Stem Sell Lineage Determination and Increased Rate of Leukemia Cell Engraftment in Mice Lacking Osteoblasts**
Maria Krevvata*[1], Barbara Silva[2], John S Manavalan[2], Aris Economides[3], Ellin Berman[4], Stavroula Kousteni[2]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA, [3]Regeneron Pharmaceuticals, Inc., USA, [4]Memorial Sloan-Kettering Cancer Center, USA
Disclosures: Maria Krevvata, None

FR0232 **FGF-2 Maintains a Niche-dependent Population of Self-renewing Highly Potent non-adherent Mesenchymal Progenitors through FGFR2c**
Nunzia Di Maggio*, Arne Mehrkens, Adam Papadimitropoulos, Andrea Banfi, Ivan Martin. Basel University Hospital, Switzerland
Disclosures: Nunzia Di Maggio, None

FR0233 **Generation and Characterization of Osterix-Cherry Reporter Mice**
Sara Strecker*[1], Yu Fu[1], Peter Maye[2]. [1]University of Connecticut, USA, [2]University of Connecticut Health Center, USA
Disclosures: Sara Strecker, None

FR0235 **Legumain: A Novel Regulator of Human Skeletal (Mesenchymal) Stem Cell Differentiation**
Diyako Qanie*[1], Abbas Jafari[2], Kenneth Hauberg[1], Li Chen[3], Moustapha Kassem[4]. [1]Univeristy of Southern Denmark, Denmark, [2]University of Southern Denmark, Denmark, [3]Medical Biotechnology Center (MBC), Denmark, [4]Odense University Hospital, Denmark
Disclosures: Diyako Qanie, None

FR0243 **NF-kB RelB Null Mice Develop Erosive Arthritis by Increasing Inflammatory Monocyte/Macrophages**
Zhenqiang Yao*[1], Yanyun Li[2], Lianping Xing[1], Brendan Boyce[2]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA
Disclosures: Zhenqiang Yao, None

FR0244 **Osteocyte-derived RANKL in Bone Remodeling**
Tomoki Nakashima*[1], Mikihito Hayashi[1], Hiroshi Takayanagi[2]. [1]Tokyo Medical & Dental University, Japan, [2]The University of Tokyo, Department of Immunology, Japan
Disclosures: Tomoki Nakashima, None

FR0245 **RANKL Employs Distinct Binding Modes to Engage RANK and OPG**
Christopher Nelson[1], Julia Warren*[2], Steven Teitelbaum[2], Daved Fremont[1]. [1]Washington University in St. Louis, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Julia Warren, None

FR0246 **RANKL Induces TRAF3 Lysosomal Degradation Through NF-kB RelB, an Effect Prevented by the Lysosome Inhibitor Chloroquine**
Yan Xiu*[1], Yoshikazu Morita[2], Chen Zhao[1], Zhenqiang Yao[3], Lianping Xing[3], Brendan Boyce[1]. [1]University of Rochester Medical Center, USA, [2]Megmilk Snow Brand Co., Ltd., Japan, [3]University of Rochester, USA
Disclosures: Yan Xiu, None

FR0248 **Activation of the NLRP3 Inflammasome in Myeloid Cells Causes Massive Bone Resorption**
Sheri Bonar[1], Cynthia Brecks[2], Matthew McGeough[3], Susannah Brydges[3], Chang Yang[4], Deborah Novack[5], Hal Hoffman[3], Roberto Civitelli[5], Gabriel Mbalaviele*[5]. [1]Washington University in St. Louis, USA, [2]Washington University In St Louis, USA, [3]University of California, San Diego, La Jolla, CA, USA, [4]Washington University in St Louis School of Medicine, USA, [5]Washington University in St. Louis School of Medicine, USA
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FR0249 **Calcium/calmodulin-signaling Regulates TRPV4 Action by the Process Supporting Myosin IIa Association in Osteoclasts**
Ritsuko Masuyama*[1], Atsuko Mizuno[2], Hiroshi Kajiya[3], Hideki Kitaura[4], Koji Okabe[3], Toshihisa Komori[1]. [1]Nagasaki University Graduate School of Biomedical Sciences, Japan, [2]Jichi Medical University, Japan, [3]Fukuoka Dental College, Japan, [4]Tohoku University, Japan
Disclosures: Ritsuko Masuyama, None

FR0252 **Foxp3, the Master Transcriptional Regulator in Regulatory T Cells, Controls Osteoclastogenesis and Bone Mass**
Tim Hung-Po Chen*[1], Yousef Abu-Amer[2]. [1]Washington University School of Medicine, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Tim Hung-Po Chen, None

FR0254 **Impairment of Osteoclastic Bone Resorption in Rapidly Growing Female p47^{phox} Knockout Mice**
Jin-Ran Chen*[1], Kelly Mercer[2], Oxana P. Lazarenko[3], Thomas M. Badger[4], Martin J. J. Ronis[5]. [1]Arkansas Children's Nutrition Center, & Department of Pediatrics, University of Arkansas for Medical Sciences, USA, [2]Arkansas Children's Nutrition Center, USA, [3]Arkansas Children's Nutrition Center, & Department of Physiology & Biophysics, University of Arkansas for Medical Sciences, USA, [4]Arkansas Children's Nutrition Center. The Departments of Pediatrics, Physiology & Biophysics, University of Arkansas for Medical Sciences, USA, [5]Arkansas Children's Nutrition Center, & Department of Pediatrics, Pharmacology & Toxicology, University of Arkansas for Medical Sciences, USA
Disclosures: Jin-Ran Chen, None

FR0260 **Canonical Wnt signaling mediates an osteoprotegerin-independent inhibitory effect on osteoclastogenesis**
Johannes Keller*[1], Michael Amling[1], Joachim Albers[2], Anke Baranowsky[3], Thorsten Schinke[4]. [1]University Medical Center Hamburg-Eppendorf, Germany, [2]Universitätsklinikum Hamburg Eppendorf, Germany, [3]Universitätsklinikum Hamburg-Eppendorf, Germany, [4]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppe, Germany
Disclosures: Johannes Keller, None

FR0261 **Foxp3^{+} CD8 T-Cells Can Suppress Bone Turnover in Response to RANKL Administration and in Ovariectomized Mice.**
Reggie Aurora*[1], Zachary Buchwald[2], Jennifer Kiesel[2], Deborah Novack[3], Richard Di Paolo[2]. [1]Saint Louis University University, USA, [2]Saint Louis University School of Medicine, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Reggie Aurora, None

FR0263 **Mice with Inactivating Mutations in the RANK PVQEET$^{560–565}$ and PVQEQG$^{604–609}$ Motifs Exhibit Increased Bone Mass Due to Impaired Osteoclastogenesis**
Zhenqi Shi*[1], Joel Jules[2], Bob Kesterson[3], Dongfeng Zhao[4], Xu Feng[5]. [1]University of Alabama, USA, [2]University of Miami Miller School of Medicine, USA, [3]Department of Genetics, UAB, USA, [4]The University of Alabama At Birmingham, USA, [5]University of Alabama at Birmingham, USA
Disclosures: Zhenqi Shi, None

FR0268 **Stat5 Suppresses Bone Resorption of Osteoclasts by Upregulating Expression of Dusp Family**
Jun Hirose*, Hironari Masuda, Yasunori Omata, Sakae Tanaka. The University of Tokyo, Japan
Disclosures: Jun Hirose, None

FR0271 **Evaluation of Osteocyte Dedifferentiation in vitro and in vivo**
Elena Torreggiani*[1], Slavica Pejda[1], Igor Matic[1], Mark Horowitz[2], Ivo Kalajzic[1]. [1]University of Connecticut health Center, USA, [2]Yale University School of Medicine, USA
Disclosures: Elena Torreggiani, None

FR0272 **Matrix Metalloproteinase-13 is Required for Osteocytic Perilacunar Remodeling**
Simon Tang*, Tamara Alliston. University of California, San Francisco, USA
Disclosures: Simon Tang, None

FR0273 **Osteocyte-Produced Microvesicles: a Potential Mechanism for Communication with Osteoblasts and Osteoclasts**
Pat Veno, Matt Prideaux, Vladimir Dusevich, Lynda Bonewald, Sarah Dallas*. University of Missouri - Kansas City, USA
Disclosures: Sarah Dallas, None

FR0278 **Mice Like it Hot: Housing Mice at Room Temperature Results in Cancellous Bone Loss**
Urszula Iwaniec, Russell Turner*, Kenneth Philbrick, Laurence Lindenmaier, Dawn Olson, Gianni Maddalozzo. Oregon State University, USA
Disclosures: Russell Turner, None

FR0280 **The Effects of Acute Hyperinsulinemia on Bone Metabolism in Healthy Adults**
Kaisa Ivaska*[1], H. Kalervo Vaananen[1], Maikki Heliovaara[2], Pertti Ebeling[2], Heikki Koistinen[2]. [1]University of Turku, Finland, [2]Helsinki University Hospital, Finland
Disclosures: Kaisa Ivaska, None

FR0281 **The Sympathetic Nervous System Mediates Trabecular Bone Loss Caused by the Second Generation Antipsychotic Risperidone**

Katherine Motyl*[1], Deborah Barlow[2], Karen Houseknecht[2], Clifford Rosen[3]. [1]Maine Medical Center Research Institute, USA, [2]University of New England, USA, [3]Maine Medical Center, USA

Disclosures: Katherine Motyl, None

FR0288 **Estrogen Regulates Physiological Bone Turnover by Targeting Mesenchymal Cells in Mice**

Alexandra Heyny*[1], Carmen Streicher[2], Pierre Chambon[3], Reinhold Erben[4]. [1]inst. of Physiology, Pathophysiology & Biophysics, Austria, [2]University of Veterinary Medicine Vienna, Austria, [3]Institut de Génétique et de Biologie Moléculaire et Cellulaire, France, [4]University of Veterinary Medicine, Austria

Disclosures: Alexandra Heyny, None

FR0289 **A Controlled Intervention of Weight Loss and Bone Mineral Density in Older Men**

Claudia Pop*[1], Katherine Tomaino[1], Deeptha Sukumar[1], Yvette Schlussel[1], Christopher Gordon[2], Robert Zurfluh[1], Xiangbing Wang[3], Sue Shapses[1]. [1]Rutgers University, USA, [2]McMaster University, Canada, [3]Robert Wood Johnson Medical School, USA

Disclosures: Claudia Pop, None

FR0290 **A Critical Role for Caspase-2 in Regulating Osteoclast Numbers in Male Age-Related Osteoporosis**

Ramaswamy Sharma*[1], Difernando Vanegas[2], Daniel Victor[2], Marisa Lopez-Cruzan[3], Diane Horn[2], Kathleen Woodruff[2], Roberto Fajardo[4], Stephen Harris[5], Sherry Abboud Werner[5], Brian Herman[6]. [1]University of Texas Health Sciences Center At San Antonio, USA, [2]The University of Texas Health Science Center at San Antonio, USA, [3]UTHSCSA, USA, [4]UT Health Science Center, San Antonio, USA, [5]University of Texas Health Science Center at San Antonio, USA, [6]UT HSC San Antonio, USA

Disclosures: Ramaswamy Sharma, None

FR0291 **Serum Sclerostin and Bone Microarchitecture – Strong Positive Association in Men from the STRAMBO Cohort**

Pawel Szulc*[1], Stephanie Boutroy[2], Claudia Goettsch[3], Martina Rauner[4], Nicolas Vilayphiou[5], Michael Schoppet[6], Roland Chapurlat[7], Lorenz Hofbauer[8]. [1]INSERM UMR 1033, University of Lyon, Hopital E. Herriot, Pavillon F, France, [2]INSERM UMR 1033, University of lyon, France, [3]Division of Endocrinology, Diabetes, & Bone Diseases, Dresden University, Germany, [4]Medical Faculty of the TU Dresden, Germany, [5]INSERM UMR1033, Université de Lyon & Hospices Civils de Lyon, France, [6]Philipps-University, University of Marburg, Germany, [7]E. Herriot Hospital, France, [8]Dresden University Medical Center, , Germany

Disclosures: Pawel Szulc, None

FR0293 **Low Holotranscobalamin and Cobalamins Predict Incident Fractures in Elderly Men; The MrOS Sweden**

Catharina Lewerin*[1], Herman Nilsson-Ehle[2], Stefan Jacobsson[3], Valter Sundh[4], Helena Johansson[5], Mattias Lorentzon[6], Magnus Karlsson[7], Osten Ljunggren[8], John Kanis[9], Steven Cummings[10], Claes Ohlsson[11], Dan Mellstrom[12]. [1]Västra Götaland, Sweden, [2]Section of Hematology & Coagulation, Sahlgrenska University Hospital, Sweden, [3]Department of Clinical Chemistry & Transfusion Medicine, Sahlgrenska Academy at the University of Gothenburg, Sweden, [4]Department of Community Medicine & Public Health, Geriatric Medicine, Sahlgrenska Academy at the University of Gothenburg, Sweden, [5]Center for Bone & Arthritis Research (CBR), Departments of Internal Medicine, at the Institute of Medicine, Sahlgrenska Academy at the University of Gothenburg, Sweden, [6]Center for Bone Research at the Sahlgrenska Academy, Sweden, [7]Skåne University Hospital Malmö, Lund University, Sweden, [8]Uppsala University Hospital, Sweden, [9]University of Sheffield, Belgium, [10]San Francisco Coordinating Center, USA, [11]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [12]Sahlgrenska University Hospital, Sweden

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FR0294 **A Comparison of Bone Turnover Markers in Hip Fracture Patients vs. a Matched Group of Non-Fratured Controls during the 12 Month Recovery Period Post-Hip Fracture**
Janet Yu-Yahiro*[1], Jay Magaziner[2], William Hawkes[3], Marc Hochberg[4], Denise Orwig[2], Rich Hebel[5], Anne R. Cappola[6]. [1]Union Memorial Hospital, USA, [2]University of Maryland, Baltimore, USA, [3]University of Maryland School of Medicine, Department of Epidemiology, Division of Gerontology, USA, [4]University of Maryland School of Medicine, USA, [5]University of Maryland School of Medicine, Department of Epidemiology & Public Health, Division of Gerontology, USA, [6]Perelman School of Medicine at the University of Pennsylvania, USA
Disclosures: Janet Yu-Yahiro, None

FR0297 **Quantification of the circadian modulation of the bone resorption marker CTX-I in serum and urine under controlled in-patient conditions**
Maria Small*[1], Derk-Jan Dijk[2], Richard Eastell[3], Aldona Greenwood[2], John Sharpe[4], Mikihiro Yuba[4], Stephen Deacon[1]. [1]Ono Pharma UK Ltd, United Kingdom, [2]Surrey Clinical Research Centre, United Kingdom, [3]University of Sheffield, United Kingdom, [4]ONO Pharma UK, United Kingdom
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FR0298 **Serum Sclerostin Levels are Associated with Osteoporotic Fractures in Type 2 Diabetic Patients**
Masahiro Yamamoto*[1], Toru Yamaguchi[1], Mika Yamauchi[1], Kiyoko Nawata[2], Toshitsugu Sugimoto[3]. [1]Shimane University Faculty of Medicine, Japan, [2]Department of Health & Nutrition, The University of Shimane, Junior College, Matsue Campus, Japan, [3]Shimane University School of Medicine, Japan
Disclosures: Masahiro Yamamoto, None

FR0302 **Clinical Abdominal CT can Effectively Predict the Risk for Osteoporotic Vertebral Fracture**
Akifumi Nishida*[1], Masako Ito[2], Masataka Uetani[1]. [1]Nagasaki University School of Medicine, Japan, [2]Nagasaki University Hospital, Japan
Disclosures: Akifumi Nishida, None

FR0303 **Impact of a Reimbursement Change on Bone Mineral Density Testing in Ontario, Canada**
Susan Jaglal*[1], Gillian Hawker[1], Ruth Croxford[2], Cathy Cameron[3], Sarah Munce[1], Sonya Allin[4]. [1]University of Toronto, Canada, [2]Institute for Clinical Evaluative Sciences, Canada, [3]Women's College Hospital, Canada, [4]Toronto Rehabilitation Institute-University Health Network, Canada
Disclosures: Susan Jaglal, None

FR0304 **Management of Fragility Fractures: Impact of the Optimus Initiative on Family Physicians**
Marie-Claude Beaulieu*[1], Sophie Roux[2], Noémie Poirier[3], Michèle Beaulieu[4], François Cabana[5], Gilles Boire[3]. [1]Université de Sherbrooke, Canada, [2]University of Sherbrooke, Canada, [3]Centre hospitalier universitaire de Sherbrooke, Canada, [4]Merck Canada Inc, Canada, [5]CHUS, Canada
Disclosures: Marie-Claude Beaulieu, None

FR0309 **Accurate and fast strength predictions of patient-specific HR-pQCT-based plate-rod models distinguish women with vertebral fractures**
Ji Wang*[1], Bin Zhou[1], Xiaowei Liu[2], Xiutao Shi[1], Emily Stein[3], Elizabeth Shane[3], X Guo[1]. [1]Columbia University, USA, [2]University of Pennsylvania, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Ji Wang, None

FR0310 **In Breastfeeding Women, Trabecular Bone Loss at the Radius, Seen by High Resolution Peripheral Quantitative CT (HRpQCT), Persists at 18 Months Postpartum**
Anna Kepley[1], Stephanie Boutroy[2], Chiyuan Zhang[1], Mariana Bucovsky[1], Mary Beth Vrabel[1], Shannon Kokolus[1], Polly Young[1], Adi Cohen*[2]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA
Disclosures: Adi Cohen, None

FR0311 **Lower Vertebral Body Bone Strength in Subjects with Prevalent Fracture Assessed by High Resolution Axial Skeleton Quantitative Computerized Tomography**
Rene Rizzoli*[1], Fanny Merminod[1], Mélany Hars[2], Bert Rietbergen[3]. [1]University Hospital, Switzerland, [2]Hôpitaux Universitaires De Genève, Switzerland, [3]Eindhoven University of Technology, The Netherlands
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FR0312 **Mechanical Implications of Subtle Changes in Trabecular Bone Estimated by MRI-Based Finite Element Modeling**
Wenli Sun*[1], Chamith Rajapakse[2], X Guo[3], Felix Werner Wehrli[4]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania School of Medicine, USA, [3]Columbia University, USA, [4]University of Pennsylvania Medical Center, USA
Disclosures: Wenli Sun, None

FR0313 **Poor Bone Microarchitecture in Premenopausal Women with Recent Distal Radius Fracture Persists after Adjusting for Ultradistal Radius BMD**
Tamara Rozental[1], Laura Deschamps[1], Alex Taylor[2], Brandon Earp[3], David Zurakowski[4], Charles Day[1], Mary Bouxsein*[1]. [1]Beth Israel Deaconess Medical Center, USA, [2]Massachusetts General Hospital, USA, [3]Brigham & Women's Hospital, USA, [4]Children's Hospital Boston, USA
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FR0314 **Rapid cortical bone loss in patients with chronic kidney disease**
Thomas Nickolas*[1], Emily Stein[2], Chiyuan Zhang[3], Serge Cremers[3], Stephanie Boutroy[1], Xiaowei Liu[4], Donald McMahon[2], Mary Leonard[5], X Guo[3], Elizabeth Shane[2]. [1]Columbia University Medical Center, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University, USA, [4]University of Pennsylvania, USA, [5]Children's Hospital of Philadelphia, USA
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FR0318 **Changes in Bone Mineral Density over Time by Body Mass Index in the Health ABC Study**
Jennifer Lloyd*[1], Dawn Alley[1], William Hawkes[1], Marc Hochberg[2], Shari Waldstein[3], Tamara Harris[4], Stephen Kritchevsky[5], Ann Schwartz[6], Elsa Strotmeyer[7], Catherine Womack[8], Denise Orwig[1]. [1]University of Maryland, Baltimore, USA, [2]University of Maryland School of Medicine, USA, [3]University of Maryland, Baltimore County, USA, [4]Intramural Research Program, National Institute on Aging, USA, [5]Wake Forest Baptist Medical Center, USA, [6]University of California, San Francisco, USA, [7]University of Pittsburgh, USA, [8]University of Tennessee, USA
Disclosures: Jennifer Lloyd, None

FR0319 **Combined Hormonal Oral Contraceptive Use and Bone Mineral Density Change in the Premenopausal Population—10-year data from the Canadian Multicentre Osteoporosis Study**
Jerilynn Prior*[1], Heather Macdonald[1], Wei Zhou[2], Claudie Berger[2], Christopher Kovacs[3], David Hanley[4], Tassos Anastassiades[5], Stephanie Kaiser[6], and CaMOS Research Group. [1]University of British Columbia, Canada, [2]McGill University, Canada, [3]Memorial University of Newfoundland, Canada, [4]University of Calgary, Canada, [5]Queen's University, Canada, [6]Dalhousie University, Canada
Disclosures: Jerilynn Prior, None

FR0320 **Evidence for Spontaneous Recovery of Bone Mineral Density after Treatment for Cushing's Syndrome: a Long-term Follow-up Study**
Anke van der Eerden[1], Martin Den Heijer*[2]. [1]Radboud University Nijmegen Medical Centre, Netherlands, [2]VU Medical Center, Postbus 7057, 1007 MB Amsterdam, The Netherlands
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FR0321 **Fracture Risk is Increased in Severe Obesity with Low Bone Mineral Density**
Sarah Cawsey*, Rajdeep S Padwal, Stephanie Li, Arya M Sharma, Kerry Siminoski. University of Alberta, Canada
Disclosures: Sarah Cawsey, None

FR0323 **Race/ethnic Differences in Associations between Bone Mineral Density and Fracture History**
Min-Ho Shin*[1], Joseph Zmuda[2], Elizabeth Barrett-Connor[3], Yahtyng Sheu[2], Alan Patrick[4], Sun-Seog Kweon[1], Hae-Sung Nam[5], Jane Cauley[2]. [1]Chonnam National University Medical School, South Korea, [2]University of Pittsburgh Graduate School of Public Health, USA, [3]University of California, San Diego, USA, [4]Tobago Health Studies Office, Scarborough, Trinidad & tobago, [5]Chungnam National University Medical School, South Korea
Disclosures: Min-Ho Shin, None

FR0332 **Physical Activity and Incident Fracture in Postmenopausal Women: The Women's Health Initiative Observational Study**
Jean Wactawski-Wende*[1], Joseph C. Larson[2], Jane Cauley[3], Zhao Chen[4], Rebecca Jackson[5], Andrea LaCroix[6], Michael LaMonte[1], Meryl Leboff[7], Judith K. Ockene[8], John Robbins[9]. [1]University at Buffalo, USA, [2]Fred Hutchenson Cancer Research Center, USA, [3]University of Pittsburgh Graduate School of Public Health, USA, [4]University of Arizona, USA, [5]The Ohio State University, USA, [6]Fred Hutchinson Cancer Research Center, USA, [7]Brigham & Women's Hospital, USA, [8]University of Massachusetts, USA, [9]University of California, Davis Medical Center, USA
Disclosures: Jean Wactawski-Wende, None

FR0337 **A Proposed World-Wide Gene-Environment Interaction Study of BMD and Fracture Risk: Feasibility Analysis Based on the GEFOS-GENOMOS Collaboration**
Jonathan Reeve*[1], Stephen Kaptoge[2], On behalf of the GEFOS & GENOMOS consortium[3]. [1]Addenbrookes Hospital, United Kingdom, [2]University of Cambridge Bone Research Group, United Kingdom, [3]Erasmus Medical Center, Netherlands
Disclosures: Jonathan Reeve, None

FR0339 **Objectively Measured Physical Activity and Bone Mineral Content from Age 5 to 15 Years: Iowa Bone Development Study**
Kathleen F Janz*, Steven M Levy, Elena Letuchy, Trudy L Burns, Julie M Eichenberger Gilmore, James C Torner. University of Iowa, USA
Disclosures: Kathleen F Janz, None

FR0341 **A Distal Forearm Fracture in Childhood Increases the Risk for Fracture during Adulthood in Men, but not in Women**
Shreyasee Amin*[1], L. Joseph Melton[1], Sara Achenbach[1], Elizabeth Atkinson[1], Mark Dekutoski[1], Salman Kirmani[1], Philip Fischer[1], Sundeep Khosla[2]. [1]Mayo Clinic, USA, [2]College of Medicine, Mayo Clinic, USA
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FR0343 **BMI-Associated Increases in Proximal Femoral Volumetric BMD, Size and Strength Are Not Sufficient to Compensate for Increased Fall Forces in Obese Older Men**
Jian Shen*[1], Carrie Nielson[1], Lynn Marshall[1], David Lee[2], Tony Keaveny[3], Eric Orwoll[1]. [1]Oregon Health & Science University, USA, [2]O.N. Diagnostics, USA, [3]University of California, Berkeley, USA
Disclosures: Jian Shen, None

FR0344 **Estimated Frax® 10-Year Fracture Risk at the Time of Incident Fracture and Upon Refracture: Results from the Optimus Initiative**
Pierre-Marc April*[1], Noémie Poirier[2], Sophie Roux[3], Marie-Claude Beaulieu[1], Michèle Beaulieu[4], François Cabana[5], Gilles Boire[2]. [1]Université de Sherbrooke, Canada, [2]Centre hospitalier universitaire de Sherbrooke, Canada, [3]University of Sherbrooke, Canada, [4]Merck Canada Inc, Canada, [5]CHUS, Canada
Disclosures: Pierre-Marc April, None

FR0345 **Fractures in Patients Diagnosed with HIV**
Daniel Prieto-alhambra*[1], Arief Lalmohamed[2], Frank De Vries[3], Peter Vestergaard[4]. [1]Institut Municipal D'Investigació Mèdica, United Kingdom, [2]Department of Pharmacoepidemiology & Clinical Pharmacology, Utrecht Institute of Pharmaceutical Sciences, Netherlands, [3], [4]Aarhus University Hospital, Denmark
Disclosures: Daniel Prieto-alhambra, None

FR0346 **Iron Overload Accelerates Bone Loss in Healthy Postmenopausal Women and Middle-aged Men: a 3-year Retrospective Longitudinal Study**

Beom-Jun Kim*[1], Seong Hee Ahn[2], Sung Jin Bae[1], Seung Hun Lee[3], Jung-Min Koh[1], Ghi Su Kim[3]. [1]Asan Medical Center, South Korea, [2]Division of Endocrinology & Metabolism, Asan Medical Center, University of Ulsan College of Medicine, South Korea, [3]Asan Medical Center, University of Ulsan College of Medicine, South Korea

Disclosures: Beom-Jun Kim, None

FR0347 **Is Bisphosphonate Therapy for Benign Bone Disease Associated with Impaired Dental Healing?**

Gelsomina Borromeo[1], John Wark*[2], Caroline Brand[3], Michael McCullough[4], John Clement[4], Lisa Crighton[3], Graham Hepworth[5]. [1]The University of Melbourne, Australia, [2]University of Melbourne, Department of Medicine, Australia, [3]Melbourne Health, Australia, [4]Melbourne Dental School, University of Melbourne, Australia, [5]University of Melbourne, Australia

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FR0349 **Older Men with either High or Low Serum 25-hydroxy Vitamin D levels have Significantly Increased Fracture Risk: Results from the Prospective CHAMP Study.**

Kerrin Bleicher*[1], Markus Seibel[2], Robert Cumming[3], Vasikaran Naganathan[4]. [1]University of Sydney, Australia, [2]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [3]School of Public Health, University of Sydney, Australia, [4]Centre for Education & Research on Ageing, University of Sydney, Australia

Disclosures: Kerrin Bleicher, None

FR0350 **Wrist fracture incidence, risk factors, and associations with subsequent fractures in older men**

Elizabeth Barrett-Connor*[1], Carrie Nielson[2], Kristine Ensrud[3], Eric Orwoll[2]. [1]University of California, San Diego, USA, [2]Oregon Health & Science University, USA, [3]Minneapolis VA Medical Center / University of Minnesota, USA

Disclosures: Elizabeth Barrett-Connor, None

FR0353 **Effect of Obesity on Healthcare Utilisation and Quality of Life after Fracture in Postmenopausal Women: the Global Longitudinal study of Osteoporosis in Women (GLOW)**

Juliet Compston*[1], Julie Flahive[2], Steven Boonen[3], Adolfo Diez-Perez[4], Stephen Gehlbach[5], Susan Greenspan[6], Frederick Hooven[7], Robert Lindsay[8], Christian Roux[9], Philip Sambrook[10], Frederick Anderson[2], Stuart Silverman[11]. [1]University of Cambridge School of Clinical Medicine, United Kingdom, [2]UMass Medical School, USA, [3]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Belgium, [4]Autonomous University of Barcelona, Spain, [5]University of Massachusetts, USA, [6]University of Pittsburgh, USA, [7]University of Massachusetts Medical School, USA, [8]Helen Hayes Hospital, USA, [9]Hospital Cochin, France, [10]Royal North Shore Hospital, Australia, [11]Cedars-Sinai/UCLA, USA

Disclosures: Juliet Compston, None

FR0355 **Incident Bone Fracture in Men with, or at Risk for, HIV-infection in the Multicenter AIDS Cohort Study (MACS), 1996-2011**

Vanessa Walker Harris*[1], Keri N. Althoff[2], Sandra Reynolds[2], Frank Palella[3], Lawrence Kingsley[4], Michelle Danielson[5], Jordan E. Lake[6], Todd Brown[7]. [1]Johns Hopkins University School of Medicine, USA, [2]Johns Hopkins School of Public Health, USA, [3]Northwestern School of Medicine, USA, [4]University of Pittsburgh School of Public Health, USA, [5]University of Pittsburgh, USA, [6]UCLA School of Medicine, USA, [7]Johns Hopkins University, USA

Disclosures: Vanessa Walker Harris, None

FR0360 **A Phase IIb Study of MK-5442 Calcium Sensing Receptor (CaSR) Antagonist in Bisphosphonate-treated Patients**

Felicia Cosman*[1], Nigel Gilchrist[2], Michael McClung[3], Joseph Foldes[4], Tobias de Villiers[5], Boyd Scott[6], Weili He[7], John McGinnis[7], Norman Heyden[7], Suvajit Samanta[7], Annpey Pong[7], Arthur Santora[8], Albert Leung[8], Andrew Denker[6]. [1]Helen Hayes Hospital, USA, [2]Department of Orthopaedic Medicine & Surgery, Christchurch Hospital, New zealand, [3]Oregon Osteoporosis Center, USA, [4]Hadassah Hebrew University Hospital, Israel, [5]Mediclinic Panorama, South africa, [6]Merck & Co., Inc., USA, [7]Merck Sharp & Dohme Corp., USA, [8]Merck Research Laboratories, USA

Disclosures: Felicia Cosman, Merck Sharp & Dohme Corp., 5

FR0361 **A Phase IIb, Randomized, Placebo-Controlled, Dose-Ranging Study of MK-5442 in the Treatment of Postmenopausal Women with Osteoporosis.**
Johan Halse*[1], Susan Greenspan[2], Felicia Cosman[3], Graham Ellis[4], Boyd Scott[5], Norman Heyden[6], Steven Doleckyj[6], Suvajit Samanta[6], Weili He[6], Arthur Santora[7], Albert Leung[7], Andrew Denker[5]. [1]Osteoporoseklinikken, Norway, [2]University of Pittsburgh, USA, [3]Helen Hayes Hospital, USA, [4]Helderberger Osteoporosis Clinic, South africa, [5]Merck & Co., Inc., USA, [6]MSD, USA, [7]Merck Research Laboratories, USA
Disclosures: Johan Halse, None

FR0362 **Pharmacokinetic Results of a Phase 2 Clinical Study of an Oral Tablet Formulation of PTH(1-31)NH_2**
Amy Sturmer*[1], William Stern[2], Jenna Giacchi[2], Ali Bolat[2], Sheela Mitta[2], Roxanne Tavakkol[2], John Trang[3], Jeffrey Wald[4], Lorie Fitzpatrick[4], Nozer Mehta[1]. [1]Unigene Laboratories, USA, [2]Unigene Laboratories, Inc., USA, [3]PK/PD International, Inc., USA, [4]GlaxoSmithKline, USA
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FR0363 **Short Term Treatment with Teriparatide Stimulates Circulating Osteogenic Precusor Cells in Postmenopausal Women with Osteoporosis**
Jeri Nieves*[1], Felicia Cosman[2], Mishaela Rubin[3], Sanil Manovalen[3], Marsha Zion[2], David Dempster[3], Nancy Barbuto[2], Robert Lindsay[2]. [1]Columbia University & Helen Hayes Hospital, USA, [2]Helen Hayes Hospital, USA, [3]Columbia University, USA
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FR0365 **Treatment of Male Osteoporosis: Risedronate, Teriparatide or Both**
Marcella Walker*[1], Natalie Cusano[2], Megan Romano[2], James Sliney[2], Chiyuan Zhang[1], Donald McMahon[2], John Bilezikian[2]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA
Disclosures: Marcella Walker, None

FR0367 **BMD Changes in Postmenopausal Women Over a 5-year Treatment-Free Period Following a 5-year Course of Alendronate**
Brian Mcnabb*[1], Eric Vittinghoff[2], Ann Schwartz[1], Douglas Bauer[1], Elizabeth Barrett-Connor[3], Kristine Ensrud[4], Dennis Black[1]. [1]University of California, San Francisco, USA, [2]UCSF, USA, [3]University of California, San Diego, USA, [4]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Brian Mcnabb, None

FR0368 **Crosstalk between Oral Microbiome and Host Innate Immune Response in the Tissues of Patients with Bisphosponate Related Osteonecrosis of the Jaw**
Smruti Pushalkar[1], Satoko Matsumura[1], Lalitha Ramanathapuram[1], Zoya Kurago[1], Kenneth Fleisher[2], Robert Glickman[1], Wenbo Yan[3], Yihong Li[1], Xin Li[4], Deepak Saxena*[2]. [1]NYU College of Dentistry, USA, [2]New York University College of Dentistry, USA, [3]Nyack College, USA, [4]New York University, USA
Disclosures: Deepak Saxena, None

FR0370 **Effect of Zoledronic Acid on Acute Bone Loss after Spinal Cord Injury**
Thomas Schnitzer*[1], Danielle Barkema[1], Kristina Herrmann[1], Ki Kim[2]. [1]Northwestern University, USA, [2]Rehabilitation Institute of Chicago, USA
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FR0376 **Relationship Between Change in Total Hip BMD in Response to Zoledronic Acid 5 mg and Post-treatment Change in Total Hip BMD: the HORIZON-PFT Extension Study**
Richard Eastell*[1], Lisa Palermo[2], Brian Mcnabb[2], Steven Boonen[3], Felicia Cosman[4], Ian Reid[5], Steven Cummings[6], Dennis Black[2]. [1]University of Sheffield, United Kingdom, [2]University of California, San Francisco, USA, [3]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Belgium, [4]Helen Hayes Hospital, USA, [5]University of Auckland, New Zealand, [6]San Francisco Coordinating Center, USA
Disclosures: Richard Eastell, Novartis, 9

FR0377 **Resolution of Effects on Bone Turnover Markers and Bone Mineral Density after Discontinuation of Long-term Bisphosphonate Use**

Bente Langdahl*[1], Claude Laurent Benhamou[2], C. Conrad Johnston[3], Kenneth Saag[4], TOBIE DE VILLIERS[5], Andrew Denker[6], Annpey Pong[7], John McGinnis[7], Elizabeth Rosenberg[6], Arthur Santora[8]. [1]Aarhus University Hospital, Denmark, [2]CHR ORLEANS, France, [3]Indiana University School of Medicine, USA, [4]University of Alabama at Birmingham, USA, [5]PANORAMA HOSPITAL, South Africa, [6]Merck & Co., Inc., USA, [7]Merck Sharp & Dohme Corp., USA, [8]Merck Research Laboratories, USA

Disclosures: Bente Langdahl, Merck Sharp & Dohme Corp,, 8; Merck Sharp & Dohme Corp,, 2; Merck Sharp & Dohme Corp,, 5

FR0388 **A Randomized Open-Label Study to Evaluate the Safety and Efficacy of Denosumab and Ibandronate in Postmenopausal Women Sub-Optimally Treated with Daily or Weekly Bisphosphonates**

Christopher Recknor*[1], Edward Czerwinski[2], Henry Bone[3], Sydney Bonnick[4], Neil Binkley[5], Alfred Moffett[6], Suresh Siddhanti[7], Irene Ferreira[8], Prayashi Ghelani[9], Rachel Wagman[10], Jesse Hall[7], Michael Bolognese[11]. [1]United Osteoporosis Center, USA, [2]Medical College Jagiellonian University, Poland, [3]Michigan Bone & Mineral Clinic, USA, [4]Clinical Research Center of North Texas, USA, [5]University of Wisconsin, Madison, USA, [6]OB-GYN Associates of Mid-Florida, P.A., USA, [7]Amgen, Inc., USA, [8]Amgen Inc, United Kingdom, [9]Ovatech Solutions, United Kingdom, [10]Amgen, Incorporated, USA, [11]Bethesda Health Research, USA

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FR0389 **Antiresorptive Action is Dependent on Access to Remodeling Upon Cortical and Trabecular Surfaces: Comparison of Denosumab and Alendronate**

Roger Zebaze*[1], Cesar Libanati[2], Matthew Austin[2], John Bilezikian[3], Ego Seeman[1]. [1]Austin Health, University of Melbourne, Australia, [2]Amgen Inc., USA, [3]Columbia University College of Physicians & Surgeons, USA

Disclosures: Roger Zebaze, Amgen, 2

FR0391 **Long-term Denosumab Treatment Maintains Low Incidence of Fracture in Postmenopausal Women ⩾75 Years with Osteoporosis**

Socrates Papapoulos*[1], Michael R. McClung[2], Nathalie Franchimont[3], Jonathan D. Adachi[4], Henry G. Bone[5], Claude-Laurent Benhamou[6], Jordi Farrerons[7], J. Christopher Gallagher[8], Johan Halse[9], Kurt Lippuner[10], Zulema Man[11], Salvatore Minisola[12], Ove Törring[13], Nadia Daizadeh[3], Andrea Wang[3], Rachel B. Wagman[3], Steven Boonen[14]. [1]Leiden University Medical Center, Netherlands, [2]Oregon Osteoporosis Center, USA, [3]Amgen Inc., USA, [4]Charlton Medical Centre, Canada, [5]Michigan Bone & Mineral Clinic, USA, [6]INSERM U658, France, [7]Hospital de la Santa Creu I Sant Pau, Spain, [8]Creighton University Medical Center, USA, [9]Osteoporoseklinikken, Norway, [10]University Hospital, Switzerland, [11]Centro Tiemp, Argentina, [12]Sapienza, Università di Roma, Italy, [13]Karolinska Institutet Sodersjukhuset, Sweden, [14]Leuven University, Belgium

Disclosures: Socrates Papapoulos, Amgen Inc., Merck and Col., Novartis, Eli Lilly, GSK, 1

FR0392 **Odanacatib Improved Estimated Femoral Strength in Postmenopausal Women - Results of a 2-year Placebo-controlled Trial**

Tony Keaveny*[1], Kim Brixen[2], Roland Chapurlat[3], Angela Cheung[4], Thomas Fuerst[5], Bernie Dardzinski[6], Nadia Verbruggen[7], Shabana Ather[8], Elizabeth Rosenberg[6], Anne De Papp[6]. [1]University of California, Berkeley, USA, [2]Institute for Clinical Research, Denmark, [3]E. Herriot Hospital, France, [4]University Health Network, Canada, [5]Synarc Inc, USA, [6]Merck & Co., Inc., USA, [7]Merck Sharpe & Dohme, Belgium, [8]Merck & Co, Inc., USA

Disclosures: Tony Keaveny, Merck Sharp & Dohme Corp., 5; Merck Sharp & Dohme Corp., 9; Merck Sharp & Dohme Corp., 2

FR0393 **The Effect of Denosumab on Bone Mineral Density (BMD) Assessed by Baseline Bone Turnover in Men with Low BMD**
Paul Miller*[1], Ugis Gruntmanis[2], Steven Boonen[3], Yuqing Yang[4], Rachel Wagman[5], Jesse Hall[6], Eric Orwoll[7]. [1]Colorado Center for Bone Research, USA, [2]University of Texas Southwestern Medical Center, Dallas, USA, [3]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Belgium, [4]Amgen Inc, USA, [5]Amgen, Incorporated, USA, [6]Amgen, Inc., USA, [7]Oregon Health & Science University, USA
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FR0400 **Effects of Age and Vitamin D on Parathyroid Hormone Levels**
Frank Blocki*[1], Sudhaker D. Rao[2], Andre Valcour[3]. [1]DiaSorin Incorporated, USA, [2]Bone & Mineral Research Laboratory, Henry Ford Hospital, USA, [3]Center for Esoteric Testing, LabCorp, USA
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FR0401 **The Efficacy of High-Dose Oral Vitamin D_3 Administered Once a Year: Increased Fracture Risk Is Associated with 1,25 Vitamin D Level at 3-Months Post Dose**
Kerrie Sanders*[1], Gustavo Duque[2], Peter Ebeling[3], Thomas McCorquodale[2], Markus Herrmann[4], Catherine Shore-Lorenti[5], Geoffrey Nicholson[6]. [1]NorthWest Academic Centre, The University of Melbourne, Western Health, Australia, [2]Ageing Bone Research Program, University of Sydney, Australia, [3]The University of Melbourne, Australia, [4]ANZAC Research Institute, The University of Sydney, Concord, Australia, Australia, [5]NorthWest Academic Centre, University of Melbourne, Australia, [6]The University of Queensland, Australia
Disclosures: Kerrie Sanders, None

FR0402 **The Safety of Long-Term Use of Different Doses of Vitamin D3 Plus Calcium in Older Caucasian and African American Women**
Vinod Yalamanchili*[1], Munro Peacock[2], Lynette Smith[3], J. Christopher Gallagher[1]. [1]Creighton University Medical Center, USA, [2]Indiana University Medical Center, USA, [3]University of Nebraska Medical Center, USA
Disclosures: Vinod Yalamanchili, None

FR0406 **Long-term Sclerostin Antibody Treatment in Cynomolgus Monkeys: Sustained Improvements in Vertebral Microarchitecture and Bone Strength Following a Temporal Increase in Cancellous Bone Formation**
Michael Ominsky*[1], Rana Samadfam[2], Jacquelin Jolette[3], Susan Y. Smith[2], Hua Zhu Ke[1], Rogely Waite Boyce[4]. [1]Amgen Inc., USA, [2]Charles River Laboratories, Canada, [3]Charles River Laboratories, Preclinical Services Montreal, Canada, [4]Amgen Inc, USA
Disclosures: Michael Ominsky, Amgen, 3; Amgen, 1

FR0408 **Negative Effect of N-Cadherin on the Anabolic Action of Parathyroid Hormone (PTH)**
Leila Revollo*[1], Jin Norris[2], Gabriel Mbalaviele[3], Roberto Civitelli[3]. [1]Washington University, Division of Bone & Mineral Diseases, USA, [2]WASHINGTON UNIVERSITY, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Leila Revollo, None

FR0409 **Treatment with an Inhibitor of Fatty Acid Synthase Reverses Bone Loss in Ovariectomized Mice**
Sandra Bermeo*[1], Wei Li[2], Christopher Vidal[3], Daniele Cultrone[4], Mamdouh Khalil[5], Gustavo Duque[6]. [1]Ph.D Student, Australia, [2]University of Sydney, Nepean Clinical School, Australia, [3]University of Sydney, Australia, [4]Ageing Bone Research Program, Sydney Medical School Nepean, The University of Sydney, Australia, [5]ANZAC Research Institute, Australia, [6]Ageing Bone Research Program, University of Sydney, Australia
Disclosures: Sandra Bermeo, None

FR0415 **A New Peptide Derived from the Matrix Protein Chondroadherin Reduces Motility of Osteoclast Precursors and Breast Cancer Cells through Inhibition of the Nitric Oxide Synthase 2 Pathway: Pre-clinical Evidence for Therapy**

Nadia Rucci*[1], Mattia Capulli[2], Ole Kristoffer[3], Kaare Gautvik[4], Lisbet Camper[5], Dick Heinegard[6], Anna Teti[1]. [1]University of L'Aquila, Italy, [2]Department of experimental Medicine, University of L'Aquila, Italy, [3]Department of Clinical Chemistry, Ullevaal University Hospital & Institute of Medical Biochemistry, University of Oslo, Norway, [4]Oslo University Hospital, Norway, [5]Department of Experimental Medical Science, Lund University, Sweden, [6]Lund University, Sweden

Disclosures: Nadia Rucci, None

FR0416 **2012 ASBMR YOUNG INVESTIGATOR AWARD**

Central Roles of Adiponectin on Bone Formation Through a Hypothalamic Relay

Yuwei Wu*[1], Qisheng Tu[2], Jin Tang[2], Dana Murray[2], Jessica Cheng[2], Maribel Rios[3], Zhihui Tang[4], Jake Jinkun Chen[2]. [1]Tufts University, USA, [2]Tufts University School of Dental Medicine, USA, [3]Tufts University School of Medicine, USA, [4]Peking University School of Stomatology, China

Disclosures: Yuwei Wu, None

FR0417 **Comparing Treatment Effects of Odanacatib and Alendronate in Lumbar Vertebrae of Ovariectomized Rhesus Monkeys using Quantitative Computed Tomography**

Sangeetha Somayajula*[1], Ghassan Fayad[2], Randolph Crawford[3], Seetha R. Kummari[4], Belma Dogdas[3], Mona L Purcell[5], Paul McCracken[6], Jacquelynn J Cook[5], Sherri L Motzel[7], Le Thi Duong[6], Don Williams[8], Antonio Cabal[8]. [1]Merck, USA, [2]Merck Research Laboratories - Modeling & Simulations, USA, [3]Merck Research Laboratories - Informatics IT, USA, [4]Case Western Reserve University, USA, [5]Merck Research Laboratories - Imaging, USA, [6]Merck Research Laboratories, USA, [7]Merck Research Laboratories - Lab Animal Resources, USA, [8]Merck & Co., Inc., USA

Disclosures: Sangeetha Somayajula, None

FR0418 **Efficacy of Odanacatib or Alendronate following Parathyroid Hormone Treatment in Estrogen-Deficient Rabbits**

Brenda Pennypacker*[1], Christopher Winkelmann[2], John Szumiloski[2], Randolph Crawford[2], Mary Belfast[3], Le Thi Duong[1]. [1]Merck Research Laboratories, USA, [2]Merck & Co., USA, [3]Merck & Company, USA

Disclosures: Brenda Pennypacker, Merck and Co., 3

FR0420 **Odanacatib Treatment Reduces Remodeling and Stimulates Modeling-based Bone Formation in Central Femur and Lumbar Vertebra of Adult OVX Monkeys**

Charles Chen*[1], Mei-Shu Shih[2], Hellen Zheng[3], Le Thi Duong[4]. [1]Merck & Co., Inc., USA, [2]RS Medical, USA, [3]MDS, USA, [4]Merck Research Laboratories, USA

Disclosures: Charles Chen, Merck, 3; Merck, 1

FR0422 **Down-regulation of FoxO3a/SIRT1 Signaling by Measles Virus Nucleocapsid Protein is Implicated in Paget's Disease**

Feng-Ming Wang*[1], Benedicte Sammut[2], Quanhong Sun[3], Jolene Windle[4], G. David Roodman[1], Deborah Galson[3]. [1]Indiana University, USA, [2]University of Pittsburgh, Hillman Cancer Center, USA, [3]University of Pittsburgh, USA, [4]Virginia Commonwealth University, USA

Disclosures: Feng-Ming Wang, None

FR0424 **Cushing Disease: Restoration of Bone Mass and Microarchitecture after Hypercortisolism Normalization**

Eugénie Koumakis*[1], Renaud Winzenrieth[2], Laurence Guignat[3], Catherine Cormier[4]. [1]Rheumatology Department A, Cochin Hospital, APHP, France, [2]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, France, [3]Endocrinology department, Cochin Hospital, APHP, France, [4]AP-HP Groupe Hospitalier Cochin, France

Disclosures: Eugénie Koumakis, None

FR0425 **Hypothalamic–pituitary–adrenal Axis is Essential for the Regulation of both Bone and Fat Metabolism via Melanocortin 2 Receptor**
Tsuyoshi Sato*[1], Dai Chida[1], Takanori Iwata[2], Michihiko Usui[3], Yuichiro Enoki[1], Masahito Matsumoto[1], Ren Xu[4], Satoko Sunamura[5], Hiroki Ochi[5], Toru Fukuda[6], Shu Takeda[7], Tetsuya Yoda[1]. [1]Saitama Medical University, Japan, [2]Tokyo Women's Medical University, Japan, [3]Showa University Dental School, Japan, [4]Tokyo Medical & Dental University, Japan, [5]Keio University, Japan, [6]Keio University School of Medicine, Japan, [7]Keio University, Dept. of Nephrology, Endocrinology & Metabolism, Japan
Disclosures: Tsuyoshi Sato, None

FR0426 **The Role of Osteocalcin in Glucocorticoid-Induced Metabolic Dysfunction**
Tara Brennan-Speranza[1], Holger Henneicke*[1], Sylvia Gasparini[2], Caren Gundberg[3], Colin Dunstan[4], Hong Zhou[1], Markus Seibel[1]. [1]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [2]Bone Research Program, ANZAC Research Institute, Australia, [3]Yale University School of Medicine, USA, [4]University of Sydney, Australia
Disclosures: Holger Henneicke, None

FR0427 **Low Femoral and High Vertebral Bone Phenotype in α_{2C}AR Knockout Mice**
Marilia Teixeira*[1], Gisele M Martins[2], Cristiane Costa[2], Cecilia Gouveia[3]. [1]University of Sao Paulo, Brazil, [2]Institute of Biomedical Science, Brazil, [3]University of Sao Paulo, Institute of Biomedical Sciences, Brazil
Disclosures: Marilia Teixeira, None

FR0428 **The Role of Activation Functions 1 and 2 of Estrogen Receptor-α for the Effects of Estradiol and Selective Estrogen Receptor Modulators (SERMs) in Male Mice**
Anna Borjesson*[1], Sara Windahl[2], Marie Lagerquist[3], Cecilia Engdahl[2], Helen Farman[2], Antti Koskela[4], Klara Sjogren[5], Jenny Kindblom[3], Alexandra Stubelius[2], Ulrika Islander[2], Maria C Antal[6], Andrée Krust[6], Pierre Chambon[6], Juha Tuukkanen[4], Claes Ohlsson[7]. [1]Sahlgrenska University Hospital, Clinical Pharmacology Lab, Sweden, [2]Center for Bone & Arthritis Research, Sahlgrenska Academy, Sweden, [3]Sahlgrenska University Hospital, Sweden, [4]University of Oulu, Finland, [5]Centre for Bone & Arthritis Research, Sweden, [6]Institut de Génétique et de Biologie Moléculaire et Cellulaire, France, [7]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden
Disclosures: Anna Borjesson, None

FR0431 **Control of Post-Gonadarche Bone Mass Acquisition via Expression and Action of Heterogeneous Nuclear Ribonucleoprotein D (hnRNPD)**
Hong Chen[1], Linda Gilbert[2], Thomas Lisse[3], Martin Hewison[4], Mark Nanes[5], John Adams*[4]. [1]VA / Emory University School of Medicine, USA, [2]Atlanta VA Medical Center, USA, [3]Mount Desert Island Biological Laboratory, USA, [4]University of California, Los Angeles, USA, [5]VA Medical Center & Emory University, USA
Disclosures: John Adams, None

FR0436 **Transgene Expression of CYP27B1 in Osteoblasts Promotes Bone Formation without Altering Bone Resorption**
Andrew Turner*[1], Paul Anderson[2], Rebecca Sawyer[3], Peter O'Loughlin[3], Gerald Atkins[4], Howard Morris[1]. [1]SA Pathology, Australia, [2]Musculoskeletal Biology Research, University of South Australia, Australia, [3]Musculoskeletal Biology Research, Chemical Pathology, SA Pathology, Australia, [4]University of Adelaide, Australia
Disclosures: Andrew Turner, None

FR0440 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Parathyroid Hormone-related Protein (PTHrP) Potentiates Myeloid-Derived Suppressor Cells (MDSCs) within the Bone Marrow via Osteoblast-Derived Interleukin (IL)-6 and Vascular Endothelial Growth Factor (VEGF)-A
Serk In Park*[1], Amy Koh[1], Fabiana Soki[2], Laurie McCauley[2]. [1]University of Michigan, USA, [2]University of Michigan School of dentistry, USA
Disclosures: Serk In Park, None

FR0443 **Thrombospondin-1 regulates bone density in healthy and skeletal metastatic states by regulating osteoclast-osteoblast coupling**
Sarah Amend*[1], Ozge Uluckan[2], Michelle Hurchla[1], Li Jia[1], William Frazier[2], Katherine Weilbaecher[3]. [1]Washington University in St. Louis, USA, [2]Washington University in Saint Louis, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Sarah Amend, None

FR0446 **Inverse Biological Coupling Between the Bone-specific Transcription Factor RUNX2 and the Tumor Suppressor p53 Levels in Osteosarcoma**
Hanna Taipaleenmaki*[1], Margaretha van der Deen[2], Ying Zhang[2], Jane Lian[2], Janet L. Stein[2], Gary Stein[2], Andre Van Wijnen[2]. [1]University of Turku, USA, [2]University of Massachusetts Medical School, USA
Disclosures: Hanna Taipaleenmaki, None

FR0447 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Osteoclast activation by IAP antagonists opposes their potential anti-cancer effects and enhances bone metastasis
Chang Yang*[1], Jennifer Davis[2], Lynne Collins[3], Suwanna Vangveravong[3], Robert Mach[3], David Piwnica-Worms[3], Katherine Weilbaecher[4], Roberta Faccio[1], Deborah Novack[4]. [1]Washington University in St Louis School of Medicine, USA, [2]Washington University in St. Louis, USA, [3]Washington University in St Louis, USA, [4]Washington University in St. Louis School of Medicine, USA
Disclosures: Chang Yang, None

FR0448 **Parathyroid Hormone-related Peptide (PTHrP) blockade Inhibits Tumor Progression in a Model of Human Melanoma**
Dao Chao Huang*[1], Xian Fang Yang[2], Anne Camirand[1], Richard Kremer[1]. [1]McGill University, Royal Victoria Hospital, Canada, [2]McGill University Health Center, Canada
Disclosures: Dao Chao Huang, None

FR0450 **The Cancer Stem Cell Marker CD44 Promotes Bone Metastasis of Breast Cancer by Enhancing Tumorigenicity, Cell Motility, and Matrix Production**
Toru Hiraga*[1], Susumu Ito[2], Hiroaki Nakamura[1]. [1]Matsumoto Dental University, Japan, [2]Shinshu University, Japan
Disclosures: Toru Hiraga, None

YOUNG INVESTIGATOR NETWORKING HOUR AND MINORITY INVESTIGATOR NETWORKING HOUR

Sponsored by the ASBMR Membership Development Committee, Young Investigator Subcommittee and Minority Investigator Subcommittee

7:15 pm - 8:00 pm **Hilton Minneapolis**
Duluth

This event is open to Young Investigators and under-represented minority investigators who want to continue to build connections in a fun and informal setting.

NUTRITION WORKING GROUP

Supported by an educational grant from Dairy Research Institute
Ticket Required

7:15 pm - 9:30 pm **Minneapolis Convention Center**
Room 102ABC

7:15 pm **Introduction**
Sue Shapses, Ph.D.
Rutgers University, USA

7:30 pm **Improving the Quality of Weight Loss: Nutritional and Exercise Strategies to Combat Bone and Lean Mass Declines**
Sue Shapses, Ph.D.
Rutgers University, USA

8:00 pm **The Role of Leptin Mediating Bone Metabolism During Weight Changes**
Urszula Iwaniec, Ph.D.
Oregon State University, USA

8:30 pm **Bone and the Endocrinology of Refeeding in Anorexia Nervosa**
Michelle Warren, M.D.
Columbia University, USA

9:00 pm **Bone Loss in Adolescents after Bariatric Surgery**
Heidi Kalkwalf, Ph.D.
University of Cincinnati Children's Hospital, USA

Disclosures: Sue Shapses-Nestle Nutrition Consultant; Urszula Iwaniec-None; Michelle Warren-Yoplait Consultant, Pfizer, Pfizer grant support; Heidi Kalkwarf-None

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MUSCLE AND BONE WORKING GROUP

Muscle-Bone Relationships in the Young and Old
Ticket Required

7:30 pm - 9:30 pm **Minneapolis Convention Center**
Room 200ABC

Chairs: Norman Pollock, Ph.D., Georgia Health Sciences University, USA
Norma MacIntyre, PT, Ph.D., McMaster University, Canada

7:30 pm **Dinner**

7:35 pm **Opening Remarks**

7:40 pm **Bone, Muscle and Fat Interactions - Progress and Developments in Musculoskeletal Assessments**
Andy Kin On Wong, HBSc, Ph.D. Candidate
McMaster University, Canada

8:00 pm **Exercise-induced Changes in Myostatin and Follistatin Concentrations are Associated with Better Insulin Sensitivity in Obese Children**
Norman Pollock, Ph.D.
Georgia Health Sciences University, USA

8:20 pm **Body Composition and Silent Vertebral Fractures in Young Hyperthyroid Men**
Ana Paula Barbosa, M.D.
Santa Maria University Hospital, University of Lisbon, Portugal

8:30 pm **IGF-1 and Sex Steroids Effects on the Lean Mass and Bone Mineral Density in Adult Men**
Mario Mascarenhas, M.D., Ph.D.
Santa Maria University Hospital, University of Lisbon, Portugal

8:40 pm **Muscle Strength Predicts Radial Bone Structure and Strength in Adolescent Boys and Girls**
Vina PS Tan, Ph.D. Candidate
University of British Columbia, Canada

9:00 pm **Mechanics of Muscle Function**
Hans Schiessl
Novotec Medical, Germany

9:25 pm **Closing Remarks**

Disclosures: Dr. Norman Pollock-Nothing to disclose; Dr. Norma MacIntyre-Nothing to disclose; Andy Wong-Nothing to disclose; Dr. Ana Paula Barbosa-Nothing to disclose; Dr. Mario Mascarenhas-Nothing to disclose; Vina Tan-Nothing to disclose; Hans Schiessl-Novatec Medical.

ADULT BONE AND MINERAL WORKING GROUP

Ticket Required

7:30 pm - 10:00 pm **Minneapolis Convention Center**
Room 200HIJ

7:30 pm **Dinner and Historical Vignette**
Fred Kaplan, M.D.
University of Pennsylvania Hospital, USA

7:45 pm **A Problem Case: Managing Endocrine Disorders in the Adult OI Patient: Impact on Bone**
Jay R. Shapiro, M.D.
Kennedy Krieger Institute, USA

8:00 pm **Seeking the Sinister: A Practical Approach to Tumor Localization and Post-operative Monitoring in Tumor-induced Osteomalacia**
Chong WH, et al

8:15 pm **Case Report: Prolonged Requirement for Intravenous Calcium Supplementation Following Paratyroidectomy for Tertiary Hyperparathyroidism Complicating X-linked Hypophosphataemia (XLH)**
Crowley RK, et al

8:30 pm **Long-term Teriparatide Therapy for Hypoparathyroidism Associated with Diffuse Painful Osteosclerosis**
Gentile NM, et al

8:45 pm **SAPHO Syndrome**
Griebeler ML, et al

9:00 pm **Sarcoidosis and Primary Hyperparathyroidism Coexisting in Patients with Hypercalcemia**
Hassan S, et al

9:15 pm **Extremely High Bone Mineral Density Associated with Osteosclerosis**
Lim V, et al

9:30 pm **Genotypic and Phenotypic Characteristics of X-linked Spondyloepiphyseal Dysplasia Tarda in Korean**
Rhee Y, et al

9:45 pm **Boy Frame Award 2012**

10:00 pm **Adjourn**

THE CKD-MBD WORKING GROUP

Ticket Required

7:30 pm - 10:00 pm **Minneapolis Convention Center**
Room 102DEF

Chairs: Sharon Moe, M.D., Indiana University, USA
Keith Hruska, M.D., Washington University in St. Louis School of Medicine, USA

7:30 pm **Introduction**
Keith Hruska, M.D.
Washington University in St. Louis School of Medicine, USA

7:45 pm **Dinner**

8:00 pm **Phosphorus as a Cardiovascular Risk Factor, Next Steps**
Sharon Moe, M.D.
Indiana University, USA

8:25 pm **Discussion**

8:40 pm **FGF23 – Uremic Toxin or Cardiovascular Risk Factor**
Tamara Isakova, M.D., M.M.Sc.
University of Miami Miller School of Medicine, USA

9:05 pm **Discussion**

9:20 pm **Effects of VDRA on Cardiovascular Risk in CKD**
Ravi Thadani, M.D., MPH
Massachusetts General Hospital and Harvard University, USA

9:45 pm **Discussion**

10:00 pm **Adjourn**

WORKING GROUP ON SKELETAL AGING

Aging and Skeletal Regulation of Metabolism
Ticket Required

7:30 pm - 9:30 pm **Minneapolis Convention Center**
Auditorium Room 1

7:30 pm **Dinner/Opening Remarks by Organizers**

7:40 pm **The Skeleton as an Endocrine Organ Regulating Glucose Metabolism**
Stavroula Kousteni, Ph.D.
Columbia University, USA

8:00 pm **Bone-fat Reciprocity with Skeletal Aging**
Robert J. Pignolo, M.D., Ph.D.
University of Pennsylvania, USA

8:20 pm **Effects of Caloric Restriction on the Skeleton**
Lyndon Joseph, Ph.D.
National Institute on Aging, USA

8:40 pm **Metabolic Factors that Influence Skeletal Aging**
Jane Cauley, Ph.D.
University of Pittsburgh, USA

9:00 pm **Panel Discussion**

9:20 pm **Concluding Remarks**

Working Group Organizers:
Bernard P. Halloran, Ph.D., University of California, San Francisco
Julie Glowacki, Ph.D., Brigham and Women's Hospital
Robert J. Pignolo, M.D., Ph.D., University of Pennsylvania
John Williams, Ph.D., National Institute on Aging, U.S.National Institutes of Health

Disclosures: Stavroula Kousteni, None; Robert J. Pignolo, None; Lyndon Joseph, None; Jane Cauley, Norvartis (5,2,) Merck(5)

SPEED NETWORKING EVENT

Sponsored by the ASBMR Women in Bone and Mineral Research and Membership Development Committees

Ticket Required

8:00 pm - 10:00 pm **Hilton Minneapolis**

Minneapolis Grand Ballroom

The ASBMR Women in Bone and Mineral Research and Membership Development Committees are co-sponsoring this Speed Networking Event, providing you with a networking opportunity like no other. In 60 minutes you will have an opportunity to meet more than 10 researchers and in four minutes learn about them and introduce yourself. Come prepared with a two- minute introduction that "sells" who you are and what you do. This is an opportunity to learn networking skills and meet members in all career stages. You will make key connections that are otherwise difficult to make in meetings as large as ASBMR. Come and join the fun and expand your network! A reception will follow the event.

SATURDAY, OCTOBER 13, 2012

DAY-AT-A-GLANCE

Time/Event/Location **All locations in the Minneapolis Convention Center unless otherwise noted**

ASBMR NETWORKING BREAKFAST

Sponsored by the ASBMR Membership Development Committee

6:45 am - 8:00 am **Minneapolis Convention Center**
Room 102

New Investigators (early-career stage), new ASBMR members and young and underrepresented minority 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 senior investigators at tables assigned by research topic. Breakfast will be provided.

ASBMR REGISTRATION OPEN

7:00 am - 5:30 pm **Minneapolis Convention Center**
Hall C

POSTERS OPEN

8:00 am - 6:00 pm **Minneapolis Convention Center**
Discovery Hall-Hall B

LOUIS V. AVIOLI LECTURE - ADVANCED BONE IMAGING IN OSTEOPOROSIS: MONITORING DISEASE PROGRESSION, PREDICTING FRACTURE RISK, AND PROVIDING SURROGACY FOR FRACTURE OUTCOME – THE "HOLY COW!" OR THE "HOLY GRAIL?"

8:00 am - 9:00 am **Minneapolis Convention Center**
Auditorium-Main

Harry K. Genant, M.D.
UCSF/Synarc, USA
Disclosures: Harry Genant, None

PRESENTATION OF THE ASBMR LOUIS V. AVIOLI MEMORIAL FOUNDERS AWARD

9:00 am - 9:05 am **Minneapolis Convention Center**
Auditorium-Main

DISCOVERY HALL OPEN

9:00 am - 4:00 pm **Minneapolis Convention Center**
Discovery Hall-Hall B

DISCOVERY HALL COFFEE BREAK

9:00 am - 9:30 am **Minneapolis Convention Center**
Discovery Hall-Hall B

CONCURRENT ORAL SESSION 01: OSTEOBLASTS/ MESENCHYMAL STEM CELLS

9:30 am - 11:00 am **Minneapolis Convention Center**

Room 101C

Moderators:
David W. Rowe, M.D.
University of Connecticut Health Center, USA
Disclosures: David Rowe, None

Paolo Bianco, M.D.
Universita La Sapienza, Italy
Disclosures: Paolo Bianco, None

9:30 am **2012 ASBMR YOUNG INVESTIGATOR AWARD**
1001 **Nestin-positive Cells Become Osterix-expressing Osteoblast Precursors in the Perichondrium during Early Endochondral Bone Development**
Noriaki Ono*[1], Wanida Ono[2], Paul Frenette[3], Henry Kronenberg[2]. [1]Massachusetts General Hospital & Harvard Medical School, USA, [2]MASSACHUSETTS GENERAL HOSPITAL, USA, [3]Ruth L. & David S. Gottesman Institute for Stem Cell & Regenerative Medicine, USA
Disclosures: Noriaki Ono, None

9:45 am **c-Cbl Silencing in Mesenchymal Cells Promotes Osteoblast Differentiation by Decreasing**
1002 **STAT5-Runx2 Interaction**
François-Xavier Dieudonné*[1], Nicolas Sévère[1], Jing-Jie Weng[2], Yeu Su[2], Pierre J. Marie[1]. [1]Inserm UMR-606 & University Paris Diderot, France, [2]Institute of Biopharmaceutical Sciences, National Yang-Ming University, Taiwan
Disclosures: François-Xavier Dieudonné, None

10:00 am **Fate Mapping with Osterix Cre Mice Reveals the Origin and Contribution of Bone Marrow**
1003 **Mesenchymal Stem Cells**
Peter Maye*, Yaling Liu, Sara Strecker, Liping Wang, Mark Kronenberg, David Rowe. University of Connecticut Health Center, USA
Disclosures: Peter Maye, None

10:15 am **Nocturnin, a Marrow Stromal Cell Deadenylase, Regulates Lineage Allocation Through**
1004 **Changes in Mitochondrial Bioenergetics.**
Anyonya Guntur*[1], Phuong Le[1], Sheila Bornstein[2], Sutada Lotinun[3], Roland Baron[4], Carla Green[5], Clifford Rosen[2]. [1]Maine medical center research institute, USA, [2]Maine Medical Center, USA, [3]Harvard School of Dental Medicine, USA, [4]Harvard School of Medicine & of Dental Medicine, USA, [5]Department of Neuroscience,University of Texas Southwestern Medical Center, USA
Disclosures: Anyonya Guntur, None

10:30 am **Osteoblastic Differentiation of Bone Marrow Stromal Cells is Sexually Dimorphic**
1005 Stefano Zanotti*, Ernesto Canalis. St. Francis Hospital & Medical Center, USA
Disclosures: Stefano Zanotti, None

10:45 am **2012 ASBMR YOUNG INVESTIGATOR AWARD**
1006 **Wnt7b Promotes Bone Formation in vivo**
Jianquan Chen*[1], Xiaolin Tu[2], Kyusang Joeng[1], Liang Ma[1], Fanxin Long[3]. [1]Washington University, USA, [2]Indiana University School of Medicine, USA, [3]Washington University School of Medicine, USA
Disclosures: Jianquan Chen, None

CONCURRENT ORAL SESSION 02: CARTILAGE DEVELOPMENT AND REGULATION

9:30 am - 11:00 am **Minneapolis Convention Center**

Auditorium Room 2

Moderators:
Hicham Drissi, Ph.D.
University of Connecticut Health Center, USA
Disclosures: Hicham Drissi, None

Ernestina Schipani, M.D., Ph.D.
Indiana University School of Medicine, USA
Disclosures: Ernestina Schipani, None

9:30 am 1007 **PTH signaling in osteoblasts necessary for vascular invasion of cartilage**
Tao Qiu*[1], Janet Crane[2], Chunyi Wen[3], Lingling Xian[1], William Lu[4], Xu Cao[2]. [1]Johns Hopkins University School of Medicine, USA, [2]Johns Hopkins University, USA, [3]Li Ka Shing Faculty of Medicine, Unversity of Hong Kong, Hong Kong, [4]The University of Hong Kong, Hong Kong
Disclosures: Tao Qiu, None

9:45 am 1008 **Parathyroid Hormone-related Peptide (PTHrP) Inhibits Chondrocyte Hypertrophy by Promoting Nuclear Translocation of Histone Deacetylase (HDAC) 4**
Shigeki Nishimori*[1], Forest Lai[1], Elena Kozhemyakina[2], Eric Olson[3], Andrew Lassar[2], Henry Kronenberg[1]. [1]Massachusetts General Hospital, USA, [2]Department of Biological Chemistry & Molecular Pharmacology, Harvard Medical School, USA, [3]UT Southwestern Medical Center At DallasDepartment of Molecular Biology, USA
Disclosures: Shigeki Nishimori, None

10:00 am 1009 **Nmp4/CIZ Closes The Parathyroid Hormone Anabolic Window By Suppressing The Osteoprogenitor Pool**
Paul Childress*[1], Yongzheng He[2], Mark Hood, Jr[3], Marta Alvarez[1], Melissa Kacena[1], Michael Hanlon[4], Bryce McKee[3], Feng-Chun Yang[5], Joseph Bidwell[1]. [1]Indiana University School of Medicine, USA, [2]Department of Pediatrics, Indiana University School of Medicine, USA, [3]Department of Anatomy & Cell Biology, Indiana University School of Medicine, USA, [4]Iowa State University College of Veterinary Medicine, USA, [5]Indiana University, USA
Disclosures: Paul Childress, None

10:15 am 1010 **G-protein Stimulatory Subunit Alpha and q/11 Family Together Maintain Stem-like Chondrocytes in the Quiescent Stage**
Andrei Chagin*[1], Tatsuya Kobayashi[2], Jun Guo[2], Takao Hirai[3], Karuna Vuppalapati[4], Min Chen[5], Stefan Offermanns[6], Susan Mackem[5], Lee Weinstein[7], Henry Kronenberg[2]. [1]Bone & Cartilage Physiology Group, Sweden, [2]Massachusetts General Hospital, USA, [3]Kyoto Prefectural University of Medicine, Japan, [4]Karolinska Institute, Sweden, [5]National Institutes of Health, USA, [6]Max-Planck-Institute for Heart & Lung Research, Germany, [7]National Institute of Diabetes & Digestive & Kidney Diseases, USA
Disclosures: Andrei Chagin, None

10:30 am 1011 ***Hes1* is a Notch Target Gene that can Regulate Mesenchymal Progenitor Cell Proliferation and Differentiation during Skeletal Development**
Timothy Rutkowski*[1], Anat Kohn[1], Anthony Mirando[2], Ryoichiro Kageyama[3], Matthew Hilton[2]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA, [3]Kyoto University, Japan
Disclosures: Timothy Rutkowski, None

10:45 am 1012 **Postnatal Growth Plate Integrity and Function Require Ext1 Expression and Heparan Sulfate Production**
Federica Sgariglia*[1], Eiki Koyama[1], Julianne Huegel[2], Maurizio Pacifici[1], Motomi Enomoto-Iwamoto[1]. [1]Children's Hospital of Philadelphia, USA, [2]Thomas Jefferson University, USA
Disclosures: Federica Sgariglia, None

CONCURRENT ORAL SESSION 03: GENETIC DISORDERS OF BONE AND MINERAL METABOLISM

9:30 am - 11:00 am **Minneapolis Convention Center**

Auditorium Room 3

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

Lin Chen, M.D., Ph.D.
Daping Hospital, Peoples Republic of China
Disclosures: Lin Chen, None

9:30 am **2012 ASBMR YOUNG INVESTIGATOR AWARD**

1013 **Sclerostin Antibody Improves Bone Mass and Mechanical Properties in Brtl/+ Model of Osteogenesis Imperfecta When Administered During Growth**
Benjamin Sinder*[1], Logan White[1], Michael Ominsky[2], Michelle Caird[1], Joan Marini[3], Kenneth Kozloff[4]. [1]University of Michigan, USA, [2]Amgen Inc., USA, [3]National Institute of Child Health & Human Development, USA, [4]University of Michigan Department of Orthopaedic Surgery, USA
Disclosures: Benjamin Sinder, None

9:45 am **Treatment with Sclerostin Antibody Improves Bone Mass and Whole Bone Strength in the**

1014 **Crtap-/- Model of Recessive Osteogenesis Imperfecta**
Ingo Grafe*[1], Tao Yang[2], Erica Homan[2], Elda Munivez[2], Caressa Lietman[2], Brian Dawson[2], Gautam Sule[2], Terry Bertin[2], Franklin Asuncion[3], Hua Zhu Ke[3], Michael Ominsky[3], Brendan Lee[4]. [1]Department of Molecular & Human Genetics, Baylor College of Medicine, USA, [2]Baylor College of Medicine, USA, [3]Amgen Inc., USA, [4]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Ingo Grafe, None

10:00 am ***Pbx1* Is a Likely Candidate Gene for the Development of Fibro-osseous Lesions in Mice**

1015 Cheryl Ackert-Bicknell*[1], Annerose Berndt[2], Clinton Cario[2], Beth Sundberg[1], John Sundberg[1]. [1]The Jackson Laboratory, USA, [2]University of Pittsburgh School of Medicine, USA
Disclosures: Cheryl Ackert-Bicknell, None

10:15 am **The Glucocerebrosidase (Gaucher Disease) Gene Functions in Immune Regulation and**

1016 **Skeletal Homeostasis**
Pramod Mistry[1], Tony Yuen*[2], Ling-Ling Zhu[2], Jun Liu[1], Stephanie Halene[1], Mei Yang[1], Jameel Iqbal[2], Ruhua Yang[1], Wajahat Mehal[3], Wei-Lien Chuang[3], Dhanpat Jain[1], Jianhua Li[4], Harry Blair[5], Li Sun[2], Mone Zaidi[6]. [1]Yale School of Medicine, USA, [2]Mount Sinai School of Medicine, USA, [3]Genzyme Corporation, USA, [4]Tount Sinai School of Medicine, USA, [5]University of Pittsburgh, USA, [6]Mount Sinai Medical Center, USA
Disclosures: Tony Yuen, None

10:30 am **A Mouse Model of Cushing's Syndrome due to a Corticotrophin Releasing Hormone (*Crh*)**

1017 **Promoter Mutation develops Steroid Induced Osteoporosis**
Liz Bentley*[1], Christopher Esapa[2], M. Andrew Nesbit[2], Rosie A Head[2], Holly Evans[3], Darren Lath[3], Tertius A Hough[1], Christine Podrini[4], William Fraser[5], Martin D Fray[1], Peter Croucher[6], Matthew Brown[7], Steve D. M. Brown[1], Roger D. Cox[1], Rajesh Thakker[8]. [1]MRC Harwell, United Kingdom, [2]University of Oxford, United Kingdom, [3]University of Sheffield, United Kingdom, [4]Wellcome Trust Sanger Institute, United Kingdom, [5]University of East Anglia, United Kingdom, [6]Garvan Institute of Medical Research, Australia, [7]Diamantina Institute of Cancer, Immunology & Metabolic Medicine, Australia, [8]Nuffield Department of Clinical Medicine, University of Oxford, United Kingdom
Disclosures: Liz Bentley, None

10:45 am **2012 ASBMR YOUNG INVESTIGATOR AWARD**

1018 **A Key Pathological Role for the Wnt/b-catenin Signaling Pathway in Hypophosphatemic Rickets/Osteomalacia**

Shuxian Lin*[1], Yong Jiang[2], Zhaowen Zong[2], Min Liu[3], Ying Liu[2], Baozhi Yuan[4], Marc Drezner[4], Hua Zhu Ke[3], J.Q. Feng[2]. [1]Baylor College of Dentistry, USA, [2]Baylor College of Dentistry, Texas A&M, USA, [3]Amgen Inc., USA, [4]University of Wisconsin, USA

Disclosures: Shuxian Lin, None

CONCURRENT ORAL SESSION 04: OSTEOPOROSIS - ASSESSMENT

9:30 am - 11:00 am **Minneapolis Convention Center**

Room 200DE

Moderators:

Pawel Szulc, M.D., Ph.D.
INSERM UMR 1033, University of Lyon, Hopital E. Herriot, Pavillon F, France
Disclosures: Pawel Szulc, None

Neil Binkley, M.D.
University of Wisconsin, Madison, USA
Disclosures: Neil Binkley, None

9:30 am **Lack of value of serum sex steroid measures in the prediction of osteoporosis and fracture risk**

1019 **in community-dwelling, ambulatory older men**

Eric Orwoll*[1], Jodi Lapidus[1], Ying Wang[1], Carrie Nielson[1], Andrew Hoffman[2], Howard Fink[3], Gail Laughlin[4], Sundeep Khosla[5]. [1]Oregon Health & Science University, USA, [2]Stanford University, USA, [3]GRECC, Minneapolis VA Medical Center, USA, [4]University of California, San Diego, USA, [5]College of Medicine, Mayo Clinic, USA

Disclosures: Eric Orwoll, None

9:45 am **Serum DKK-1 Levels and the Risk of in Relation to the Occurrence of Osteoporosis-related**

1020 **Fractures : The CEOR Study**

Mohammed-Salleh Ardawi*[1], Abdulraheem Rouzi[2], Sharifa Al-Sibiani[2], Nawal Al-Senani[2]. [1]Center of Excellence for Osteoporosis Research & Faculty of Medicine, Saudi Arabia, [2]Center of Excellence for Osteoporosis Research & Department of Obstetrics & Gynecology, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi Arabia

Disclosures: Mohammed-Salleh Ardawi, None

10:00 am **Association between Hypovitaminosis D, Secondary Hyperparathyroidism, Bone Loss and Hip**

1021 **Fractures in the Prospective Population-based OPRA Study of Elderly Women**

David Buchebner*[1], Fiona McGuigan[2], Karl Obrant[3], Paul Gerdhem[4], Kristina Akesson[5]. [1]Halmstad Hospital, Sweden, [2]University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, [3]University Hospital, Sweden, [4]Karolinska Institutet, Sweden, [5]Skåne University Hospital, Malmö, Sweden

Disclosures: David Buchebner, None

10:15 am **Bone Turnover Marker Balance and Turnover: Association with Fracture Risk in the OPUS Study**

1022

Fatma Gossiel*[1], Richard Jacques[2], Judith Finigan[3], David Reid[4], Christian Roux[5], Dieter Felsenberg[6], Claus-C Glueer[7], Richard Eastell[3]. [1]The University of Sheffield, United Kingdom, [2]School of Health & Related Research, University of Sheffield, United Kingdom, [3]University of Sheffield, United Kingdom, [4]University of Aberdeen, United Kingdom, [5]Hospital Cochin, France, [6]Charité - Campus Benjamin Franklin, Germany, [7]Christian Albrechts Universitaet zu Kiel, Germany

Disclosures: Fatma Gossiel, None

10:30 am **Can Functional Muscle Testing Improve Fracture Risk Assessment in an Ageing Female**

1023 **Population**

Nicola Crabtree*[1], Natalie Bebbington[2], Katie Stant[3], Helen Duffy[3], Jim Parle[3], Neil Gittoes[4]. [1]Birmingham Children's Hospital, United Kingdom, [2]Queen Elizabeth Hospital Birmingham, United Kingdom, [3]University of Birmingham, United Kingdom, [4]Queen Elizabeth Hospital, Edgbaston, United Kingdom

Disclosures: Nicola Crabtree, None

10:45 am 1024 **Osteoporosis Screening in Women 50-64 years-old: Comparison of U.S. Preventive Services Task Force 2011 Screening Strategy and Two Traditional Screening Strategies in Women's Health Initiative participants**

Carolyn Crandall*[1], Joseph Larson[2], Meghan Donaldson[3], Andrea LaCroix[2], Jane Cauley[4], Jean Wactawski-Wende[5], Margery L.S. Gass[6], John Robbins[7], Nelson Watts[8], Kristine Ensrud[9]. [1]University of California, Los Angeles, USA, [2]Fred Hutchinson Cancer Research Center, USA, [3]University of British Colombia/Vancouver Coastal Health Research Institute, Canada, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]University at Buffalo, USA, [6]The North American Menopause Society, USA, [7]University of California, Davis Medical Center, USA, [8]Mercy Health Osteoporosis & Bone Health Services, USA, [9]Minneapolis VA Medical Center / University of Minnesota, USA

Disclosures: Carolyn Crandall, None

CONCURRENT ORAL SESSION 05: JOHN H. CARSTEN'S MEMORIAL SESSION FOR OSTEOPOROSIS TREATMENT

9:30 am - 11:00 am **Minneapolis Convention Center**

Auditorium-Main

Moderators:

Socrates Papapoulos, M.D.
Leiden University Medical Center, The Netherlands
Disclosures: Socrates Papapoulos, None

Murray J. Favus, M.D.
University of Chicago, USA
Disclosures: Murray Favus, None

9:30 am 1025 **2012 ASBMR MOST OUTSTANDING CLINICAL ABSTRACT AWARD**
Inhibition of Sclerostin with AMG 785 in Postmenopausal Women with Low Bone Mineral Density: Phase 2 Trial Results

Michael R. McClung*[1], Andreas Grauer[2], Steven Boonen[3], Jacques P. Brown[4], Adolfo Diez-Perez[5], Bente Langdahl[6], Jean-Yves Reginster[7], Jose R. Zanchetta[8], Leonid Katz[2], Judy Maddox[2], Yu-Ching Yang[2], Cesar Libanati[2], Henry G. Bone[9]. [1]Oregon Osteoporosis Center, USA, [2]Amgen Inc., USA, [3]Leuven University, Belgium, [4]Laval University & CHUQ Research Centre, Canada, [5]Autonomous University of Spain, Spain, [6]Aarhus University Hospital, Denmark, [7]University of Liège, Belgium, [8]Instituto de Investigaciones Metabólicas, Argentina, [9]Michigan Bone & Mineral Clinic, USA

Disclosures: Michael R. McClung, Amgen, Lilly, Merck, Novartis, 5; Amgen, Lilly, Novartis, Warner-Chilcott, 8; Amgen, Merck, 2

9:45 am 1026 **Blosozumab, a Humanized Monoclonal Antibody against Sclerostin, Demonstrated Anabolic Effects on Bone in Postmenopausal Women**

Juliet McColm*[1], Theresa Womack[2], Leijun Hu[2], Cheng Cai Tang[3], Alan Chiang[2]. [1]Eli Lilly & Company, Erl Wood, United Kingdom, [2]Eli Lilly & Company, USA, [3]Eli Lilly & Company, Singapore

Disclosures: Juliet McColm, Eli Lilly and Company, 3

10:00 am 1027 **Effects of Odanacatib on BMD and Overall Safety in the Treatment of Osteoporosis in Postmenopausal Women Previously Treated with Alendronate**

Tobias De Villiers*[1], Sydney Bonnick[2], Alberto Odio[3], Santiago Palacios[4], Roland Chapurlat[5], Boyd Scott[6], Celine Le Bailly De Tilleghem[7], Carolyn DaSilva[8], Albert Leung[9], Deborah Gurner[10]. [1]Mediclinic Panorama, South Africa, [2]Clinical Research Center of North Texas, USA, [3]Alta California Medical Group, USA, [4]Instituto Palacios, Salud y Medicina de la Mujer C/Antonio Acuña, Spain, [5]E. Herriot Hospital, France, [6]Merck & Co., Inc., USA, [7]Merck Sharp & Dohme Corp., USA, [8]Merck, USA, [9]Merck Research Laboratories, USA, [10]MSD, USA

Disclosures: Tobias De Villiers, Merck Sharp & Dohme Corp., 8; Merck Sharp & Dohme Corp., 9

10:15 am 1028 **Effects of Odanacatib on the Distal Radius and Tibia in Postmenopausal Women: Improvements in cortical geometry and estimated bone strength**
Anne De Papp[1], Angela Cheung*[2], Sharmila Majumdar[3], Kim Brixen[4], Roland Chapurlat[5], Bernie Dardzinski[1], Antonio Cabal[1], Nadia Verbruggen[6], Shabana Ather[7], Elizabeth Rosenberg[1]. [1]Merck & Co., Inc., USA, [2]University Health Network, Canada, [3]University of California, San Francisco, USA, [4]Institute for Clinical Research, Denmark, [5]E. Herriot Hospital, France, [6]Merck Sharpe & Dohme, Belgium, [7]Merck & Co, Inc., USA
Disclosures: Angela Cheung, Merck Sharp and Dohme, 3

10:30 am 1029 **Bone Material Strength in Bisphosphonate-related Atypical Femoral Fractures Measured by 'in vivo' Microindentation**
Robert Guerri Fernandez*[1], Jose Manuel Quesada Gomez[2], Xavier Nogues[3], Leonardo Mellibovsky[4], Lluís Puig[5], Guy Yoskovitz[6], Natalia García Giralt[5], Elisa Torres del Pliego[7], Paul Hansma[8], Adolfo Diez-Perez[9]. [1]Fundacio IMIM, Spain, [2]Quesper R&D, Spain, [3]Institut Municipal D'Investigació Mèdica, Spain, [4]Hospital del Mar. IMIM. URFOA., Spain, [5]Hospital del Mar. IMIM. URFOA, Spain, [6]IMIM, Spain, [7]Hospital del Mar. IMIM.URFOA, Spain, [8]University of California, Santa Barbara, USA, [9]Parc De Salut Mar, Spain
Disclosures: Robert Guerri Fernandez, None

10:45 am 1030 **Quantitative Bone Histomorphometry in Patients with Bisphosphonate-Associated Atypical Subtrochanteric Femur Fractures Before and after 12 months of Teriparatide**
Paul Miller*[1], Ed McCarthy[2]. [1]Colorado Center for Bone Research, USA, [2]John Hopkins Medical School, USA
Disclosures: Paul Miller, None

CONCURRENT ORAL SESSION 06: BONE BIOMECHANICS/ LOADING AND UNLOADING

9:30 am - 11:00 am **Minneapolis Convention Center**
Auditorium Room 1

Moderators:
Alexander G. Robling, Ph.D.
Indiana University, USA
Disclosures: Alexander Robling, None

Amber Rath Stern, Ph.D.
University of Missouri - Kansas City, USA
Disclosures: Amber Stern, None

9:30 am 1031 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Mechanoregulation of Cortical and Trabecular Bone Adaptation Measured by Examining Dynamic Bone Morphometry and the Mechanical Environment
Annette Birkhold*[1], Hajar Razi[1], Richard Weinkamer[2], Georg Duda[1], Sara Checa[1], Bettina Willie[1]. [1]Julius Wolff Institute, Charité Universitätsmedizin Berlin, Germany, [2]Max Planck Institute of Colloids & Interfaces, Germany
Disclosures: Annette Birkhold, None

9:45 am 1032 **Force Induced Cytoskeletal Reorganization in MSC Requires mTORC2 Signaling at Focal Adhesions**
Buer Sen*[1], Zhihui Xie[2], Natasha Case[3], William Thompson[4], Maya Styner[3], Janet Rubin[3]. [1]University of North Carolina At Chapel Hill, USA, [2]University of North Carolina, USA, [3]University of North Carolina, Chapel Hill, School of Medicine, USA, [4]University of Delaware, USA
Disclosures: Buer Sen, None

10:00 am 1033 **Cumulative Effects of Strontium Ranelate and Free-fall Impact Exercise in a Female Ovariectomized Rat Model**
Priscilla C. Aveline*[1], Jérome Touvier[1], Eric Lespessailles[1], Claude-Laurent Benhamou[1], Gael Y. Rochefort[2]. [1]EA4708 I3MTO, Orléans Hospital, France, [2]INSERM U658, France
Disclosures: Priscilla C. Aveline, SERVIER, 2

10:15 am 1034 **Exercise during Recovery between Two Bouts of Disuse Mitigates Bone Loss on Second Exposure**
Yasaman Shirazi-Fard*, Estela Gonzalez, Joshua Davis, Ramon Boudreaux, Derrick Morgan, Kevin Shimkus, Susan Bloomfield, Harry Hogan. Texas A&M University, USA
Disclosures: Yasaman Shirazi-Fard, None

10:30 am 1035 **Site- and Compartment-specific Effects of Microgravity on the Skeleton in Mice Flown on the STS-135 Shuttle Mission**
Rachel Ellman*[1], Virginia Ferguson[2], Eric Livingston[3], Michael Lemus[3], Leeann Louis[1], Jordan Spatz[4], Kelly Warmington[5], Hong Lin Tan[5], Dave Hill[5], Marina Stolina[5], Denise Dwyer[5], Sutada Lotinun[6], Roland Baron[7], Chris Paszty[8], Louis Stodieck[2], Mary Bouxsein[1], Ted Bateman[9]. [1]Beth Israel Deaconess Medical Center, USA, [2]University of Colorado, USA, [3]University of North Carolina, Chapel Hill, USA, [4]Harvard-MIT Division of Health Sciences & Technology (HST), USA, [5]Amgen Inc., USA, [6]Harvard School of Dental Medicine, USA, [7]Harvard School of Medicine & of Dental Medicine, USA, [8]Amgen, Inc., USA, [9]Univesity of North Carolina, USA
Disclosures: Rachel Ellman, None

10:45 am 1036 **Connexin 43 Deficiency Protects Against Skeletal Changes Associated with Mechanical Unloading**
Shane Lloyd*[1], Gregory Lewis[2], Yue Zhang[1], Emmanuel Paul[2], Henry Donahue[1]. [1]The Pennsylvania State University College of Medicine, USA, [2]Penn State College of Medicine, USA
Disclosures: Shane Lloyd, None

MEET-THE-PROFESSOR SESSIONS

10:00 am - 11:00 am **Mezzanine Level-Rooms M100CDE**

Meet-the-Professor Session: Post-fracture Management
Mezzanine Level-Room M100C
Richard Dell, M.D.
Kaiser, USA
Disclosures: Richard Dell, None

Meet-the-Professor Session: Idiopathic Osteoporosis in Premenopausal Women
Mezzanine Level-Room M100D
Supported by an educational grant from Merck & Co, Inc.
Elizabeth Shane, M.D.
Columbia University College of Physicians and Surgeons, USA
Disclosures: Elizabeth Shane, Eli Lilly 2; Novartis 2

Meet-the-Professor Session: Nephrolithiasis
Mezzanine Level-Room M100E
Murray J. Favus, M.D.
University of Chicago, USA
Disclosures: Murray Favus, CVS/Caremark 5

Howard A. Fink, M.D., MPH
GRECC, Minneapolis VA Medical Center, USA
Disclosures: Howard Fink, None

POSTER SESSION I AND POSTER TOURS*

11:00 am - 1:00 pm **Discovery Hall-Hall B**

*Poster Tours Will Begin at the ASBMR Networking Center at 11:30 am

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: CELLULAR AND MOLECULAR MECHANISMS

SA0001 **A FoxO1/ATF4 Synergism in Osteoblasts Adversely Affects Glucose Metabolism by Promoting Osteocalcin Carboxylation**
Aruna Kode*, Ioanna Mosialou, Stavroula Kousteni. Columbia University Medical Center, USA
Disclosures: Aruna Kode, None

SA0002 **Age-Related Impairment of the Mechanostat is Sex Specific and Associated with Impaired Cell-Cycle Progression and Decreased Mechanosensitivity**
Lee Meakin*[1], Gabriel Galea[1], Toshihiro Sugiyama[2], Lance Lanyon[3], Joanna Price[1]. [1]University of Bristol, United Kingdom, [2]Yamaguchi University School of Medicine, Japan, [3]Royal Veterinary College, United Kingdom
Disclosures: Lee Meakin, None

SA0003 **Dietary Restriction Improves Age-related Decline of Trace Minerals in Bone**
Keiji Kobayashi*[1], Hidetoshi Nojiri[2], Tashihiko Toda[1], Yoshitomo Saita[2], Daichi Morikawa[1], Masato Koike[1], Yusuke Kozai[3], Isamu Kashima[3], Kazuya Yoshida[4], Mitsuru Segawa[4], Kazuo Kaneko[2], Takahiko Shimizu[1]. [1]Department of Advanced Aging Medicine, Chiba University Graduate School of Medicine, Japan, [2]Department of Orthopaedics, Juntendo University School of Medicine, Japan, [3]Devision of Radiology, Department of Maxillofacial Diagnostic Science, Kanagawa Dental College, Japan, [4]Research Laboratory, La Belle Vie Incorporated, Japan
Disclosures: Keiji Kobayashi, None

SA0004 **Differential Expression of MicroRNAs in Human Mesenchymal Stem Cells with Age May Be Related to Musculoskeletal Disorders**
Sudharsan Periyasamy-Thandavan*[1], Sergi Mas[2], Sadanand Fulzele[1], Mark Hamrick[1], Xingming Shi[1], Carlos Isales[3], Norman Chutkan[1], Randy Ruark[1], John Hinson[1], Monte Hunter[1], Raymond Corpe[1], Hongyan Xu[1], William Hill[4]. [1]Georgia Health Sciences University, USA, [2]Universitat de Barcelona, Spain, [3]Medical College of Georgia, USA, [4]Georgia Health Sciences University & Charlie Norwood VAMC, USA
Disclosures: Sudharsan Periyasamy-Thandavan, None

SA0005 **Levels of Serum Sclerostin Are Related with Atherosclerotic Disease in Type 2 Diabetes**
Rebeca Reyes-Garcia*[1], Pedro Rozas-Moreno[2], Antonia Garcia-Martin[1], Sonia Morales-Santana[3], Beatriz Garcia-Fontana[1], Manuel Muñoz-Torres[1]. [1]Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio, Spain, [2]Endocrinology Division. Hospital General de Ciudad Real. Ciudad Real, Spain., Spain, [3]Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio; Proteomic Research Service, Fundación para la Investigación Biosanitaria de Andalucía Oriental -Alejandro Otero- (FIBAO), Spain
Disclosures: Rebeca Reyes-Garcia, None

SA0006 **The Adipokine Leptin Enhances the Proliferation and Differentiation of Aged Primary Myoblasts in vitro**
Matthew Bowser*[1], Sadanand Fulzele[2], William Hill[3], Xingming Shi[2], Carlos Isales[4], Mark Hamrick[2]. [1]Georgia Health Science University, USA, [2]Georgia Health Sciences University, USA, [3]Georgia Health Sciences University & Charlie Norwood VAMC, USA, [4]Medical College of Georgia, USA
Disclosures: Matthew Bowser, None

SA0007 **The Effects of Simulated Microgravity on Articular Cartilage**
Liliana Mellor*[1], Julia Oxford[1], Warren Knudson[2]. [1]Boise State University, USA, [2]East Carolina University, USA
Disclosures: Liliana Mellor, None

SA0008 **The Role of Ramp3 in Development of an Aging Phenotype**
Fiona McGuigan*[1], Kristina Akesson[2], Peter Grabowski[3], Gareth Richards[3], Timothy Skerry[4]. [1]University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, [2]Skåne University Hospital, Malmö, Sweden, [3]University of Sheffield, United Kingdom, [4]University of Sheffield Medical School, United Kingdom
Disclosures: Fiona McGuigan, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: FRAILTY AND SARCOPENIA

SA0009 **Bone Loss, not Cartilage Loss, Is Linked to Reduced Muscle Function**
Shu Sun*[1], Anders Fabricius Nedergaard[2], Morten Karsdal[1], Kim Henriksen[1]. [1]Nordic Bioscience A/S, Denmark, [2]Nordic Bioscience, Herlev Hovedgade 207, Denmark
Disclosures: Shu Sun, None

SA0010 **Characterising Sex- and Age-related Differences in Musculoskeletal Phenotype in Sub-Saharan Africa**
Kate Ward*[1], Yankuba Sawo[2], Landing Jarjou[2], Ann Prentice[1]. [1]MRC Human Nutrition Research, United Kingdom, [2]MRC Keneba, Gambia
Disclosures: Kate Ward, None

SA0011 **Early Frailty in Postmenopausal Women with Human Immunodeficiency Virus (HIV) Infection**
Polly Young*[1], Elizabeth Shane[2], Chiyuan Zhang[1], David Ferris[3], Matthew Scherer[1], Binsheng Zhao[1], Ivelisse Colon[4], Donald McMahon[2], Thuy-Tien Dam[1], Michael Yin[1]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]St Lukes-Roosevelt Hospital, USA, [4]Columbia University Medical Center, USA
Disclosures: Polly Young, None

SA0012 **Effects of 3 Monthly Vitamin D Supplementation Strategies among Fallers age 70 Years and Older: a Double-blind Randomized Controlled Trial**
Heike Bischoff-Ferrari*[1], Bess Dawson-Hughes[2], John E Orav[3], Walter Willett[4], Hannes Staehelin[5], Eduard Sidelnikov[1], Daniel Grob[6], Robert Theiler[7], Andreas Egli Linder[8]. [1]University of Zurich, Switzerland, [2]Tufts University, USA, [3]Dept. of Biostatistics, Harvard School of Public Health, USA, [4]Dept. of Nutrition, Harvard School of Public Health, USA, [5]Dept. of Geriatrics, University of Basel, Switzerland, [6]Dept. of Geriatrics, City Hospital Waid, Switzerland, [7]Stadtspital Triemli, Switzerland, [8]Centre on Ageing & Mobility, Switzerland
Disclosures: Heike Bischoff-Ferrari, None

SA0013 **Inter and Intramuscular Adiposity Explains Only a Proportion of the Association between Muscle Density and Fractures**
Andy Kin On Wong*[1], Karen Beattie[1], Aakash Bhargava[1], Sami Shaker[1], Colin Webber[2], Christopher Gordon[1], Laura Pickard[1], Alexandra Papaioannou[2], Jonathan Adachi[3], The CaMos Research Group[4]. [1]McMaster University, Canada, [2]Hamilton Health Sciences, Canada, [3]St. Joseph's Hospital, Canada, [4]McGill University, Canada
Disclosures: Andy Kin On Wong, None

SA0014 **Prevalent Fractures are Associated with Frailty: Baseline Data from the Canadian Multicentre Osteoporosis Study**
Courtney Kennedy*[1], George Ioannidis[1], Jonathan Adachi[2], Kenneth Rockwood[3], Lehana Thabane[1], Laura Pickard[1], Alexandra Papaioannou[4]. [1]McMaster University, Canada, [2]St. Joseph's Hospital, Canada, [3]Dalhousie University, Canada, [4]Hamilton Health Sciences, Canada
Disclosures: Courtney Kennedy, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: OSTEOARTHRITIS AND RHEUMATOID ARTHRITIS

SA0015 **Comparison of Bone Metabolism among RA Population on Chronic DMARD Therapy and Those on anti TNF Blocker, Treatment Naive RA Patients and Normal Population**
Mie Jin Lim*[1], Won Park[1], Seong Ryul Kwon[2], Kyung Hee Jung[2], Kowoon Joo[2], Min Jung Son[2]. [1]Inha University Hospital, South Korea, [2]Inha Univeristy Hospital, South Korea
Disclosures: Mie Jin Lim, None

SA0016 **Early Increased Subchondral Bone Wnt/β-catenin Signaling in a Murine Destabilization Osteoarthritis Model Followed by Accompanying Increased Signaling in Articular Cartilage**
Danese Joiner*, Kennen Less, Bart Williams. Van Andel Research Institute, USA
Disclosures: Danese Joiner, None

SA0017 **Inhibition of TGFβ signaling in Nestin$^+$ Stem Cells Prevents Onset of Osteoarthritis**
Gehua Zhen*[1], Chunyi Wen[2], Simon Mears[3], Frederic Askin[3], Xiaofeng Jia[3], Frank Frassica[3], Weizhong Chang[3], Janet Crane[3], Jie Yao[4], Tariq Nayfeh[3], Carl Johnson[3], Dmitri Artemov[3], Andrew Cosgarea[3], John Carrino[3], Mei Wan[5], William Lu[6], Xu Cao[3]. [1]The Johns Hopkins Hospital, USA, [2]Li Ka Shing Faculty of Medicine, Unversity of Hong Kong, Hong Kong, [3]Johns Hopkins University, USA, [4]Hong Kong University, China, [5]Johns Hopkins University School of Medicine, USA, [6]The University of Hong Kong, Hong Kong
Disclosures: Gehua Zhen, None

SA0018 **Levels and Localization of Vitamin K2 in Subchondral Bone in Osteoarthritis Knee Joints**
Yoshinori Ishii*[1], Hideo Noguchi[1], Mitsuhiro Takeda[2], Junko Sato[1], Noriaki Yamamoto[3], Hiroyuki Wakabayashi[4], Junkichi Kanda[5]. [1]Ishii Orthopaedic & Rehabilitation Clinic, Japan, [2]IshiiOrthopaedic & Rehabilitation Clinic, Japan, [3]Niigata rehabilitation hospital, Japan, [4]Niigata University of Pharmacy & Applied Life Sciences, Japan, [5] Niigata University of Pharmacy & Applied Life Sciences, Japan
Disclosures: Yoshinori Ishii, None

SA0019 **Mineral Homeostasis and Body Composition Measures in Adults with Rotator Cuff Arthropathy**
Lisa Gao*, Julie Glowacki, Lawrence Higgins, Meryl Leboff. Brigham & Women's Hospital, USA
Disclosures: Lisa Gao, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: REHABILITATION AND EXERCISE

SA0020 **Effect of a Multifactorial Fall-and-Fracture Risk Assessment and Management Program on Gait and Balance and Disability in Hospitalized Older Adults: a Controlled Study**
Andrea Trombetti*, Mélany Hars, François Herrmann, René Rizzoli, Serge Ferrari. Division of Bone Diseases, University Hospitals & Faculty of Medicine of Geneva, Switzerland
Disclosures: Andrea Trombetti, None

SA0021 **Effects of High-Impact Training on Femoral Neck Structure in Postmenopausal Women with mild osteoarthritis: 12-Month Randomized Controlled Exercise Intervention (ISRCTN58314639)**
Ari Heinonen*[1], Eija Janhunen[1], Juhani Multanen[2], Timo Jamsa[3], Urho Kujala[1], Miika Nieminen[4], Ilkka Kiviranta[5], Arja Häkkinen[1]. [1]Department of Health Sciences, University of Jyväskylä, Finland, [2]University of Jyväskylä, Finland, [3]University of Oulu, Finland, [4]Department of Medical Technology, Institute of Biomedicine, University of Oulu, Finland, [5]Department of Orthopaedics & Traumatology, University of Helsinki, Finland
Disclosures: Ari Heinonen, None

SA0022 **The Effects of Whole-Body Vibration and High Impact Aerobic Training on Bone Metabolism and Fall Risk in Postmenopausal Women**
EKIN ILKE SEN*[1], Sina Esmaeilzadeh[1], NURTEN ESKIYURT[2]. [1]ISTANBUL UNIVERSITY, ISTANBUL FACULTY OF MEDICINE, Turkey, [2]Istanbul University, Turkey
Disclosures: EKIN ILKE SEN, None

SA0023 **Tibial Response to Axial Compression in Aging C57BL/6 Mice**
Nilsson Holguin*[1], Michael Brodt[2], Michelle Sanchez[2], Matthew Silva[3]. [1]Washington University Department of Orthopaedic Surgery, USA, [2]Washington University Department of Orthopaedics, USA, [3]Washington University in St. Louis School of Medicine, USA
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BONE ACQUISITION AND PEDIATRIC BONE DISEASE: ASSESSMENT OF PEDIATRIC BONE DISEASE

SA0024 **Is the Relationship Between Spine Bone Mineral Density (BMD) and Prevalent Vertebral Fractures In Children Impacted by the Choice of BMD Reference Data?**
Leanne M. Ward*[1], Nathalie Alos[2], Stephanie Atkinson[3], David Cabral[4], Robert Couch[5], Elizabeth A. Cummings[6], Ronald Grant[7], Paivi M. Miettunen[8], Helen Nadel[4], Celia Rodd[9], Robert Stein[10], David Stephure[8], Shayne Taback[11], Mary Ann Matzinger[1], Nazih Shenouda [1], Brian Lentle[4], Frank Rauch[9], Kerry Siminoski[5], and the Canadian STOPP Consortium[12]. [1]University of Ottawa, Canada, [2]Université de Montréal, Canada, [3]McMaster University, Canada, [4]University of British Columbia, Canada, [5]University of Alberta, Canada, [6]Dalhousie University, Canada, [7]University of Toronto, Canada, [8]University of Calgary, Canada, [9]McGill University, Canada, [10]University of Western Ontario, Canada, [11]University of Manitoba, Canada, [12]Canadian Pediatric Bone Health Working Group, Canada
Disclosures: Leanne M. Ward, None

SA0025 **Juvenile Paget's Disease Without Mutation of *TNFRSF11B* (OPG) or *TNFRSF11A* (RANK)**
Steven Mumm*[1], Omayma El-Shafie[2], Xiafang Zhang[1], Samir Hussein[2], Deborah Novack[3], Nicholas Woodhouse[2], Michael Whyte[4]. [1]Washington University School of Medicine, USA, [2]Sultan Qaboos University, Oman, [3]Washington University in St. Louis School of Medicine, USA, [4]Shriners Hospital for Children, USA
Disclosures: Steven Mumm, None

SA0026 **Responsiveness to Pamidronate Treatment is not Related to Genotype of Type 1 Collagen in Osteogenesis Imperfecta**
Junko Kanno*[1], Akiko Hakoda[1], Ikuma Fujiwara[2]. [1]Department of Pediatrics Tohoku University Hospital, Japan, [2]Tohoku University School of Medicine, Japan
Disclosures: Junko Kanno, None

SA0027 **Vertebral Fracture Assessment by the GE Lunar iDXA™ versus Radiographic Assessment in Children**
Nicola Crabtree*, Nicholas Shaw, Wolfgang Hogler, Natalie Bebbington, Deirdre Chapman, Steve Chapman. Birmingham Children's Hospital, United Kingdom
Disclosures: Nicola Crabtree, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE ACQUISITION

SA0028 **Age-related Genetic Influences on Bone Traits in the Metacarpals: Evidence for Genetic Independence across the Hand**
Maja Seselj*[1], Richard Sherwood[2], Dana Duren[3]. [1]Lifespan Health Research Center, USA, [2]Division of Morphological Sciences & Biostatistics, Wright State University, USA, [3]Wright State University, USA
Disclosures: Maja Seselj, None

SA0029 **Early Onset Type 2 Diabetes Impairs Skeletal Acquisition in the Tallyho Mouse**
Maureen Devlin*, Miranda Van Vliet, Christine Conlon, Leeann Louis, Lamya Karim, Mary Bouxsein. Beth Israel Deaconess Medical Center, USA
Disclosures: Maureen Devlin, None

SA0030 **Increased Vascularity in Association with Elevated Osteoclast Precursors and Bone Resorption in the Brtl Mouse Model of Moderately Severe Osteogenesis Imperfecta**
Patricia Collin-Osdoby*[1], Linda Rothe[2], Rajeev Aurora[3], Joan Marini[4], Philip Osdoby[1]. [1]Washington University in St. Louis, USA, [2]Washington University, USA, [3]St. Louis University, USA, [4]National Institute of Child Health & Human Development, USA
Disclosures: Patricia Collin-Osdoby, None

SA0031 **Maternal Vitamin D Levels in Pregnancy and Offspring Bone Mass at Age 9: Findings from a UK Prospective Birth Cohort Study**
Andrew Wills, Adrian Sayers*, Jon Tobias, Debbie Lawlor. University of Bristol, United Kingdom
Disclosures: Adrian Sayers, None

SA0032 **The Response of Cortical Bone to High Impact Activity is Attenuated in Girls: Findings from a Cross-sectional PQCT Study in Adolescents**
Kevin Deere[1], Adrian Sayers*[2], Joern Rittweger[3], J.H. Tobias[4]. [1]Bristol University, United Kingdom, [2]University of Bristol, United Kingdom, [3]2Division of Space Physiology, Institute ofAerospace Medicine, Germany, [4]Avon Orthopaedic Centre, United Kingdom
Disclosures: Adrian Sayers, None

SA0033 **School Based Intervention Improves Fitness But Not Bone Accrual in 8-14 year old Girls**
Danielle Ries*[1], Aaron Carrel[2], Sijan Wang[3], Tamara Scerpella[4]. [1]Univeristy of Wisconsin School of Medicine & Public Health, USA, [2]University of Wisconsin-Madison Department of Pediatrics, USA, [3]University of Wisconsin-Madison Department of Biostatistics & Medical Informatics, USA, [4]University of Wisconsin, USA
Disclosures: Danielle Ries, None

SA0034 **The Greater Fracture Risk in Adolescent Males Extends Through Mid-Adulthood in the United Kingdom**
Kevin Haynes[1], Michelle Denburg*[2], Justine Shults[3], Mary Leonard[4]. [1]University of Pennsylvania, USA, [2]The Children's Hospital of Philadelphia, USA, [3]Children's Hospital & Philadelphia, USA, [4]Children's Hospital of Philadelphia, USA
Disclosures: Michelle Denburg, None

SA0035 **Reference Data for BMD in Children 2 – 10 Years of Age Assessed by DXL Calscan**
Ann-Charlott Soderpalm*[1], Ragnar Kullenberg[2], Kerstin Albertsson Wikland[3], Diana Swolin-Eide[4]. [1]Orthopedic Clinic, Sweden, [2]Dept of Radiology, Sweden, [3]Department of Pediatrics, Sweden, [4]Queen Silvia Children's Hospital, Sweden
Disclosures: Ann-Charlott Soderpalm, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE LOSS

SA0036 **Effect of Cox2 on Hypoxia-induced VEGF Expression in Cartilage During Ischemia Femoral Head Osteonecrosis**
Chi Zhang*[1], Yang Li[2], Reuel Cornelia[2], Harry Kim[3]. [1]Bone Research Laboratory, Texas Scottish Rite Hospital, USA, [2]Texas Scottish Rite Hospital for Children, USA, [3]Scottish Rite Hospital for Children, USA
Disclosures: Chi Zhang, None

SA0037 **Sclerostin has Differential Effects on Bone Mineral Density and Strength Parameters in Adolescent Athletes Compared with Non-Athletes**
Pouneh Fazeli*[1], Kathryn Ackerman[2], Lisa Pierce[3], Gabriela Guereca[3], Mary Bouxsein[4], Anne Klibanski[5], Madhusmita Misra[3]. [1]Massachusetts General Hospital & Harvard Medical School, USA, [2]Brigham & Women's Hospital, USA, [3]Massachusetts General Hospital, USA, [4]Beth Israel Deaconess Medical Center, USA, [5]Massachusetts General Hospital, Harvard Medical School, USA
Disclosures: Pouneh Fazeli, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: PATHOPHYSIOLOGY OF PEDIATRIC BONE DISEASE

SA0038 **Application of Vitamin D Status to Development of Normal Ranges for Serum Calcium Concentration in the Pediatric Population**
Jeff Roizen*[1], Michael Levine[2], Dean Carlow[3]. [1]The Childrens Hospital of Philadelphia, USA, [2]Children's Hospital of Philadelphia, USA, [3]The Children's Hospital of Philadelphia, USA
Disclosures: Jeff Roizen, None

SA0039 **Long-Term Evolution of a Patient with Hereditary Vitamin D-Resistant Rickets Due to a R30X Mutation in the Vitamin D Receptor**
Bruno Ferraz-de-Souza*, Regina M Martin, Ana Claudia Latronico, Pedro Henrique Correa. Univ of Sao Paulo School of Medicine, Brazil
Disclosures: Bruno Ferraz-de-Souza, None

SA0040 **Osteoimmunology in Adolescent Obesity: Delay of Trabecular Bone Development is Paralleled by Shift of Bone Marrow Immune Cells to Adipose Tissue**
M. Ete Chan*[1], Danielle Green[1], Benjamin Adler[1], Gabriel Pagnotti[1], Denis Nguyen[1], Clinton Rubin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: M. Ete Chan, None

SA0041 **Spontaneous Osteoclastogenesis in Turner Syndrome Patients with High FSH Serum Levels**
Giacomina Brunetti*[1], Maria Felicia Faienza[2], Annamaria Ventura[2], Laura Piacente[2], Angela Oranger[3], Flaviana Marzano[2], Maria Ciccarelli[2], Giorgio Mori[1], Luciano Cavallo[2], Silvia Colucci[3], Maria Grano[1]. [1]University of Bari, Italy, [2]Interdisciplinary Department of Medicine, University of Bari, Italy, [3]Department of Basic Medical Science, Section of Human Anatomy & Histology, University of Bari, Italy
Disclosures: Giacomina Brunetti, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: TREATMENT OF PEDIATRIC BONE DISEASE

SA0042 **Dietary Calcium Restriction in Idiopathic Infantile Hypercalcemia does not Adversely Affect Spinal & Distal Radial Bone Mineral Density: Report on Nine Patients**
Anjali Daniel[1], Raja Padidela*[1], Judith Adams[2], M Zulf Mughal[1]. [1]Royal Manchester Children's Hospital, Central Manchester University Hospitals NHS Foundation Trust, United Kingdom, [2]The Manchester Royal Infirmary, Central Manchester University Hospitals NHS Foundation Trust, United Kingdom
Disclosures: Raja Padidela, None

SA0043 **Pharmacological Evaluation of a CNP Analogue for the Treatment of Achondroplasia**
Florence Lorget*[1], Nabil Kaci[2], Jeff Peng[1], Catherine Benoist-Lasselin[2], Emilie Mugniery[2], Todd Oppeneer[1], Dan Wendt[1], Sherry Bullens[1], Stuart Bunting[1], Laurie Tsuruda[1], Charles O'Neill[1], Federico Di Rocco[2], Arnold Munnich[2], Laurence legeai-Mallet[2]. [1]BioMarin Pharmaceutical Inc, USA, [2]INSERM, U781 - Hopital Necker-enfants malades, France
Disclosures: Florence Lorget, BioMarin, 3

BONE BIOMECHANICS AND QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

SA0044 **"Distribution/Mass" and "Distribution/Quality" Relationships in Human Cortical Bone. Influence of Gender and Physical Activity**
Ricardo Capozza[1], Paola Reina[1], Laura Nocciolino[1], Sara Feldman[2], Pablo Mortarino[1], Joern Rittweger[3], Jose Ferretti*[4], Gustavo Cointry[1]. [1]Center of P-Ca Metabolism Studies (CEMFoC), Natl Univ of Rosario (UNR), Argentina, [2]LABOATEM, Faculty of Medicine, UNR, Argentina, [3]Div Space Physiology, Institute of Aerospace Medicine, German Space Agency (DLR), Germany, [4]National University of Rosario, Argentina
Disclosures: Jose Ferretti, None

SA0045 **Alendronate and PTH Dose-Dependent Improvements in Microarchitecture Lead to Improved Bone Strength despite Reductions in Tissue Material Properties**
Andrea Trinward*[1], Steven Tommasini[2], Sarah Manske[1], Alvin Acerbo[3], Lisa Miller[4], Stefan Judex[1]. [1]Stony Brook University, USA, [2]Yale University School of Medicine, USA, [3]Brookhaven National Laboratody, USA, [4]Brookhaven National Laboratory, USA
Disclosures: Andrea Trinward, None

SA0046 **Assessment of varying CT image resolution on Voxel-based, Subject-Specific High-throughput FEA models**
David Mcerlain*[1], Kyle Nishiyama[1], Clara Sandino[2], Steven Boyd[1]. [1]University of Calgary, Canada, [2]Faculty of Kinesiology, Bone Imaging Lab, University of Calgary, Canada
Disclosures: David Mcerlain, None

SA0047 **Biomechanical Bone Testing in Cynomolgus Monkeys: Neonate, Juvenile, Young Adult and Aged Animals**
Aurore Varela*[1], Robert Guldberg[2], Susan Y. Smith[1]. [1]Charles River Laboratories, Canada, [2]Parker H. Petit Institute for Bioengineering & Bioscience, USA
Disclosures: Aurore Varela, None

SA0048 **Bone Heterogeneity measured by DXA Complements aBMD for Prediction of Mechanical Behavior of Human Lumbar Vertebrae**
François Duboeuf*[1], Jean-Paul Roux[1], Julien Wegrzyn[2], Mary Bouxsein[3], Roland Chapurlat[4]. [1]INSERM, UMR 1033, Université de Lyon, France, [2]INSERM U1033 - Université de Lyon, France, [3]Beth Israel Deaconess Medical Center, USA, [4]E. Herriot Hospital, France
Disclosures: François Duboeuf, None

SA0049 **Cortical Porosity and Bone Strength Assessment in Postmenopausal Women with Atypical Fractures of the Femur and Long Term Bisphosphonate Therapy**
Maria Belen Zanchetta*[1], Vanesa Longobardi[2], Fernando Silveira[2], Maria Dielh[2], Mirena Buttazzoni[2], ANA GALICH[3], Cesar Bogado[4], Jose Ruben Zanchetta[1]. [1]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [2]MD, Argentina, [3]Instituto De Investigaciones Metabolicas, Argentina, [4]Idim, Argentina
Disclosures: Maria Belen Zanchetta, None

SA0050 **Development of Functional Interactions Among Cortical and Trabecular Traits During Growth of the Lumbar Vertebral Body**
Melissa Ramcharan*[1], Meghan Faillace[1], Zoe Guengerich[1], Valerie Williams[1], Karl Jepsen[2]. [1]Mount Sinai School of Medicine, USA, [2]University of Michigan, USA
Disclosures: Melissa Ramcharan, None

SA0051 **Evidence of Narrower Tibiae with Increased vBMD in Stress Fractured Royal Marine Recruits Compared with Matched Controls: An Investigation of Radius and Tibia Bone Mass using pQCT**
Trish Davey*[1], Susan A. Lanham-New[2], Adrian J. Allsopp[3], Pat Taylor[4], Cyrus Cooper[5], Joanne L. Fallowfield[3]. [1]Institute of Naval Medicin, United Kingdom, [2]Nutrition & Metabolism Department, University of Surrey, United Kingdom, [3]Institute of Naval Medicine, United Kingdom, [4]University Hospital Southampton, United Kingdom, [5]University of Southampton, United Kingdom
Disclosures: Trish Davey, None

SA0052 **Femur Strength Indices and Trabecular Bone Score (TBS) in Postmenopausal Patients with Primary Hyperparathyroidism**
Elisabetta Romagnoli[1], Cristiana Cipriani[2], Claudia Castro[2], Vincenzo Carnevale[3], Daniele Diacinti[4], Sara Piemonte[2], Jessica Pepe[2], Luigina Ostuni[2], Maurizio Angelozzi[2], Addolorata Scarpiello[2], Salvatore Minisola*[2]. [1]University of Rome, Italy, [2]Dpt of Internal Medicine & Medical Specialties, University "Sapienza", Rome, Italy, [3]Dpt of Internal Medicine, "Casa Sollievo della Sofferenza" Hospital, S. G. Rotondo, Italy, [4]Dpt of Radiology, University "Sapienza", Rome, Italy
Disclosures: Salvatore Minisola, None

SA0053 **IGF-1, PINP, CTX, Osteocalcin and 25-OH Vitamin D Stability in Human Serum under Variable Storage Conditions**
Ellen McMonagle*[1], Elizabeth McMenamin[2], Anne Breggia[1], Susan Durham[3], Clifford Rosen[1]. [1]Maine Medical Center, USA, [2]Maine Medical Center Research Institute, USA, [3]Immunodiagnostic Systems, Incorporated, USA
Disclosures: Ellen McMonagle, None

SA0054 **Linear and Nonlinear High-Resolution Finite-Element Analysis of the Distal Tibia and Radius from in Vivo MRI**
Ning Zhang*[1], Jeremy Magland[1], Chamith Rajapakse[2], Yusuf Bhagat[1], ShingChun Lam[1], Felix Werner Wehrli[3]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania School of Medicine, USA, [3]University of Pennsylvania Medical Center, USA
Disclosures: Ning Zhang, None

SA0055 **Longitudinal Analysis of Cortical Pore Structure using HR-pQCT**
Willy Tjong, Jasmine Nirody, Julio Carballido-Gamio, Andrew Burghardt, Janina Patsch, Sharmila Majumdar, Galateia Kazakia*. University of California, San Francisco, USA
Disclosures: Galateia Kazakia, None

SA0056 **Losing Trabecular Plates and Axial BV/TV in Hip Fractures**
Bin Zhou*[1], Ji Wang[1], Ian Parkinson[2], Xiaowei Liu[3], C. David L. Thomas[4], John G. Clement[4], Nick Fazzalari[5], X Guo[1]. [1]Columbia University, USA, [2]SA Pathology & Hanson Institute, Australia, [3]University of Pennsylvania, USA, [4]Melbourne Dental School, Australia, [5]Institute of Medical & Veterinary Science, Australia
Disclosures: Bin Zhou, None

SA0057 **Major Gender-related Differences in Bone Mass and Strength in Aged *Sost* Knockout Mice**
Behzad Javaheri[1], Amber Stern*[2], Nuria Lara[2], Mark Dallas[3], Alexander Robling[4], Mark Johnson[5]. [1]School of Dentistry The University of Missouri-Kansas City, USA, [2]University of Missouri - Kansas City, USA, [3]UMKC School of Dentistry, USA, [4]Indiana University, USA, [5]University of Missouri, Kansas City Dental School, USA
Disclosures: Amber Stern, None

SA0058 **Male Obese Adolescents Have Stronger and Bigger Bones than their Normal-weighted Peers**
Sara Vandewalle[1], Stefan Goemaere*[2], Inge Roggen[3], Hans Zmierczak [4], Kaatje Toye[4], Patrick Debode[5], Maria Van Helvoirt[5], Youri Taes[6], Jean-Marc Kaufman[7], Jean De Schepper[3]. [1]MD, Belgium, [2]University Hospital, Belgium, [3]University Hospital Brussels, Belgium, [4]University Hospital Ghent, Belgium, [5]Zeepreventorium, Belgium, [6]Dept. Endocrinology, Ghent University Hospital Ghent, De Pintelaan 185, 9000 Gent, Belgium, [7]University Hospital of Ghent, Belgium
Disclosures: Stefan Goemaere, None

SA0059 **Measuring the Fracture Toughness of Mouse Bone**
Alexander Makowski*[1], Sasidhar Uppuganti[1], Jeffry Nyman[2]. [1]Vanderbilt University, USA, [2]Vanderbilt University Medical Center, USA
Disclosures: Alexander Makowski, None

SA0060 **Muscle Strength Predicts Radial Bone Structure and Strength in Adolescent Boys and Girls**
Vina Tan*[1], Heather Macdonald[2], SoJung Kim[2], Christine Voss[3], Joan Wharf Higgins[4], Patti-Jean Naylor[4], Heather McKay[2]. [1]Robert HN Ho Research Centre, Canada, [2]University of British Columbia, Canada, [3]Center for Hip Health & Mobility, Canada, [4]University of Victoria, Canada
Disclosures: Vina Tan, None

SA0061 **Proximal Femoral Cortical Thickness in Postmenopausal Women Shows Highly Localised Significant Asymmetry**
Tom Turmezei*[1], Graham Treece[1], Andrew Gee[1], Carol Tonkin[1], Madhavi Vindlacheruvu[2], Karen Blesic[1], Kenneth Poole[1]. [1]University of Cambridge, United Kingdom, [2]Cambridge University Hospitals NHS Foundation Trust, United Kingdom
Disclosures: Tom Turmezei, None

SA0062 **Solid State NMR Investigation of Bone Quality in Osteoporotic Bone: Citrate/GAGs Are Present at the Mineral-Organic Interface**
Ondrej Nikel*[1], Deepak Vashishth[1], Danielle Laurencin[2], Grazyna Sroga[1]. [1]Rensselaer Polytechnic Institute, USA, [2]Institut Charles Gerhardt de Montpellier, UMR 5253, CNRS-UM2-ENSCM-UM1, Universite? Montpellier 2, France
Disclosures: Ondrej Nikel, None

SA0063 **Withdrawn**

SA0064 **Trabecular Bone Score – TBS – a Novel Method to Evaluate Bone Microarchitecture in Primary Hyperparathyroidism**
Barbara Silva*[1], Stephanie Boutroy[1], Didier Hans[2], Chiyuan Zhang[3], Julia Udesky[1], Donald McMahon[4], Marcella Walker[3], John Bilezikian[4]. [1]Columbia University Medical Center, USA, [2]Lausanne University Hospital, Switzerland, [3]Columbia University, USA, [4]Columbia University College of Physicians & Surgeons, USA
Disclosures: Barbara Silva, None

SA0065 **Viscoelastic Mapping of Transmenopausal Bone Biopsies**
Sara Campbell[1], Philip Yuya[2], Ben Polly[3], Donna Hurley[1], Joseph Turner[4], Joan Lappe[5], Robert Recker[5], Mohammed Akhter*[5]. [1]National Institute of Standard & Technology, USA, [2]Clarkson University, USA, [3]Natiional Renewable Energy Laboratory, USA, [4]University of Nebraska, USA, [5]Creighton University Osteoporosis Research Center, USA
Disclosures: Mohammed Akhter, None

BONE BIOMECHANICS AND QUALITY: CHANGES IN BONE QUALITY IN UNTREATED AND TREATED OSTEOPOROSIS

SA0066 **Bone Mineral and Material Properties in a Patient with Alendronate-Associated Atypical Femur Fracture Before and After Two Years Treatment with Teriparatide**
Steven Ing*[1], Hartmut Malluche[2], Marie-Claude Faugere[2], Daniel Porter[3], David Pienkowski[3]. [1]The Ohio State University, USA, [2]University of Kentucky Medical Center, USA, [3]University of Kentucky, USA
Disclosures: Steven Ing, None

SA0067 **Histomorphometry and Loss Tangent Changes in OVX Rat Cortical Bone with Combination Treatment**
Xiao Yang*, Taeyong Lee, PADMALOSINI MUTHUKUMARAN. National University of Singapore, Singapore
Disclosures: Xiao Yang, None

SA0068 **Lower Osteocyte Lacunar Density in Osteons of Alendronate Treated Canine**
Joseph Geissler*[1], Devendra Bajaj[2], Shahir Monsuruddin[3], Matthew Allen[4], David Burr[4], J. Fritton[5]. [1]New Jersey Institute of Technology, New Jersey Medical School, USA, [2]NJ Medical School Orthopaedics, USA, [3]NJ Institute of Technology Biomedical Engineering, USA, [4]Indiana University School of Medicine, USA, [5]New Jersey Medical School, USA
Disclosures: Joseph Geissler, None

SA0069 **Testosterone Treatment Has Differential Effects on Trabecular and Cortical Bone Strength in Men with Hypopituitarism**
Mona Al Mukaddam*[1], Chamith Rajapakse[2], Yusuf Bhagat[1], Wensheng Guo[1], Jeremy Magland[1], Felix Werner Wehrli[3], Peter Snyder[1]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania School of Medicine, USA, [3]University of Pennsylvania Medical Center, USA
Disclosures: Mona Al Mukaddam, None

BONE BIOMECHANICS AND QUALITY: DISUSE OSTEOPOROSIS

SA0070 **Effects of Spaceflight and a Sclerostin Antibody Countermeasure on the Mechanical Properties of Bone in Mice**
Anthony Lau*[1], Alicia Ortega[2], Mary Bouxsein[3], Ted Bateman[4], Andrea Hanson[5], Travis Pruitt[6], Eric Livingston[7], Colin Smith[8], Angelica de Rosa[7], Eric Lai[7], Laura Bowman[9], Louis Stodieck[2], Rachel Ellman[3], Jordan Spatz[10], Kelly Warmington[11], HL Tan[11], Dave Hill[11], Shweta Maurya[2], Andy Cureton[2], Sutada Lotinun[12], Chris Paszty[13], Virginia Ferguson[2]. [1]University of North Carolina-Chapel Hill, USA, [2]University of Colorado, USA, [3]Beth Israel Deaconess Medical Center, USA, [4]Univesity of North Carolina, USA, [5]University of Washington, USA, [6]Clemson University, USA, [7]University of North Carolina- Chapel Hill, USA, [8]North Carolina State University, USA, [9]University of North Carolina at Chapel Hill, USA, [10]Harvard-MIT Division of Health Sciences & Technology (HST), USA, [11]Amgen, USA, [12]Harvard School of Dental Medicine, USA, [13]Amgen, Inc., USA
Disclosures: Anthony Lau, None

BONE BIOMECHANICS AND QUALITY: MECHANICAL LOADING CELLULAR AND MOLECULAR EFFECTS

SA0071 **Local Changes Due to Bone Remodelling are Triggered by Mechanical Loading**
Patrik Christen*[1], Rafaa Ellouz[2], Stephanie Boutroy[3], Roland Chapurlat[4], Keita Ito[5], Bert Rietbergen[1]. [1]Eindhoven University of Technology, The Netherlands, [2]Université de Lyon, France, [3]Columbia University Medical Center, USA, [4]E. Herriot Hospital, France, [5]Eindhoven University of Technology, Netherlands
Disclosures: Patrik Christen, None

SA0072 **Mechanical Strain Downregulates C/EBPβ in MSC and Decreases Endoplasmic Reticulum Stress**
Maya Styner*[1], Mark Meyer[2], Kornelia Galior[3], Natasha Case[1], Buer Sen[4], Zhihui Xie[5], William Thompson[6], J. Pike[2], Janet Rubin[1]. [1]University of North Carolina, Chapel Hill, School of Medicine, USA, [2]University of Wisconsin-Madison, USA, [3]UNC-CH School of Medicine, USA, [4]University of North Carolina At Chapel Hill, USA, [5]University of North Carolina, Department of Medicine, USA, [6]University of Delaware, USA
Disclosures: Maya Styner, None

SA0073 **Planar Cell Polarity Signaling directs Osteoblast Proliferation and Wolff's Law for Dynamic Strain**
Gabriel Galea*[1], Lee Meakin[1], Hanna Taipaleenmaki[2], Noureddine Zebda[1], Toshihiro Sugiyama[3], Gary Stein[2], Lance Lanyon[4], Andre Van Wijnen[2], Joanna Price[1]. [1]University of Bristol, United Kingdom, [2]University of Massachusetts Medical School, USA, [3]Yamaguchi University School of Medicine, Japan, [4]Royal Veterinary College, United Kingdom
Disclosures: Gabriel Galea, None

SA0074 **PTH Enhances Mechanical Stress-induced Osteoblast Proliferation in Calvarial Derived Osteoblasts via Up-regulation of CyclinD1 Expression**
Shirakawa Jumpei*[1], Yoichi Ezura[2], Takuya Notomi[3], Tadayoshi Hayata[4], Tetsuya Nakamoto[1], Shuichi Moriya[5], Ken Omura[6], Masaki Noda[1]. [1]Tokyo medical & dental university, Japan, [2]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [3]GCOE, Tokyo Medical & Dental University, Japan, [4]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [5]Department of Orthopaedics, Juntendo University School of Medicine, Japan, [6]Oraland Maxillofacial Surgery of Tokyo Medical & Dental University, Japan
Disclosures: Shirakawa Jumpei, None

SA0075 **Vibration Induced Mechanical Signals that Increase Proliferation and Osteogenic Commitment of Mesenchymal Stem Cells**
Gunes Uzer*, Sarah Manske, Stefan Judex. Stony Brook University, USA
Disclosures: Gunes Uzer, None

BONE BIOMECHANICS AND QUALITY: MECHANICAL LOADING EFFECTS IN HUMANS AND INTACT ANIMALS

SA0076 **Bone Density and Strength Differences Among Elite Female Athletes in Weight-Bearing Versus Non Weight-Bearing Sports**
Brett Bruininks[1], Lesley Scibora*[2]. [1]Concordia College (Moorhead), USA, [2]University of Minnesota, USA
Disclosures: Lesley Scibora, None

SA0077 **Diffuse Microdamage Induced in Cortical Bone in vivo Repairs without Bone Remodeling**
Zeynep Seref-Ferlengez*[1], Oran Kennedy[2], Mitchell Schaffler[1]. [1]City College of New York, USA, [2]The City College of New York, USA
Disclosures: Zeynep Seref-Ferlengez, None

SA0078 **Influence of Time and Dosing of Indomethacin on Mechanically Induced Bone Formation**
Cheryl Druchok*[1], Kyle Eastwood[2], Gregory Wohl[1]. [1]McMaster University, Canada, [2]Department of Mechanical Engineering, McMaster University, Canada
Disclosures: Cheryl Druchok, None

SA0079 **Muscle Volume does not Affect the Osteogenic Response to Compressive Loading in the Distal Radius of Young Women**
Karen Troy*, Varun Bhatia, William Edwards. University of Illinois at Chicago, USA
Disclosures: Karen Troy, None

SA0080 **Stepping Out: Developmental Changes in Tibial Trabecular Bone Microarchitecture and Kinematics of Early Human Walking**
James Gosman[1], David Raichlen[2], Zachariah Hubbell*[1], Simone Sukhdeo[3], Leah Souza[3], Timothy Ryan[3]. [1]The Ohio State University, USA, [2]University of Arizona, USA, [3]Pennsylvania State University, USA
Disclosures: Zachariah Hubbell, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: ANALYSIS TECHNIQUES

SA0081 **In-vivo Evaluation of the Progress of Bone Fracture Healing in a Rat Model: a Non-Invasive Raman Spectroscopy technique**
Paul Okagbare*[1], Dana Begun[2], Francis Esmonde-Whilte[2], Steven Goldstein[3], Michael Morris[2]. [1]Department of Chemistry, University of Michigan, USA, [2]University of Michigan, USA, [3]University of Michigan Orthopaedic Research Lab, USA
Disclosures: Paul Okagbare, None

SA0082 **Studies on the Distribution of Mineral Elements in the Tooth of Zinc -dificient Rats**
Yoshimi Teraki*. Sagami Matsugae clinic, Japan
Disclosures: Yoshimi Teraki, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: ANALYSIS: CALCIFICATION

SA0083 **Comparative Study of the Effects of Milk and Dairy Products on Bone Metabolism in Ovariectomized Rats**
Rieko Tanabe*[1], Mayu Haraikawa[2], NATSUKO SOGABE[3], Aoi Sugimoto[2], Yuka Kawamura[2], Satoshi Takasugi[4], Masashi Nagata[4], Akira Yamaguchi[5], Tadahiro Iimura[6], Masae Goseki-Sone[7]. [1]Department of Food & Nutrition, Faculty of Human Sciences & Design, Japan Women's Univeristy, Japan, [2]Department of Food & Nutrition, Faculty of Human Sciences & Design, Japan Women's University, Japan, [3]KOMAZAWA WOMEN'S UNIVERSITY, Japan, [4]Meiji Co., Ltd., Japan, [5]Tokyo Medical & Dental University, Japan, [6]Tokyo Medical & Dental University, Global Center of Excellence Program, Japan, [7]Japan Women's University, Japan
Disclosures: Rieko Tanabe, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: CARTILAGE AND CHONDROCYTES

SA0084 **Circumferential Periosteal Division of Diaphysis of Rat Femur Stimulates Endochondral Ossification of Growth Plate**
Shinjiro Takata*. Institute of Health Biosciences, University of Tokushima Graduate School, Japan
Disclosures: Shinjiro Takata, None

SA0085 **Directed Differentiation of Embryonic Stem Cells to Chondrocyte and Osteoblast lineages: The Role of RhoA/ROCK Signaling**
Dalea Bukhary*[1], Fraser McDonald[2], Agamemnon E Grigoriadis[3]. [1]King's College London/UK, King Abdulaziz University/Saudi Arabia, United Kingdom, [2]King's College London Dental Institute, United Kingdom, [3]Dept Craniofacial Dev & Stem Cell Biology, King's College London, United Kingdom
Disclosures: Dalea Bukhary, None

SA0086 **Ethanol Modulates Canonical Wnt Signaling And FoxO Activation In Acute and Chronic Binge Models of Ethanol-Induced Deficient Fracture Repair**
Philip Roper*[1], Rachel Nauer[1], Kristen Lauing[1], John Callaci[2]. [1]Loyola University Medical Center, USA, [2]Loyola University of Chicago, USA
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SA0087 **IFT80 Promotes Chondrogenic Differentiation by Regulating Hedgehog and Wnt Signal Pathways**
Xue Yuan*[1], changdong wang[1], Shuying Yang[2]. [1]University At Buffalo, USA, [2]State University of New York At Buffalo, USA
Disclosures: Xue Yuan, None

SA0088 **Limb- and Sternum-Specific Inactivation of Dullard Gene Causes Severe Defects in Skeletal Development via Alteration of TGF-ß Signaling**
Tadayoshi Hayata*[1], Yoichi Ezura[2], Makoto Asashima[3], Ryuichi Nishinakamura[4], Masaki Noda[5]. [1]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [2]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [3]National Institute of Advanced Industrial Sciences & Technology (AIST), Japan, [4]Kumamoto University, Japan, [5]Tokyo Medical & Dental University, Japan
Disclosures: Tadayoshi Hayata, None

SA0089 **Runx2 Control Chondrocyte Proliferation through Direct Regulation of Cell Cycle Genes**
Haiyan Chen*[1], Farah Ghori-Javed[1], Rosa Serra[1], Soraya Gutierrez[2], Amjad Javed[1]. [1]University of Alabama at Birmingham, USA, [2]Universidad De Concepcion, Chile
Disclosures: Haiyan Chen, None

SA0090 **Smad2/3 Mediated TGFbeta Signaling Regulates Chondrocyte Proliferation and Differentiation in Postnatal Growth Plate and Maintains Articular Cartilage Integrity**
Weiguang Wang*, Karen Lyons, Buer Song. University of California, Los Angeles, USA
Disclosures: Weiguang Wang, None

SA0091 **The FOP R206H Alk2 Mutation Enhances BMP-Induced Chondrogenic Differentiation**
Andria Culbert*, Salin Chakkalakal, Robert Caron, Eileen Shore. University of Pennsylvania, USA
Disclosures: Andria Culbert, None

SA0092 **The Transcription Factor FoxC1 Regulates Chondrogenesis Together with Gli2 through Induction of PTHrP**
Michiko Yoshida*[1], Kenji Hata[1], Rikako Takashima[2], Sachiko Iseki[3], Teruko Takano-Yamamoto[4], Riko Nishimura[1], Toshiyuki Yoneda[1]. [1]Osaka University Graduate School of Dentistry, Japan, [2]Osaka University, Japan, [3]Section of Molecular Craniofacial Embryology, Graduate School, Tokyo Medical & Dental University, Japan, [4]Tohoku University, Japan
Disclosures: Michiko Yoshida, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: GENE IDENTIFICATION AND EXPRESSION

SA0093 **Egr-1 Mediates the Suppressive Effect of IL-1 on PPARγ Expression in Human OA Chondrocytes**
Sarah Nebbaki*[1], Fatima Ezzahra El Mansouri[2], Hassan Fahmi[2]. [1]Research Center-Hospital Center of Montreal University, Canada, [2]Research Center-CHUM, Canada
Disclosures: Sarah Nebbaki, None

SA0094 **GSN: A Novel Susceptibility Gene for Osteoporosis in Humans**
Fei Yan Deng*[1], Wei Zhu[1], Yong Zeng[2], Shu-Feng Lei[2], Yao-Zhong Liu[1], Hong-Wen Deng[1]. [1]Tulane University, USA, [2]Hunan Normal University, China
Disclosures: Fei Yan Deng, None

SA0095 **Knockdown of Tribbles Homolog 3 (TRIB 3) Results in Cell and Context Specific Effects on Bone, Fat and the Hematopoietic System**
Rakesh Verma*[1], Anne Breggia[2], Phuong Le[1], Sheila Bornstein[2], Donald Wojchowski[1], Clifford Rosen[2]. [1]Maine Medical Center Research Institute, USA, [2]Maine Medical Center, USA
Disclosures: Rakesh Verma, None

SA0096 **The Thyroid Hormone Transporters Monocarboxylate Transporter 8 and 10 (MCT8, MCT10) Are Expressed Reciprocally in Growth Plate Chondrocytes**
Noriyuki Namba*[1], Makoto Abe[2], Sanae Abe[1], Makoto Fujiwara[1], Tomonao Aikawa[2], Mikihiko Kogo[2], Keiichi Ozono[1]. [1]Osaka University Graduate School of Medicine, Japan, [2]Osaka University Graduate School of Dentistry, Japan
Disclosures: Noriyuki Namba, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: GENERAL

SA0097 **Defining a Visual Marker of Progenitor Cells within the Periodontium**
Hrvoje Roguljic*, Brya Matthews, Melissa Lacombe, Ivo Kalajzic. University of Connecticut Health Center, USA
Disclosures: Hrvoje Roguljic, None

SA0098 **HIF-1α is Essential for the Development of the Nucleus Pulposus**
Laura Mangiavini*[1], Tremika LeShan Wilson[2], Alexander Robling[3], Irving Shapiro[4], Makarand Risbud[5], Ernestina Schipani[1]. [1]Indiana University School of Medicine, USA, [2]Department of Medicine, Indiana University School of Medicine, USA, [3]Indiana University, USA, [4]Thomas Jefferson University, USA, [5]Department of Orthopedics Surgery, Thomas Jefferson University, USA
Disclosures: Laura Mangiavini, None

SA0099 **Manipulating the Notch Pathway to Accelerate Fracture Repair**
Cuicui Wang*[1], Jie Shen[1], Kiminori Yukata[2], Michael Zuscik[3], Regis O'Keefe[1], Hani Awad[4], Matthew Hilton[4]. [1]University of Rochester, USA, [2]University of Tokushima Graduate School, Japan, [3]University of Rochester School of Medicine & Dentistry, USA, [4]University of Rochester Medical Center, USA
Disclosures: Cuicui Wang, None

SA0100 **Periosteal PTHrP Regulates Cortical Bone Modeling During Linear Growth**
Meina Wang*[1], Joshua VanHouten[2], Randy Johnson[3], Arthur Broadus[2]. [1]Yale University, USA, [2]Yale University School of Medicine, USA, [3]M.D. Anderson Cancer Center, USA
Disclosures: Meina Wang, None

SA0101 **PTH in the Treatment of Non Healing Long Bones**
Hans-Christof Schober*[1], Dirk Ganzer[2], Thomas Westphal[3], Thomas Mittlmeier[4], Reimer Andresen[5], Sebastian Manzelmann[6]. [1]Klinikum Südstadt RostockKlinik Für Innere Medizin I, Germany, [2]Orthorpaedic surgery, Germany, [3]orthopaedic surgery, Germany, [4]university rostock, trauma surgery, Germany, [5]Westküstenklinikum Heide, Germany, [6]klinikum Suedsstadt Rostock, Germany
Disclosures: Hans-Christof Schober, None

SA0102 **Suberoylanilide Hydroxamic Acid Enhances Odontoblast Differentiation**
Arang Kwon*[1], Kyunghwa Baek[2], Hye-Lim Lee[1], Joo-Cheol Park[3], Jung-Wook Kim[4], Kyung Mi Woo[5], Hyun-Mo Ryoo[5], Jeong-Hwa Baek[2]. [1]Department of Molecular Genetics, School of Dentistry, Seoul National University, South Korea, [2]Seoul national university, School of dentistry, South Korea, [3]Departments of Oral Histology-Developmental Biology, School of Dentistry, Seoul National University, South Korea, [4]Seoul National University School of Dentistry, Rok, [5]Seoul National University School of Dentistry, South Korea
Disclosures: Arang Kwon, None

SA0103 **SULF1/SULF2 Expression in Osteochondral Cells and Their Role in Bone Development and Fracture Repair**
Gul Zaman*[1], Mittal Shah[1], Jajesh Dudhia[1], Chantal Chenu[2], Andrew Pitsillides[1], Gurtej Dhoot[1]. [1]The Royal veterinary College, United Kingdom, [2]Royal Veterinary College, United Kingdom
Disclosures: Gul Zaman, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: MATRIX PROTEINS

SA0104 **Calvaria Cells from Bone Sialoprotein Knockout Mice Contain Less Osteoprogenitors and Display a Cell Density-dependent Impairment of Bone Formation and Mineralization *in vitro***
Guénaëlle Bouët*[1], David Marchat[2], Blandine Merle[3], Marie-Thérèse Linossier[1], Mireille Thomas[1], Wafa Bouleftour[1], Laurence Vico[4], Luc Malaval[5]. [1]INSERM U1059-Université de Lyon-Université Jean Monnet, France, [2]Ecole Nationale Supérieure des Mines de Saint-Etienne, Center for Health Engineering, France, [3]INSERM U1033-Université de Lyon-UCLB, France, [4]University of St-Etienne, France, [5]INSERM U1059-Université de Lyon-Université Jean Monnet, Saint-Etienne, France
Disclosures: Guénaëlle Bouët, None

SA0105 **Computational Simulation of Osteopontin ASARM Peptide Binding to Crystal Faces of Hydroxyapatite**
Ahmad Mansouri[1], David L. Masica[2], Jeffrey J. Gray[2], Marc McKee*[1]. [1]McGill University, Canada, [2]Johns Hopkins University, USA
Disclosures: Marc McKee, None

SA0106 **Differential Contributions of Lepre1 to Collagen Processing**
Erica Homan*[1], Caressa Lietman[1], Ingo Grafe[2], Roy Morello[3], Dobrawa Napierala[4], Ming Ming Jiang[1], Elda Munivez[1], Brian Dawson[1], Olivier Lichtarge[1], MaryAnn Weis[5], David Eyre[6], Brendan Lee[7]. [1]Baylor College of Medicine, USA, [2]Department of Molecular & Human Genetics, Baylor College of Medicine, USA, [3]University of Arkansas for Medical Sciences, USA, [4]University of Alabama At Birmingham School of Dentistry, USA, [5]University of Washington, USA, [6]University of Washington Orthopaedic Research Labs, USA, [7]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Erica Homan, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: MECHANICAL STRESS

SA0107 ***Hox* Genes are Re-deployed after Development to Play Critical Roles in Adult Fracture Healing**

Ilea Swinehart[1], Aleesa Schlientz[1], Christopher Quintanilla[1], Kenneth Kozloff[2], Steven Goldstein[3], Deneen Wellik*[4]. [1]University of Michigan, USA, [2]University of Michigan Department of Orthopaedic Surgery, USA, [3]University of Michigan Orthopaedic Research Lab, USA, [4]University of Michigan Medical Center, USA

Disclosures: Deneen Wellik, None

SA0108 **RhoA Is Differentially Regulated by Moderate and High Intensities of Shear Stress in Chondrocytes**

Qiaoqiao Wan*[1], Hiroki Yokota[2], Sungsoo Na[1]. [1]Indiana University-Purdue University Indianapolis, USA, [2]Indiana University Purdue University Indianapolis, USA

Disclosures: Qiaoqiao Wan, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: PROTEINASES

SA0109 **Role of Plasminogen in Bone Repair and Heterotopic Ossification**

Naoyuki Kawao*[1], Yukinori Tamura[1], Katsumi Okumoto[2], Masato Yano[1], Kiyotaka Okada[1], Osamu Matsuo[1], Hiroshi Kaji[1]. [1]Kinki University Faculty of Medicine, Japan, [2]Life Science Research Institute, Kinki University, Japan

Disclosures: Naoyuki Kawao, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: CALCITONIN AND RELATED PEPTIDES

SA0110 **A Comparison of Receptor Binding, Receptor Activation and β-arrestin Recruitment by Salmon and Human Calcitonin**

Kim Andreassen*[1], Sara Toftegaard Petersen[2], Mette Grøndahl Sørensen[2], Morten Asser Karsdal[2], Kim Henriksen[2]. [1]Nordic Bioscience, Denmark, [2]Nordic Bioscience A/S, Denmark

Disclosures: Kim Andreassen, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: FGF23 AND OTHER PHOSPHATONINS

SA0111 **Acute Exposure to Fibroblast Growth Factor 23 Increases Cardiac Contractility**

Michael Wacker*[1], Chad Touchberry[2], Troy Green[3], Vladimir Tchikrizov[4], Lori Wetmore[3], Lynda Bonewald[5]. [1]University of Missouri-Kansas City School of Medicine, USA, [2]University of Missouri-Kansas City, School of Medicine, USA, [3]William Jewell College, USA, [4]University of Missouri-Kansas City, USA, [5]University of Missouri - Kansas City, USA

Disclosures: Michael Wacker, None

SA0112 **FGF-23 Gene Expression Increases while Bone Quality Parameters Decrease with Age in D2B6F1 Mice**

Marco Loayza*[1], Andrew Cureton[2], Xiaoxin Wang[1], Ted Bateman[3], Virginia Ferguson[4], Moshe Levi[5], Karen King[1]. [1]University of Colorado School of Medicine, USA, [2]University of Colorado, Boulder, USA, [3]Univesity of North Carolina, USA, [4]University of Colorado, USA, [5]University of Colorado Denver, USA

Disclosures: Marco Loayza, None

SA0113 **Induction of the Intact and C-terminal FGF23 Levels and Its Gene Expression in Lipopolysaccharide-Induced Acute Inflammation**

Shoko Ikeda*[1], Hironori Yamamoto[2], Otoki Nakahashi[2], Mina Kozai[3], Yutaka Taketani[2], Eiji Takeda[4]. [1]Institute of Health Biosciences, University of Tokushima Graduate School, Japan, [2]University of Tokushima, Japan, [3]Univercity of Tokushima, Japan, [4]University of Tokushima School of Medicine, Japan

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SA0114 **MEPE ASARM Motif and Age-Dependent Regulation of Fat Mass, Renal Phosphate and Bone Mass**
Lesya Zelenchuk, Anne-Marie Hedge, Peter Rowe*. University of Kansas Medical Center, USA
Disclosures: Peter Rowe, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: PARATHYROID AND PARATHYROID HORMONE-RELATED PEPTIDE

SA0115 **A Clinically Useful Paradigm for Optimal Interpretation of Serum 25-hydroxyvitamin D (25-OHD) Levels with Simultaneously Measured PTH Levels**
Nayana Parikh*, Shijing Qiu, TarLisha Eskridge, Leila Idi, Sudhaker Rao. Henry Ford Hospital, USA
Disclosures: Nayana Parikh, None

SA0116 **Critical Role of PTH Receptor Phosphorylation in Regulating Acute Effects of PTH on Renal Hemodynamics**
Akira Maeda*[1], Makoto Okazaki[2], Hiroko Segawa[1], Abdul Abou-Samra[3], Harald Jueppner[1], John Potts[1], Thomas Gardella[1]. [1]Massachusetts General Hospital, USA, [2]Chugai Pharmaceutical. Co., Ltd., Japan, [3]Wayne State University, School of Medicine, USA
Disclosures: Akira Maeda, Chugai Pharmaceutical Co., Ltd., 3

SA0117 **Induction of Bone Marrow Apoptosis Impacts PTH Anabolic Actions in Bone.**
Amy Koh*[1], Sun Wook Cho[2], Glenda Pettway[1], Laurie McCauley[3]. [1]University of Michigan, USA, [2]Seoul National University Hospital, South Korea, [3]University of Michigan School of Dentistry, USA
Disclosures: Amy Koh, None

SA0118 **Parathyroid Hormone Stimulates Tob1 Expression in Osteoblastic Cells *in vitro* and *in vivo***
Shuichi Moriya*[1], Tadayoshi Hayata[2], Jumpei Shirakawa[2], Tetsuya Nakamoto[3], Takuya Notomi[4], Yoichi Ezura[5], Kazuo Kaneko[1], Masaki Noda[3]. [1]Department of Orthopaedics, Juntendo University School of Medicine, Japan, [2]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [3]Tokyo Medical & Dental University, Japan, [4]GCOE, Tokyo Medical & Dental University, Japan, [5]Tokyo Medical & Dental University, Medical Research Insititute, Japan
Disclosures: Shuichi Moriya, None

SA0119 **Proton Generation by Osteoblasts/Osteocytes in Response to PTH/PTHrP**
Katharina Jähn*[1], Matt Prideaux[2], Hong Zhao[2], Sarah Dallas[1], Lynda Bonewald[1]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri-Kansas City, USA
Disclosures: Katharina Jähn, None

SA0120 **Teriparatide (PTH 1-34) Treatment Increases Peripheral Hematopoietic Stem Cells in Postmenopausal Women with Osteoporosis**
Elaine Yu*[1], Ruchit Kumbhani[1], Erica Siwila-Sackman[1], Fred Preffer[1], Michelle DeLelys[1], Benjamin Leder[2], Joy Wu[1]. [1]Massachusetts General Hospital, USA, [2]Massachusetts General Hospital Harvard Medical School, USA
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DISORDERS OF MINERAL METABOLISM: CHRONIC KIDNEY DISEASE AND METABOLIC BONE DISEASE

SA0121 **Association of Serum Fibroblast Growth Factor 23 and Incident Fractures in Elderly men**
Nancy Lane*[1], Neeta Parimi[2], Maripat Corr[3], Jane Cauley[4], Carrie Nielson[5], Joachim Ix[3], Gail Laughlin[6], Eric Orwoll[5]. [1]University of California at Davis, USA, [2]California Pacific Medical Center, USA, [3]UCSD, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]Oregon Health & Science University, USA, [6]University of California, San Diego, USA
Disclosures: Nancy Lane, None

SA0122 **Direct in vivo Effects of Vitamin D Sterol Therapy on Osteocyte Viability and Wnt Signaling**
Renata Pereira*[1], Harald Juppner[2], Navdeep tumber[1], Barbara Gales[1], Isidro Salusky[3], Katherine Wesseling-Perry[4]. [1]UCLA, USA, [2]Harvard Medical School, USA, [3]University of California, Los Angeles School of Medicine, USA, [4]UCLA Medical Center, USA
Disclosures: Renata Pereira, None

SA0123 **Does the Activation of the FGF-23 Pathway after Living Donor Nephrectomy Increase Bone Turnover?**
Anthony Hodsman*[1], Ann Young[2], David Goltzman[3], Amit Garg[2], Donor Nephrectomy Outcomes Research Network[2]. [1]St. Joseph's Health Care, Canada, [2]Western University, Canada, [3]McGill University, Canada
Disclosures: Anthony Hodsman, None

SA0124 **FGF23 Suppresses Chondrocyte Proliferation and Maturation in the Presence of Soluble Alpha-klotho both in vitro and in vivo**
Masanobu Kawai*[1], Saori Kinoshita[2], Yasuhisa Ohata[3], Kazuaki Miyagawa[4], Miwa Yamazaki[1], Keiichi Ozono[5], Toshimi Michigami[6]. [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, Japan, [4]Osaka Medical Center, Japan, [5]Osaka University Graduate School of Medicine, Japan, [6]Osaka Medical Center, Research Institute for Maternal & Child Health, Japan
Disclosures: Masanobu Kawai, None

SA0125 **Persistent Hyperparathyroidism Is a Major Risk Factor for Fractures in the Five Years after Renal Transplantation**
Rose-marie Javier*[1], Peggy Perrin[2], Sophie Caillard[2], Laura Braun[2], Françoise Heibel[2], Bruno Moulin[3]. [1]University Hospital, France, [2]Nephrology-Transplantation Department, France, [3]Nephrology-Transplantation Department, Strasbourg, France
Disclosures: Rose-marie Javier, None

SA0126 **Teriparatide Treatment in a Cardiac Transplant Patient with Adynamic Bone Disease and Renal Failure – Improvement of Bone Histomorphometric Indices and Bone mineral Density**
Astrid Fahrleitner-Pammer*[1], Doris Wagner[2], Thomas Pieber[3], Alexander Rosenkranz[4], Harald Dobnig[5]. [1]Medical University Graz, Austria, [2]Medical University of Graz, Austria, [3]1Department of Internal Medicine, Division of Endocrinology & Metabolism, Medical University of Graz, Austria, [4]Department of Internal Medicine, Division of Nephrology, Medical University of Graz, Austria, [5]Diagnostikinstitut Univ.Prof.Dr.H.Dobnig GmbH & Medical University Graz, Austria
Disclosures: Astrid Fahrleitner-Pammer, None

SA0127 **The Role of the Skeleton in the Early Chronic Kidney Disease - Mineral Bone Disorder**
Yifu Fang[1], Toshifumi Sugatani[2], Keith Hruska*[2]. [1]Washington University School of Medicine, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Keith Hruska, None

DISORDERS OF MINERAL METABOLISM: CONGENITAL AND GENETIC BONE DISEASES

SA0128 **Health Related Quality of Life in Adults with Osteogenesis Imperfecta is Impaired by Prevalence of Multiple Fractures**
Jannie Hald*[1], Lars Folkestad[2], Torben Harsløf[3], Malene Schmidt[4], Hans Gjørup[5], Dorte Haubek[4], Kim Brixen[6], Bente Langdahl[7]. [1]MEA Aarhus University Hospital, Tage Hansensgade 2DK-8000 Aarhus CDenmark, Denmark, [2]Department of Endocrinology, Odense University Hospital; Institute of Clinical Research, University of Southern Denmark, Odense; Department of Endocrinology, Hospital of Southwest Denmark, Denmark, [3]Department of Endocrinology & Metabolism, Aarhus University Hospital, Denmark, [4]Department of Dentistry, Health, Aarhus University, Denmark, [5]Department of Dentistry, Health, Aarhus University; Center for Oral Health in Rare Conditions, Aarhus University Hospital, Denmark, [6]Institute for Clinical Research, Denmark, [7]Aarhus University Hospital, Denmark
Disclosures: Jannie Hald, None

DISORDERS OF MINERAL METABOLISM: HYPERCALCEMIA OF MALIGNANCY

SA0129 **Rapid Decrease in Plasma Calcium Concentration by Treatment with ONO-5334, a Cathepsin K Inhibitor, in the Rabbit Hypercalcemia Model Induced by PTHrP**
Yasuo Ochi*[1], Hiroyuki Yamada[2], Yasutomo Nakanishi[1], Satoshi Nishikawa[1], Yasuaki Hashimoto[1], Hiroshi Mori[1], Masafumi Sugitani[1], Yutaka Shichino[1], Kazuhito Kawabata[1]. [1]Ono Pharmaceutical Co., Ltd., Japan, [2]ONO PHARMA UK LTD., United Kingdom
Disclosures: Yasuo Ochi, None

DISORDERS OF MINERAL METABOLISM: IDIOPATHIC HYPERCALCIURIA, NEPHROLITHIASIS

SA0130 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Genome Wide DNA Methylation Array in Genetic Hypercalciuric Stone-forming (GHS) Rats Reveals that Vitamin D Receptor (VDR) Regulates Crystalin Zeta (CryZ) Gene Expression through DNA Methylation
Hongwei Wang*[1], Baisheng Fu[1], Jinhua wang[1], David Bushinsky[2], Murray Favus[1]. [1]University of Chicago, USA, [2]University of Rochester, USA
Disclosures: Hongwei Wang, None

DISORDERS OF MINERAL METABOLISM: OSTEOMALACIA/RICKETS

SA0131 **Increased *Sost* Expression in *Hyp*-mouse Bone: A Primary Factor Underlying Abnormal Mineralization and Osteomalacia**
Baozhi Yuan*[1], Stephen Bowman[1], Ying Liu[2], Robert Blank[1], Min Liu[3], Hua Zhu Ke[3], Jian Feng[2], Marc Drezner[1]. [1]University of Wisconsin, USA, [2]Texas A&M Health Science Center, USA, [3]Amgen Inc., USA
Disclosures: Baozhi Yuan, None

SA0132 **The Effect of Antenatal Vitamin D Supplementation on Early Neonatal Calcium Homeostasis**
Jennifer Harrington*[1], Abdullah Al Mahmud[2], Rubhana Raqib[2], Abdullah Baqui[3], Daniel Roth[4]. [1]The Hospital for Sick Children, Canada, [2]ICDDR B, Bangladesh, [3]The John Hopkins Bloomberg School of Public Health, USA, [4]The Hospital for Sick Children, Department of Pediatrics, University of Toronto, Canada
Disclosures: Jennifer Harrington, None

SA0133 **Vitamin D2 and D3 Replacement Effectiveness in Patients with Chronic Liver Disease**
Dorota Krajewski, Julia (Julianna) Barsony*. Georgetown University Hospital, USA
Disclosures: Julia (Julianna) Barsony, None

DISORDERS OF MINERAL METABOLISM: PARATHYROID DISEASES

SA0134 **Changes in Circulating Sclerostin Reflect Changes in Bone Remodeling Dynamics Induced by PTH (1-84)**
Aline Costa*[1], Serge Cremers[1], Mishaela Rubin[1], Natalie Cusano[2], Elzbieta Dworakowski[1], Zachary Lenane[1], Chiyuan Zhang[1], Jim Sliney Jr[3], Donald McMahon[2], Marise Lazaretti Castro[4], John Bilezikian[2]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University Medical Center, USA, [4]Escola Paulista de Medicina, Brazil
Disclosures: Aline Costa, None

SA0135 **Differentially Expressed miRNA199b-5p in Sporadic and Hereditary Parathyroid Tumors**
YOON JUNG CHUNG*[1], Sena Hwang[2], Jong Ju Jeong[3], Se Hoon Kim[4], Yumie Rhee[5]. [1]Brain Korea 21 Project for Medical Science, Yonsei University, South Korea, [2]International Clinics, Severance Hospital, South Korea, South Korea, [3]Department of Surgery, College of Medicine, Yonsei University, South Korea, [4]Department of Pathology, College of Medicine, Yonsei University, South Korea, [5]Department of Internal Medicine, College of Medicine, Yonsei University, South Korea
Disclosures: YOON JUNG CHUNG, None

SA0136 **Familial Hypocalciuric Hypercalcemia Type 2 (FHH2) Is Caused by a Mutation of G Protein Alpha 11 ($G\alpha_{11}$)**

Fadil Hannan*[1], M. Andrew Nesbit[2], Sarah Howles[2], Nigel Rust[3], Maurine Hobbs[4], Hunter Heath[5], Rajesh Thakker[2]. [1]Oxford University, United Kingdom, [2]Nuffield Department of Clinical Medicine, University of Oxford, United Kingdom, [3]Sir William Dunn School of Pathology, University of Oxford, United Kingdom, [4]Core Research Facilities, University of Utah, USA, [5]Indiana University School of Medicine, USA

Disclosures: Fadil Hannan, None

SA0137 **Genetic Analyses of *CDKN1B* and *AIP* Genes in Familial Primary Hyperparathyroidism**

Filomena Cetani*[1], Elena Pardi[2], Simona Borsari[2], Federica Saponaro[2], Chiara Banti[2], Edda Vignali[2], Luisella Cianferotti[1], Gabriele Di Rosa[2], Mario Mastinu[3], Stefano Mariotti[3], Claudio Marcocci[1]. [1]University of Pisa, Italy, [2]Department of Endocrinology & Metabolism - Section of Endocrinology & Bone Metabolism, University of Pisa, Pisa, Italy, [3]Department of Medical Sciences, Endocrinology, University of Cagliari, Italy

Disclosures: Filomena Cetani, None

SA0138 **Imaging Changes in 99mtc-mibi in Patients with Primary Hyperparathyroidism Treated with Cinacalcet**

Araceli Munoz-Garach*[1], Diego Fernandez-Garcia[2], Maria Dolores Martinez del Valle-Torres[3], Ana Maria Gomez-Perez[2], Arantzazu Sebastian-Ochoa[2], Francisco Tinahones-Madueño[2]. [1]Spain, [2]Endocrinologist, Spain, [3]Medicine Nuclear, Spain

Disclosures: Araceli Munoz-Garach, None

SA0139 **Major Improvements in Quality of Life After 1 Year of PTH(1-84) Therapy in Hypoparathyroidism**

Natalie Cusano*[1], Mishaela Rubin[2], Donald McMahon[1], Amanda Tulley[2], Jim Sliney Jr[3], John Bilezikian[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA, [3]Columbia University Medical Center, USA

Disclosures: Natalie Cusano, None

SA0140 **Predictors of PTH and Association of PTH with Skeletal Outcomes in a Population-based Study**

Claudie Berger*[1], Ohoud Almohareb[1], Lisa Langsetmo[2], David Hanley[3], Christopher Kovacs[4], Robert Josse[5], Jonathan Adachi[6], Jerilynn Prior[7], Tan Towheed[8], K. Shawn Davison[9], Stephanie Kaiser[10], Jacques Brown[11], David Goltzman[1]. [1]McGill University, Canada, [2]Canandian Multicenter Osteoporosis Study, Canada, [3]University of Calgary, Canada, [4]Memorial University of Newfoundland, Canada, [5]St. Michael's Hospital, University of Toronto, Canada, [6]St. Joseph's Hospital, Canada, [7]University of British Columbia, Canada, [8]Queen' s University, Canada, [9]Laval University, Canada, [10]Dalhousie University, Canada, [11]CHUQ Research Centre, Laval University, Canada

Disclosures: Claudie Berger, None

SA0141 **PTH (1-84) Substitution Therapy in Hypoparathyroidism: Effects on Muscle Cells, Muscle Function, Postural Stability and Quality of Life**

Tanja Sikjaer*[1], Lars Rolighed[2], Niels Ortenblad[3], Alexander Hess[4], Lars Rejnmark[5], Leif Mosekilde[1]. [1]Department of Medicine & Endocrinology, MEA, Aarhus University Hospital, Denmark, [2]Department of Surgery P, Aarhus University Hospital, Denmark, [3]Institute of Sports Science & Clinical Biomechanics, University of Southern Denmark, Denmark, [4]Department of Clinical Neurophysiology, Aarhus University Hospital, Denmark, [5]Aarhus University Hospital, Denmark

Disclosures: Tanja Sikjaer, None

SA0142 **Skeletal Microstructural Abnormalities in Hypoparathyroidism by High Resolution Peripheral Quantitative Computed Tomography**

Stephanie Boutroy*[1], Barbara Silva[1], Mishaela Rubin[2], Jim Sliney Jr[1], Donald McMahon[3], Chiyuan Zhang[2], Natalie Cusano[3], John Bilezikian[3]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA

Disclosures: Stephanie Boutroy, None

DISORDERS OF MINERAL METABOLISM: RHEUMATOLOGIC AND OTHER SYSTEMIC ILLNESSES

SA0143 **Circulating Mesenchymal Stem Cells with Abnormal Osteogenic Potential in Patients with Ankylosing Spondylitis**
Ki-Jo Kim*[1], Su-Jung Park[1], In-Woon Baek[1], Chong-Hyeon Yoon[1], Wan-Uk Kim[1], Chul-Soo Cho[1], Moo-Il Kang[2]. [1]College of Medicine, The Catholic University of Korea, South korea, [2]Seoul St. Mary's Hospital, South korea
Disclosures: Ki-Jo Kim, None

SA0144 **Modifications of Bone Material Properties Early Detected after One Year of Menopause in Women**
Delphine Farlay*[1], Yohann Bala[2], Susan Bare[3], Joan Lappe[4], Robert Recker[4], Georges Boivin[5]. [1]INSERM, UMR1033; Université De Lyon, France, [2]University of Melbourne, Dept. of Medicine, Australia, [3]Osteoporosis Research Center, Creighton University, USA, [4]Creighton University Osteoporosis Research Center, USA, [5]INSERM, UMR1033 ; Universite De Lyon, France
Disclosures: Delphine Farlay, None

DISORDERS OF MINERAL METABOLISM: VASCULAR AND ECTOPIC CALCIFICATION

SA0145 **Aortic Calcification, Arterial Stiffness, and Vascular Wnt mRNAs Are Increased In Atherosclerotic LDLR-/- Mice Lacking Smooth Muscle Cell LRP6**
Jian Su Shao*[1], Abraham Behrmann[2], Karen Krchma[2], Su-Li Cheng[1], Linda Halstead[3], Attila Kovacs[2], Bart Williams[4], Dwight Towler[3]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University, USA, [3]Washington University in St. Louis, USA, [4]Van Andel Research Institute, USA
Disclosures: Jian Su Shao, None

SA0146 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Calcium Supplementation and Cardiovascular Events
Vaishali Patel*[1], James Vacek[2], Rajib Bhattacharya[3]. [1]The University of Kansas Medical Center, USA, [2]KUMC, USA, [3]KU Medical Center, USA
Disclosures: Vaishali Patel, None

SA0147 **Monocytic Expression of Osteoclast-associated Receptor (OSCAR) Is Induced in Atherosclerotic Mice and Regulated by Oxidized Low-density Lipoprotein *in vitro***
Kathrin Sinningen*[1], Claudia Goettsch[2], Martina Rauner[3], Nadia Al-Fakhri[4], Michael Schoppet[5], Lorenz Hofbauer[6]. [1]Dresden University Medical Center, Germany, [2]Brigham & Women's Hospital, Cardiovascular Division, USA, [3]Medical Faculty of the TU Dresden, Germany, [4]Institute of Laboratory Medicine & Pathobiochemistry, Molecular Diagnostics, Philipps-University, Marburg, Germany, [5]Department of Internal Medicine & Cardiology, Philipps-University, Marburg, Germany, [6]Dresden University Medical Center, Germany
Disclosures: Kathrin Sinningen, None

SA0148 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Tissue-nonspecific Alkaline Phosphatase Upregulation in Vascular Smooth Muscle Cells Is Sufficient to Cause Medial Vascular Calcification
Campbell Sheen*[1], Wei Wang[2], Manisha Yadav[3], Jose Luis Millan[4]. [1]Sanford Burnham Medical Research Institute, USA, [2]Sanford Burnham Medical Reaearch Institute, USA, [3]Burnham Institute for Medical Research, USA, [4]Sanford-Burnham Medical Research Institute, USA
Disclosures: Campbell Sheen, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: GENE THERAPY

SA0149 **Evaluation of Cell Therapy as a Treatment Approach for Osteogenesis Imperfecta**
Penelope Armada*[1], Liping Wang[2], Elena Torreggiani[2], Brya Matthews[2], Igor Matic[2], David Rowe[2], Ivo Kalajzic[2]. [1]Connecticut Children's Medical Center, USA, [2]University of Connecticut Health Center, USA
Disclosures: Penelope Armada, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: GENERAL STUDIES

SA0150 **Demonstration of a Bone Phenotype in a Murine PKU Model and its Attenuation with an Improved Low-Phenylalanine Diet.**
Patrick Solverson*[1], Sangita Murali[2], Suzanne Litscher[3], Robert Blank[4], Denise Ney[2]. [1]University of Wisconsin - Madison, USA, [2]University of Wisconsin - Madison, Department of Nutritional Sciences, USA, [3]University of Wisconsin - Madison, Department of Medicine, USA, [4]University of Wisconsin, USA
Disclosures: Patrick Solverson, None

SA0151 **Genotype-Phenotype Correlations and Pharmacogenetic Studies in 140 Swedish Families with Osteogenesis Imperfecta**
Katarina Lindahl*[1], Carl-Johan Rubin[2], Eva Åström[3], Barbro Malmgren[4], Andreas Kindmark[5], Osten Ljunggren[5]. [1]Endocrinology, Sweden, [2]Uppsala University, Sweden, [3]Department of Woman & Child Health, Division of Pediatric Neurology, Karolinska Institutet, Sweden, [4]Karolinska Institutet, Department of Dental Medicine, Division of Pediatric Dentistry, POB 4064 SE-14104, Sweden, [5]Uppsala University Hospital, Sweden
Disclosures: Katarina Lindahl, None

SA0152 **Homogeneous Mutant Collagen in Osteogenesis Imperfecta Model Mice Leads to Improved Bone Phenotype through Multiple Pathways**
ADI REICH*[1], Wayne Cabral[2], Joan Marini[1]. [1]National Institute of Child Health & Human Development, USA, [2]Bone & Extracellular Matrix Branch, NICHD, NIH, USA
Disclosures: ADI REICH, None

SA0153 **Knock-in of the p.G213R Mutation in the Mouse *Clcn7* Gene Induces a Phenotype that Mimics the Human Autosomal Dominant Osteopetrosis Type II (ADO2) Disease. Evidence of Effect of Genetic Background.**
Imranul Alam*[1], Amie Gray[2], Shoji Ichikawa[1], Kang Chu[3], Khalid Mohammad[4], Marta Capannolo[5], Anna Teti[5], Michael Econs[1], Andrea Del Fattore[6]. [1]Indiana University School of Medicine, USA, [2]IUPUI, USA, [3]Northwestern University, USA, [4]Indiana University, USA, [5]University of L'Aquila, Italy, [6]Children Hospital Bambino Gesù, Italy
Disclosures: Imranul Alam, None

SA0154 **Loss of Heterozygosity of SUFU or PTCH2 Locus Associates with Keratocystic Odontogenic Tumor**
Yasuyuki Shimada*, Kei Sakamoto, Kei-ichi Morita, Yuji Kabasawa, Ken Omura, Akira Yamaguchi. Tokyo Medical & Dental University, Japan
Disclosures: Yasuyuki Shimada, None

SA0155 **Neurofibromin Controls Bone Mineralization by Controlling Pyrophosphate Extracellular Levels**
Jean De La Croix Ndong*[1], Philippe Crine[2], Xiangli Yang[1], Florent Elefteriou[1]. [1]Vanderbilt University, USA, [2]Enobia Pharma, Canada
Disclosures: Jean De La Croix Ndong, None

SA0156 **On the Nature of the Genetic Bases of the High Bone Mass Phenotype in Spanish Postmenopausal Women**
Patricia Sarrión[1], Leonardo Mellibovsky[2], Roser Urreizti[1], Maria Soler-Sala[1], Neus Cols[1], Natalia Garcia-Giralt[3], Guy Yoskovitz[3], Alvaro Aranguren[4], Roberto Güerri[2], Xavier Nogues[2], Adolfo Diez-Perez[5], Daniel Grinberg*[4], Susana Balcells[6]. [1]Department of Genetics, University of Barcelona, CIBERER, IBUB, Spain, [2]Institut Municipal D'Investigació Mèdica, Spain, [3]IMIM, Spain, [4]The University of Barcelona, Spain, [5]Parc De Salut Mar, Spain, [6]University of Barcelona, Spain
Disclosures: Daniel Grinberg, None

SA0157 **Osteoblast-targeted Expression of an Activating Mutation of Gsa in Mice Mimics van Buchem's Disease/Sclerosteosis rather than Fibrous Dysplasia (FD), and does not alter the Hematopoietic Microenvironment/Niche**

Stefano Michienzi*[1], Isabella Saggio[2], Stefania Cersosimo[1], Cristina Remoli[1], Rossella Costa[1], Graham R Davis[3], Alberto Di Consiglio[1], Emanuela Spica[1], Benedetto Sacchetti[1], Ana Cumano[4], Pamela Gehron Robey[5], Kenn Holmbeck[6], Alan Boyde[3], Mara Riminucci[1], Paolo Bianco[7]. [1]University La Sapienza, Italy, [2]Sapienza University of Rome, Italy, [3]Queen Mary University of London, United Kingdom, [4]Pasteur Institute, France, [5]NIH/NIDCR, USA, [6]NIDCR, USA, [7]Universita La Sapienza, Italy

Disclosures: Stefano Michienzi, None

SA0158 **Specific Effects of Activating Gsa Mutation in Specific Compartments of the Stromal/ Osteogenic Lineage in vivo Explain Pathological Features in Fibrous Dysplasia (FD) and Reveal a Novel Relationship between Fat, Bone and Gsa Signaling**

Cristina Remoli*[1], Stefania Cersosimo[1], Emanuela Spica[1], Benedetto Sacchetti[1], Alan Boyde[2], Pamela Gehron Robey[3], Kenn Holmbeck[4], Isabella Saggio[5], Mara Riminucci[1], Paolo Bianco[6]. [1]University La Sapienza, Italy, [2]Queen Mary University of London, United Kingdom, [3]NIH/NIDCR, USA, [4]NIDCR, USA, [5]Sapienza University of Rome, Italy, [6]Universita La Sapienza, Italy

Disclosures: Cristina Remoli, None

SA0159 **The Phenotype of Subjects with Persistently Low Serum Alkaline Phosphatase in a Comprehensive Care Population**

Fergus McKiernan*[1], Jay Fuehrer[2], Richard Berg[2]. [1]Marshfield Clinic, USA, [2]Biomedical Informatics Research Center, Marshfield Clinic Research Foundation, USA

Disclosures: Fergus McKiernan, EnobialAlexion, 2

SA0160 **2012 ASBMR YOUNG INVESTIGATOR AWARD**

The Prostaglandin Transporter Encoding Gene *SLCO2A1 I*s Mutated in Primary Hypertrophic Osteoarthropathy and Isolated Digital Clubbing

Jirko Kühnisch*[1], Wenke Seifert[2], Beyhan Tüysüz Tüysüz[3], Christof Specker[4], Ad Brouwers[5], Denise Horn[1]. [1]Institute of Medical & Human Genetics, Charité - University Medicine of Berlin, Germany, [2]Institute for Vegetative Anatomy, Charité - University Medicine of Berlin, Germany, [3]Cerrahpasa Medical Faculty, Department of Pediatric Genetics, Istanbul University, Turkey, [4]Dept. of Rheumatology & Clinical Immunology, Centre for Internal Medicine, Kliniken Essen Süd, Germany, [5]Department of Internal Medicine, Gelderse Vallei Hospital, Ede, Netherlands

Disclosures: Jirko Kühnisch, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: LINKAGE STUDIES AND POLYMORPHISMS

SA0161 **Polymorphisms in Wnt Antagonist Genes and Bone Mineral Density in Postmenopausal Korean Women**

Dong Ock Lee[1], Hoon Kim[2], Seung-Yup Ku[3], Seok Hyun Kim[3], Jung Gu Kim*[3]. [1]Department of Obstetrics & Gynecology, National Cancer Center, South Korea, [2]Department of Obstetrics & Gynecology, Incheon Medical Center, South Korea, [3]Department of Obstetrics & Gynecology, Seoul National University College of Medicine, South Korea

Disclosures: Jung Gu Kim, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: BONE MORPHOGENETIC PROTEINS

SA0162 **COMP Enhances BMP-2 Dependent Osteogenesis via Activating BMP-2 Signaling**

Kazunari Ishida*[1], Chitrangada Acharya[1], Blaine Christiansen[2], Jasper Yik[1], Paul DiCesare[1], Dominik Haudenschild[1]. [1]University of California-Davis Medical Center, USA, [2]University of California - Davis Medical Center, USA

Disclosures: Kazunari Ishida, None

SA0163 **Critical Role of ALK2 Phosphorylation at Thr203 in Activation by BMP type II Receptors**
Satoshi Ohte*[1], Mai Fujimoto[2], Katsumi Yoneyama[2], Hiroki Sasanuma[2], Masashi Shin[2], Sho Tsukamoto[3], Arei Miyamoto[2], Toru Fukuda[2], Shoichiro Kokabu[2], Takenobu Katagiri[4]. [1]Saitama Medical University, Japan, [2]Saitama Medical University, Research Center for Genomic Medicine, Japan, [3]Saitama Medical University RCGM, Japan, [4]Saitama Medical University Research Center for Genomic Medicine, Japan
Disclosures: Satoshi Ohte, None

SA0164 **High-dose BMP2 Reduces Cell Proliferation and Increases Apoptosis via DKK1 in Human Primary Periostem-derived Cells**
Nobuhiro Kamiya*[1], Ila Oxendine[1], Sasha Shafer[1], Harry Kim[2]. [1]Texas Scottish Rite Hospital for Children, USA, [2]Scottish Rite Hospital for Children, USA
Disclosures: Nobuhiro Kamiya, None

SA0165 **Identification of a Novel BMP-inducible Transcript, BIT-1, by Utilizing the Conserved BMP-Responsive Elements in the Id Genes**
Masashi Shin[1], Satoshi Ohte[2], Toru Fukuda[1], Hiroki Sasanuma[1], Katsumi Yoneyama[1], Shoichiro Kokabu[3], Sho Tsukamoto[1], Hirohiko Hohjoh[4], Eijiro Jimi[5], Takenobu Katagiri*[6]. [1]Saitama Medical University RCGM, Japan, [2]Saitama Medical University, Research Center for Genomic Medicine, Japan, [3]Harvard School of Dental Medicine, USA, [4]National Institute of Neuroscience, NCNP, Japan, [5]Kyushu Dental College, Japan, [6]Saitama Medical University Research Center for Genomic Medicine, Japan
Disclosures: Takenobu Katagiri, None

SA0166 **Molecular Characatarization of GDF5/ActRIIB Complex**
Abdulhafez Selim*[1], Osama Haji Ahmed[2]. [1]Center for Chronic Disorders of Aging, PCOM, USA, [2]Faculty of Medicine Ain Shams University, Egypt
Disclosures: Abdulhafez Selim, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: FIBROBLAST GROWTH FACTORS

SA0167 **Exploring Signaling Check Points in Conversion of Osteoblasts and Adipocytes as Novel Approaches for Osteoporosis Therapy**
Meike Simann*[1], Tatjana Schilling[2], Solange Le Blanc[3], Norbert Schuetze[4], Peggy Benisch[5], Barbara Klotz[6]. [1]University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany, Germany, [2]University of Würzburg, Germany, [3]Universitat Wurzburg, Germany, [4]University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany, [5]University of Wuerzburg, Deu, [6]Orthopädisches Zentrum Für Muskuloskelettale Forschung, Germany
Disclosures: Meike Simann, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: GENERAL

SA0168 **Adipocyte Lipoprotein Lipase influences Fatty Acid Composition of Bone in Mice**
Brigitte Müller*, Alexander Bartelt, Klaus Toedter , Ludger Scheja, Joerg Heeren , Andreas Niemeier. University Medical Center Hamburg-Eppendorf, Germany
Disclosures: Brigitte Müller, None

SA0169 **Bone Healing Enhancement through Inhibition of Sclerostin by Monoclonal Antibody in Rat Osteotomy Model**
Pui Kit Suen*[1], Yixin HE[2], Dick Ho Kiu Chow[1], Le Huang[1], Zhong Liu[1], Chi Wai Man[1], Lizhen Zheng[3], Tao Tang[1], Chaoyang Li[4], Hua Zhu Ke[4], Ge Zhang[5], Ling Qin[6]. [1]The Chinese University of Hong Kong, Hong Kong, [2]The Cuinese University of Hong Kong, Hong Kong, [3]Prince of Wales Hospital, Hong Kong, [4]Amgen Inc., USA, [5]Price of Wales Hospital, Hong Kong, [6]Chinese University of Hong Kong, Hong Kong
Disclosures: Pui Kit Suen, None

SA0170 **Duffy Antigen Receptor for Chemokines (Darc) Regulates Chondrogenesis and Bone Formation During Fracture Repair**
Charles Rundle*, Subburaman Mohan, Bouchra Edderkaoui. Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Charles Rundle, None

SA0171 **Hyperactive WNT Signaling Causes Preaxial Polydactyly in *Sclerostin/Sostdc1* Double Knockouts**
Nicole Collette*[1], Cristal Yee[2], Deepa Murugesh[1], Richard Harland[3], Gabriela Loots[4]. [1]Lawrence Livermore National Laboratory, USA, [2]University of California, Merced, USA, [3]University of California, Berkeley, USA, [4]Lawrence Livermore National Laboratory, UC Merced, USA
Disclosures: Nicole Collette, None

SA0172 **Novel Link Between CSF-1 and Lung Cancer Bone Metastasis**
Sherry Abboud Werner*[1], Fermin Tio[2], Thomas Prihoda[3], Diane Horn[3], Jaclyn Hung[3]. [1]University of Texas Health Science Center at San Antonio, USA, [2]South Texas Veterans Health Care System, USA, [3]University of Texas Health Science Center, USA
Disclosures: Sherry Abboud Werner, None

SA0173 **Oral Health and Biochemical Risk Factors for Bisphosphonate-associated Jaw Osteonecrosis**
Claudine Tsao, Gelsomina Borromeo, Ivan Darby, Katrina Walsh, Neil O'Brien-Simpson, Eric Reynolds, Peter Ebeling*. The University of Melbourne, Australia
Disclosures: Peter Ebeling, None

SA0174 **Transgenic Overexpression of Ephrin B1 in Osteoblasts Promotes a Skeletal Anabolic Response to Mechanical Loading in Mice**
Weirong Xing*[1], Chandrasekhar Kesavan[2], Shaohong Cheng[3], Subburaman Mohan[2]. [1]Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, [2]Jerry L. Pettis Memorial VA Medical Center, USA, [3]VA Loma Linda Health Care Systems, USA
Disclosures: Weirong Xing, None

SA0175 **Withdrawn**

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: INSULIN-LIKE GROWTH FACTORS AND BINDING PROTEINS

SA0176 **Altered Expression of Apoptosis-Associated miRNAs that Regulate IGF-1 Survival Signaling Underlies the Cell Autonomous Requirement of Cx43 for Osteocyte Survival**
Rafael Pacheco-Costa*[1], Lucas Brun[2], David Southern[3], Rejane D. Reginato[4], Nicoletta Bivi[3], Teresita Bellido[3], Lilian Plotkin[3]. [1]Indiana University School of Medicine/Federal University of Sao Paulo, Brazil, USA, [2]Universidad Nacional de Rosario, Argentina, [3]Indiana University School of Medicine, USA, [4]Federal University of São Paulo, Brazil
Disclosures: Rafael Pacheco-Costa, None

SA0177 **Alternative Splicing, Polyadenylation, and MicroRNAs Targeting Insulin-like Growth Factor-1 in Osteoblasts**
Spenser Smith[1], Catherine Kessler[1], Clifford Rosen[2], Anne Delany*[1]. [1]University of Connecticut Health Center, USA, [2]Maine Medical Center, USA
Disclosures: Anne Delany, None

SA0178 **Conditional Deletion of IGF-I Receptor by Osterix Driven Cre-Recombinase Impairs Both Cartilage and Bone Formation**
Yongmei Wang*[1], Hashem ElAlieh[2], Cha K Fong[2], Daniel Bikle[3]. [1]Endocrine Unit, University of California, San Francisco/VA Medical Center, USA, [2]Endocrine Unit University of California, San Francisco/San Francisco VA Medical Center, USA, [3]Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA
Disclosures: Yongmei Wang, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: TRANSFORMING GROWTH FACTOR

SA0179 **E-selectin ligand 1 Regulates Bone Homeostasis via Modulating TGF-β Bioavailability in Bone Microenvironment**
Tao Yang*[1], Ingo Grafe[2], Yangjin Bae[1], Shan Chen[1], Ming-ming Jiang[1], Terry Bertin[1], Yuqing Chen[1], Brendan Lee[3]. [1]Baylor College of Medicine, USA, [2]Department of Molecular & Human Genetics, Baylor College of Medicine, USA, [3]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Tao Yang, None

SA0180 **Bone and Muscle Interactions during the Progression of Nfat1 Deficiency-Mediated Osteoarthritis**
Qinghua Lu, Brent Furomoto, H. Clarke Anderson, Jinxi Wang*. University of Kansas Medical Center, USA
Disclosures: Jinxi Wang, None

SA0181 **Comparison of 3D UTE (Ultrashort Time-to-Echo) MRI Versus Micro-CT For Quantitative Evaluation of the Temporomandibular Joint (TMJ) Condylar Morphology**
Won Bae[1], Sheronda Statum*[1], Daniel Geiger[2], Koichi Masuda[1], Jiang Du[1], Christine Chung[1]. [1]University of California, San Diego, USA, [2]Sapienza University of Rome, Italy
Disclosures: Sheronda Statum, None

SA0182 **Cyclooxygenase-1 Plays an Important Role in C2C12 Myogenic Differentiation**
Chenglin Mo*[1], Orisa Igwe[2], Marco Brotto[3]. [1]University of Missouri-Kansas City, USA, [2]University of Missouri, USA, [3]University of Missouri - Kansas City, USA
Disclosures: Chenglin Mo, None

SA0183 **Effects of Ti, PMMA, UHMWPE, and Co-Cr Particles on Differentiation and Functions of Bone Marrow Stromal Cells**
Yunpeng Jiang*[1], Zheng Song[2], Paul Wooley[2], Shang-You Yang[1]. [1]Wichita State University, USA, [2]Orthopaedic Research Institute, Via Christi Health, USA
Disclosures: Yunpeng Jiang, None

SA0184 **Genetic Variant on *PLIN4* is Associated with Obesity Phenotypes and BMC in Females**
Mai Abdel-Ghani*[1], Laura Tosi[2], Joseph Devaney[3], Todd Spock[4], Karin Kuhn[4], Eric Rupe[4], Clare Griffis[5], Heather Gordish-Dressman[3], Eric Hoffman[3], Priscilla Clarkson[6]. [1]USA, [2]Children's National Medical Center, USA, [3]Research Center for Genetic Medicine Children's National Medical Center, USA, [4]George Washington University School of Medicine, USA, [5]F. Edward Hébert School of Medicine Uniformed Services University of the Health Sciences, USA, [6]University of Massachusetts Amherst, USA
Disclosures: Mai Abdel-Ghani, None

SA0185 **Withdrawn**

SA0186 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Modulation of Osteoclast Formation by Cyclically-Strained Myotubes Is Mediated by IL-6
Petra Juffer*[1], Richard T. Jaspers[2], Jenneke Klein-Nulend[3], Astrid D. Bakker[1]. [1]Department of Oral Cell Biology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & VU University Amsterdam, Research Institute MOVE, Amsterdam, Netherlands, [2]Research Institute MOVE, Faculty of Human Movement Sciences, VU University Amsterdam, Amsterdam, The Netherlands, Netherlands, [3]ACTA-VU University Amsterdam, Dept Oral Cell Biology (Rm # 11N-63), The netherlands
Disclosures: Petra Juffer, None

SA0187 **Muscle Derived Factor(s) Enhance the Activation of the PI3K/Akt Pathway in the Osteocyte in Response to Fluid Flow**
Nuria Lara*[1], Leticia Brotto[2], Marco Brotto[1], Lynda Bonewald[1], Mark Johnson[3]. [1]University of Missouri - Kansas City, USA, [2]UMKC School of Nursing, USA, [3]University of Missouri, Kansas City Dental School, USA
Disclosures: Nuria Lara, None

SA0188 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Muscle-derived Humoral Factor, Osteoglycin (OGN), Links Muscle to Bone
Ken-ichiro Tanaka*[1], Toshitsugu Sugimoto[1], Susumu Seino[2], Hiroshi Kaji[3]. [1]Shimane University School of Medicine, Japan, [2]Kobe University Graduate School of Medicine, Japan, [3]Kinki University Faculty of Medicine, Japan
Disclosures: Ken-ichiro Tanaka, None

SA0189 **Physical Activity in Relation to Serum Sclerostin, Insulin-like Growth Factor-1 and Bone Turnover Markers in Healthy Young Men : A Cross-sectional and a Longitudinal Study**
Mohammed-Salleh Ardawi*[1], Abdulrahman Al-Sibiany[2], Talal Bakhsh[3], Mohammed Qari[4]. [1]Center of Excellence for Osteoporosis Research & Faculty of Medicine, Saudi arabia, [2]Center of Excellence for Osteoporosis Research & Department of General Surgery, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi arabia, [3]Center of Excellence for Osteoporosis Research, & Department of General Surgery, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi arabia, [4]Center of Excellence for Osteoporosis Research,and Department of Hematology,Faculty of Medicine, & KAU Hospital, King Abdulaziz University, Saudi arabia
Disclosures: Mohammed-Salleh Ardawi, None

SA0190 **Polymorphisms Associated with Physical Activity and Body Composition**
Eric Rupe*[1], Laura Tosi[2], Todd Spock[3], Karin Kuhn[4], Mai Abdel-Ghani[5], Clare Griffis[6], Heather Gordish-Dressman[7], Eric Hoffman[2], Joseph Devaney[7]. [1]The George Washington University, USA, [2]Children's National Medical Center, USA, [3]The George Washington University School of Medicine & Health Sciences, USA, [4]The George Washington University School of Medicine & Healthy Sciences, USA, [5]USA, [6]Uniformed Services University of the Health Sciences, USA, [7]Children's National Medical Center Research Institute, USA
Disclosures: Eric Rupe, None

SA0191 **The *PPP6R3/LRP5* Locus Influences Lean Mass in Children of Different Ethnic Background and Highlights Pleiotropic Effects and Muscle-bone Interactions**
Carolina Medina-Gomez*[1], Denise Heppe[2], Karol Estrada[3], Joyce Van Meurs[3], Albert Hofman[4], Yi-Hsiang Hsu[5], David Karasik[6], Vincent Jaddoe[7], Maria Zillikens[8], Andre Uitterlinden[9], Fernando Rivadeneira[3]. [1]Erasmus Medical Center, The Netherlands, [2]The Generation R Study Group, Erasmus Medical Center, Rotterdam, The Netherlands, Netherlands, [3]Erasmus University Medical Center, The Netherlands, [4]Department of Epidemiology, Erasmus Medical Center, Rotterdam, The Netherlands, Netherlands, [5]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [6]Hebrew SeniorLife, USA, [7]The Generation R Study, Erasmus Medical Center, Rotterdam, The Netherlands, Netherlands, [8]Erasmus Mc, The Netherlands, [9]Rm Ee 575, Genetic Laboratory, The Netherlands
Disclosures: Carolina Medina-Gomez, None

SA0192 **The Relation between Age-related Declines in Hand Grip Strength and Arterial Stiffness in Korean Men**
SANG HYEON JE[1], Duck Joo Lee*[2]. [1]Ajou University Hospital, Department of Family Medicine, South Korea, [2]Ajou University School of Medicine, South Korea
Disclosures: Duck Joo Lee, None

SA0193 **Wnt/ Ca^{+2} Signaling Pathway Takes Shape in Muscle-bone Crosstalk**
Sandra Romero-Suarez*[1], Cheng Lin Mo[1], Mark L Johnson[2], Lynda Bonewald[3], Marco Brotto[3]. [1]University of Missouri-Kansas City, USA, [2]Unversity of Missouri-Kansas City, USA, [3]University of Missouri - Kansas City, USA
Disclosures: Sandra Romero-Suarez, None

OSTEOBLASTS: APOPTOSIS AND CELL CYCLE

SA0194 **Ability of Cyclosporine to Induce Oxygen Free Radicals in a Rat Osteoblast Cell Line**
Min Hyung Jung*, Heung Yeol Kim. School of Medicine, Kyung Hee University, Kyung Hee Medical Center, South Korea
Disclosures: Min Hyung Jung, None

SA0195 **Identification of CARP-1 Target Cells in Bone and Response to PTH in Osteoblastic Cells**
Sonali Sharma*[1], Chandrika Mahalingam[1], Shazia Zamal[2], Edi Levi[3], Arun Rishi[4], Nabanita Datta[5]. [1]Endocrinology, Wayne State University School of Medicine, USA, [2]Oncology, VA Medical Center, USA, [3]Pathology, VA Medical Center, USA, [4]Oncology, Karmanos Cancer Institute, VA Medical Center, USA, [5]Endocrinology, Cardiovascular Research Institute, Karmanos Cancer Institute, Wayne State University School of Medicine, USA
Disclosures: Sonali Sharma, None

SA0196 **Apolipoprotein D Deficient Mice Show Altered Bone Metabolism: A Structural and Cellular Characterization**
Corine Martineau*[1], Ouafa Najyb[2], Louise Martin-Falstrault[3], Eric Rassart[2], Robert Moreau[4]. [1]Université du Québec à Montréal, Canada, [2]UQÀM, Canada, [3]UQAM, Canada, [4]University of Quebec At Montreal, Canada
Disclosures: Corine Martineau, None

SA0197 **Bone Formation is Compromised by Disruption of Runx2-WW-domain Protein Interaction**
Yang Lou*[1], Weibing Zhang[2], Marcio Beloti[3], Dana Frederick[4], Andre Van Wijnen[4], Gary Stein[4], Janet L. Stein[4], Jane Lian[4]. [1]University of Massachusetts, USA, [2]Univ of Massachusetts Medical School, USA, [3]School of Dentistry of Ribeirao Preto, University of Sao Paulo, Brazil, [4]University of Massachusetts Medical School, USA
Disclosures: Yang Lou, None

SA0198 **Calcium-Sensing Receptors (CaSRs) in Mature Osteoblasts Regulate Bone Formation and Maintenance of Bone Mass: Studies in Osteocalcin (OCN) Conditional Knockout Mice**
Nathan Liang[1], Tsui-Hua Chen[1], Zhiqiang Cheng[2], Alfred Li[1], Christian Santa Maria[1], Chia-Ling Tu[1], Wenhan Chang[3], Dolores Shoback*[4]. [1]UCSF, USA, [2]University of California, San Francisco, USA, [3]Endocrine Unit, VA Medical Center, University of California, San Francisco, USA, [4]VA Medical Center, USA
Disclosures: Dolores Shoback, None

SA0199 **Characterization of the Skeletal Phenotype in Osteoactivin Transgenic Mice**
Nagat Frara*[1], Fabiola Delcarpio-Cano[1], Robin Pixley[1], Roshanak Razmpour[1], Christina Mundy[2], Fouad Moussa[3], Samir Abdelmagid[3], Steven Popoff[2], Fayez Safadi[3]. [1]Temple University, USA, [2]Temple University School of Medicine, USA, [3]Northeast Ohio Medical University, USA
Disclosures: Nagat Frara, None

SA0200 **Cytotoxic Therapies Significantly Alter the Composition of the Cells Comprising Murine Hematopoietic Stem Cell Niches**
Julie Quach*[1], Maria Askmyr[1], Tanja Jovic[1], Hannah King[1], Cesar Nombela-Arrieta[2], Kirby White[1], Emma Baker[1], Nicole Walsh[3], Leslie Silberstein[2], Louise Purton[4]. [1]St. Vincent's Institute, Australia, [2]Joint Program in Transfusion Medicine, Children's Hospital Boston, Harvard Medical School, USA, [3]St Vincent's Institute of Medical Research, Australia, [4]St. Vincent's Institute, The University of Melbourne, Australia
Disclosures: Julie Quach, None

SA0201 **Dlx3 Inactivation in Osteoblasts Results in Defective Endochondral Bone Formation**
Juliane Isaac*[1], Olivier Duverger[2], Hong-Wei Sun[3], Stacey Russell[4], Gary Stein[5], Jane Lian[5], Maria I Morasso[2]. [1]Developmental Skin Biology Section, NIAMS/NIH, USA, [2]Developmental Skin Biology Section, NIAMS, National Institutes of Health, USA, [3]Biodata Mining & Discovery Section, NIAMS, National Institutes of Health, USA, [4]Departments of Cell Biology & Orthopedic Surgery, University of Massachusetts Medical School, USA, [5]University of Massachusetts Medical School, USA
Disclosures: Juliane Isaac, None

SA0202 **Does Collagen Trigger Migration of Reversal Cells into Vacated Bone Resorption Lacunae?**
Mohamed Abdelgawad*[1], Kent Soe[2], Lars H. Engelholm[3], Per Kjaersgaard-Andersen[4], Niels Behrendt[3], Jean-Marie Delaisse[5]. [1]Clinical Cell Biology Department (KCB), Denmark, [2]Vejle Hospital, University of Southern Denmark, Denmark, [3]Finsen Laboratory, Rigshospitalet, Denmark, [4]Vejle/Lillebaelt Hospital, University of Southern Denmark, Denmark, [5]Vejle Hospital, IRS, University of Southern Denmark, Denmark
Disclosures: Mohamed Abdelgawad, None

SA0203 **Endothelin Signaling Promotes Terminal Differentiation of TMOb Cells via Increased BMP@ and Nos3 Expression**
Michael Johnson*[1], Kathryn Konicke[1], Rachel Garbo[1], Robert Blank[1], Baozhi Yuan[1], Jasmin Kristianto[2], Suzanne Litscher[1]. [1]University of Wisconsin, USA, [2]University of Wisconsin–Madison, USA
Disclosures: Michael Johnson, None

SA0204 **Modulating Osteogenic Differentiation of Induced Pluripotent Stem (iPS) Cells Through Direct Inhibition of SOX9 by MicroRNA-335-5p and MicroRNA-342-3p**
Mengqi Huang*, Yuhua Hu, Qisheng Tu, Jake Jinkun Chen. Tufts University School of Dental Medicine, USA
Disclosures: Mengqi Huang, None

SA0205 **Withdrawn**

SA0206 **Periostin Deficiency, Inhibit Beta Catenin Response to PTH and Induce Cortical Porosity through Osteocytic RANKL Expression**
Nicolas Bonnet*[1], Serge Ferrari[2]. [1]Division of Bone Diseases, Geneva University Hospital & Faculty of Medicine, S, Switzerland, [2]Geneva University Hospital & Faculty of Medicine, Switzerland
Disclosures: Nicolas Bonnet, None

SA0207 **Targeting Osteoclasts to Promote Bone Regeneration; Adenosine Receptors Regulate Osteoclast Formation and Promote Bone Regeneration in a Calvarial Defect Model**
Aranzazu Mediero*[1], Tuere Wilder[2], Bruce Cronstein[3]. [1]NYU SCHOOL OF MEDICINE, USA, [2]Department of medicien, NYU School of Medicine, USA, [3]NYU Medical School, USA
Disclosures: Aranzazu Mediero, None

SA0208 **The Role of Oxygen in Blastema Formation and Skeletal Regeneration**
Mimi Sammarco*, Jennifer Simkin, Ken Muneoka, Danielle Fassler. Tulane University, USA
Disclosures: Mimi Sammarco, None

SA0209 **Ubiquitin E3 Ligase Itch Negatively Regulates Osteoblast Differentiation from Mesenchymal Stem Cells**
Hengwei Zhang*[1], Lei Shu[2], Brendan Boyce[2], Lianping Xing[3]. [1]Univeristy of Rochester, USA, [2]University of Rochester Medical Center, USA, [3]University of Rochester, USA
Disclosures: Hengwei Zhang, None

SA0210 **Use of Vwc2 Protein as a Novel Approach to Induce Bone Formation**
Ahmad Almehmadi*[1], Yoshio Ohyama[2], Haytham Jaha[2], Sundharamani Venkitapathi[2], Reem Aljamaan[2], Yoshiyuki Mochida[2]. [1]Goldman School of Dental Medicine, Boston University, USA, [2]Boston University, Henry M. Goldman School of Dental Medicine, USA
Disclosures: Ahmad Almehmadi, None

OSTEOBLASTS: GENE EXPRESSION AND TRANSCRIPTION FACTORS

SA0211 **Collagen 10-Expressing Chondrocytes Have the Capacity to Become Osteoblasts *In Vivo***
Xin Zhou*[1], Klaus von der Mark[2], Stephen Henry[3], Takako Hattori[4], Benoit de Crombrugghe[1]. [1]MD Anderson Cancer Center, USA, [2]Department of Experimental Medicine 1, Nikolaus-Fiebiger-Center of Molecular Medicine, University of Erlangen-Nuremberg, Germany, [3]University of Texas MD Anderson, USA, [4]Department of Biochemistry & Molecular Dentistry, Okayama University Graduate School of Medicine, Dentistry, & Pharmaceutical Science, Japan
Disclosures: Xin Zhou, None

SA0212 **Epigenetic Control of Osx-target Genes during Osteoblast Differentiation through NO66 Histone Demethylase**
Krishna Sinha*[1], Hideyo Yasuda[2], Xin Zhou[3], Benoit DeCrombrugghe[1]. [1]UT MD Anderson Cancer Center, USA, [2]U.T.M.D. Anderson Cancer Center, USA, [3]MD Anderson Cancer Center, USA
Disclosures: Krishna Sinha, None

SA0213 **Frizzled Homolog 1 (FZD1) Mediates the Effect of E2F1 on Osteoblast Differentiation and Mineralization**
Shibing Yu*[1], Laura Yerges-Armstrong[2], Yanxia Chu[3], Joseph Zmuda[4], Yingze Zhang[5]. [1]University of Pittsburgh Medical Center, USA, [2]University of Maryland, USA, [3]UPMC, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]University of Pittsburgh, USA
Disclosures: Shibing Yu, None

SA0214 **Higher Strontium Consumption Stimulates Osteoblast Differentiation and Increase Bone Formation in Goats**

Junjing Jia*[1], Guozhou Liao[2], Yueyuan Fan[3], Hua Rong[3], Zhiqiang Xu[4], Xi Zhang[5], Dahai Gu[3], Qichao Huang[2], Zhenhui Cao[3], Qiuye Lin[6], Sizheng Gao[3], Qiuye Lin[3], Changrong Ge[4], Wei Yao[7]. [1]University of California, Davis, USA, [2]Faculty of Food Science,Yunnan Agricultural University, China, [3]Yunnan Provincial Key Laboratory of Animal Nutrition & Feed, Yunnan Agricultural University, China, [4]Yunnan Agricultural University, China, Peoples Republic of China, [5]Yunnan Agricultural University, Peoples Republic of China, [6], [7]University of California, Davis Medical Center, USA

Disclosures: Junjing Jia, None

SA0215 **Kinetics of Bmp2 Gene Expression in Primary Calvarial Osteoblasts: Gene Regulatory Network Constructed with ARCANe and Linked to Ingenuity Pathway Transcriptional Module**

Stephen Harris*[1], Alexander c Lichtler[2], Shuo Chen[3], Marie A Harris[3]. [1]University of Texas Health Science Center at San Antonio, USA, [2]U. of Connecticut Health Center, USA, [3]U. of Texas Health Science Center at San Antonio, USA

Disclosures: Stephen Harris, None

SA0216 **microRNA Expression Analysis Using Next Generation Sequencing in Primary Human Bone Cells treated with Parathyroid Hormone or Dexamethasone**

Navya Laxman*[1], Carl-Johan Rubin[1], Hans Mallmin[2], Olle Nilsson[3], Christian Tellgren-Roth[4], Andreas Kindmark[2]. [1]uppsala University, Sweden, [2]Uppsala University Hospital, Sweden, [3]Department of Surgical Sciences, Uppsala University, Sweden, [4]Department of Immunology, Genetics & Pathology, Rudbeck laboratories, Uppsala University, Sweden

Disclosures: Navya Laxman, None

SA0217 **Preconditioning Mouse Periosteal Cells to Hypoxia by Inactivation of the *Phd2* Oxygen Sensor Improves *In Vivo* Ectopic Bone Formation**

Steve Stegen*[1], Nick Van Gastel[2], Riet Van Looveren[2], Peter Carmeliet[3], Frank Luyten[4], Geert Carmeliet[5]. [1]Laboratory of Clinical & Experimental Endocrinology, KU Leuven & Prometheus, Division of Skeletal Tissue Engineering, KU Leuven, Belgium, [2]Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, [3]Laboratory of Angiogenesis & Neurovascular Link, Vesalius Research Center, VIB & Laboratory of Angiogenesis & Neurovascular Link, Vesalius Research Center, KU Leuven, Belgium, [4]University Hospitals KU Leuven, Belgium, [5]Katholieke Universiteit Leuven, Belgium

Disclosures: Steve Stegen, None

SA0218 **Runx2 and Osterix Molecular Complex Synergistically Regulate Osteogenic Genes**

Harunur Rashid*[1], Haiyan Chen[2], Changyan Ma[1], Krishna Sinha[3], Benoit DeCrombrugghe[3], Amjad Javed[2]. [1]Department of Oral & Maxillofacial Surgery, University of Alabama at Birmingham, USA, [2]University of Alabama at Birmingham, USA, [3]UT MD Anderson Cancer Center, USA

Disclosures: Harunur Rashid, None

SA0219 **Sequential Expression of Sox11 and Sox4 Is Essential for Osteoblastogenesis and Bone Development**

Jogeswar Gadi*[1], Min Jung Lee[2], Ajita Jami[3], Kyoung Min Kim[4], Han-Sung Jung[5], Sung-Kil Lim[6]. [1]Yonsei University College of Medicine Seoul South Korea, South Korea, [2]2Department of Oral Biology, College of Dentistry, Yonsei University, South Korea, [3]1Division of Endocrinology & Endocrine Research Institute, Yonsei University College of Medicine, South Korea, [4]Yonsei University College of Medicine, Republic of Korea, [5]Department of Oral Biology, College of Dentistry, Yonsei University, South Korea, [6]Yonsei University College of Medicine, South Korea

Disclosures: Jogeswar Gadi, None

SA0220 **TNFa Suppresses BMP2-induced Osteoblasts Differentiation via CREBH-mediated smurf1 Expression**

Won-Gu Jang[1], Eun-jung Kim[1], Hyuck Choi[2], Sin-hye Oh[2], Byung-Chul Jeong[3], Sung-Woong Hur[4], Jeong-Tae Koh*[4]. [1]Korea Research Institute of Bioscience & Biotechnology (KRIBB), South Korea, [2]Research Center for Biomineralization Disorders, School of Dentistry, Chonnam National University, South Korea, [3]Chonnam National University School of Dentistry, South Korea, [4]Chonnam National University, South Korea

Disclosures: Jeong-Tae Koh, None

OSTEOBLASTS: HORMONAL REGULATION AND SIGNAL TRANSDUCTION

SA0221 **Action of Small Molecular Inhibitors on Anabolic Effects of Intermittent PTH Treatment**
Maki Uyama*[1], Masmitsu Kawanami[1], Masato Tamura[2]. [1]Periodontology & Endodontics, Grad. Sch. Dent. Med., Hokkaido University, Japan, [2]Biochem. & Mol. Biol., Grad. Sch. Dent. Med., Hokkaido University, Japan
Disclosures: Maki Uyama, None

SA0222 **Differential Effects of 1,25-dihydroxyvitamin D on *in vitro* Mineral Deposition: Interaction between Osteoblast Stage of Maturation and Culture Medium Calcium Concentration**
Dongqing Yang*[1], Gerald Atkins[2], Andrew Turner[3], Paul Anderson[4], Howard Morris[5]. [1]The University of Adelaide, Australia, [2]University of Adelaide, Australia, [3]Musculoskeletal Biology Research, Chemical Pathology, SA Pathology, Australia, [4]Musculoskeletal Biology Research, University of South Australia, Australia, [5]SA Pathology, Australia
Disclosures: Dongqing Yang, None

SA0223 **PPR-Dependent Signaling in Osteoprogenitors Regulates Bone Marrow Hematopoietic Stem Cell and Leukocyte Niches**
Cristina Panaroni*[1], Rhiannon Chubb[2], Joy Wu[2]. [1]Endocrine Unit, Massachusetts General Hospital, USA, [2]Massachusetts General Hospital, USA
Disclosures: Cristina Panaroni, None

SA0224 **Substrate Recognition of Human Menaquinone-4 Biosynthetic Enzyme UBIAD1**
Kimie Nakagawa*[1], Yuri Uchino[1], Yoshitomo Suhara[2], Toshio Okano[1]. [1]Kobe Pharmaceutical University, Japan, [2]Shibaura Institute of Technology, Japan
Disclosures: Kimie Nakagawa, None

SA0225 **The Inositol Polyphosphate/Protein Kinase Cδ Signaling Cascade is Required for the Connexin43-dependent Amplification of Runx2 Activity**
Corinne Niger[1], Maria Luciotti[2], Atum Buo[3], Carla Hebert[2], Vy Ma[2], Joseph Stains*[1]. [1]University of Maryland School of Medicine, USA, [2]University of Maryland, USA, [3]University of Maryland, School of Medicine, USA
Disclosures: Joseph Stains, None

OSTEOBLASTS: PROGENITOR AND STROMAL CELLS, PROLIFERATION AND DIFFERENTIATION

SA0226 **A FoxO1-Independent Action of Canonical Wnt signaling in Osteoblasts Regulates Bone Resorption**
Aruna Kode*, Ioanna Mosialou, John S Manavalan, Stavroula Kousteni. Columbia University Medical Center, USA
Disclosures: Aruna Kode, None

SA0227 **Activated G_s Signaling in Immature Osteoblasts Alters the Hematopoietic Stem Cell Niche in Mice**
Edward Hsiao*[1], Koen Schepers[1], Mark Scott[2], Trit Garg[1], Emmanuelle Passegue[1]. [1]University of California, San Francisco, USA, [2]Gladstone Institute for Cardiovascular Disease, USA
Disclosures: Edward Hsiao, None

SA0228 **Delayed Healing and Increased Callus Adiposity in a Murine Model of Type 2 Diabetes**
Matthew Brown*[1], Kiminori Yukata[2], Regis O'Keefe[3], Robert Mooney[1], Michael Zuscik[4]. [1]University of Rochester Medical Center, USA, [2]University of Tokushima Graduate School, Japan, [3]University of Rochester, USA, [4]University of Rochester School of Medicine & Dentistry, USA
Disclosures: Matthew Brown, None

SA0229 **Diet Induced Obesity Enhances Bone Marrow Myeloproliferation by Down-regulating Runx1 and Crebbp Expression**
Benjamin Adler*[1], Danielle Green[1], M. Ete Chan[1], Clinton Rubin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Benjamin Adler, None

SA0230 **Disruption of Hematopoietic Stem Sell Lineage Determination and Increased Rate of Leukemia Cell Engraftment in Mice Lacking Osteoblasts**
Maria Krevvata*[1], Barbara Silva[2], John S Manavalan[2], Aris Economides[3], Ellin Berman[4], Stavroula Kousteni[2]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA, [3]Regeneron Pharmaceuticals, Inc., USA, [4]Memorial Sloan-Kettering Cancer Center, USA
Disclosures: Maria Krevvata, None

SA0231 **Effects of Resveratrol on Proliferation and Differentiation of Human Bone Marrow-derived Osteoblasts**
Marie Ornstrup*[1], Torben Harsløf[2], Søren Kildeberg Paulsen[3], Steen Bønløkke Pedersen[4], Bente Lomholt Langdahl[4]. [1]Aarhus University Hospital, MEA, Entrance 3B, Tage-Hansens Gade 2, 8000 Aarhus C, Denmark, [2]Department of Internal Medicine M, Regional Hospital Randers, Denmark, [3]Department of Medicine, Regional Hospital Silkeborg, Denmark, [4]Department of Endocrinology & Internal Medicine MEA, Aarhus University Hospital, Denmark
Disclosures: Marie Ornstrup, None

SA0232 **FGF-2 Maintains a Niche-dependent Population of Self-renewing Highly Potent non-adherent Mesenchymal Progenitors through FGFR2c**
Nunzia Di Maggio*, Arne Mehrkens, Adam Papadimitropoulos, Andrea Banfi, Ivan Martin. Basel University Hospital, Switzerland
Disclosures: Nunzia Di Maggio, None

SA0233 **Generation and Characterization of Osterix-Cherry Reporter Mice**
Sara Strecker*[1], Yu Fu[1], Peter Maye[2]. [1]University of Connecticut, USA, [2]University of Connecticut Health Center, USA
Disclosures: Sara Strecker, None

SA0234 **Increase Rate of Osteogenic Differentiation in Human Mesenchymal Stem Cells by Low Intensity Ultrasound in Stimulated Microgravity**
Sardar Uddin*[1], Yi-Xian Qin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Sardar Uddin, None

SA0235 **Legumain: A Novel Regulator of Human Skeletal (Mesenchymal) Stem Cell Differentiation**
Diyako Qanie*[1], Abbas Jafari[2], Kenneth Hauberg[1], Li Chen[3], Moustapha Kassem[4]. [1]Univeristy of Southern Denmark, Denmark, [2]University of Southern Denmark, Denmark, [3]Medical Biotechnology Center (MBC), Denmark, [4]Odense University Hospital, Denmark
Disclosures: Diyako Qanie, None

SA0236 **Regulation of BMP/Smad Signaling and Osteoblastic Cell Differentiation by Receptor Tyrosine Kinase Pathways in Mesenchymal Stem Cells**
Emmanuel Biver[1], Cyril Thouverey[2], David Magne[3], Joseph Caverzasio*[4]. [1]University hospital of Lille, France, [2]Division of Bone Diseases, Switzerland, [3]University of Lyon, France, [4]Division Bone Diseases, Switzerland
Disclosures: Joseph Caverzasio, None

SA0237 **Stage-specific Embryonic Antigen-4 is a Marker of Human Deciduous Periodontal Ligament Stem Cells**
Noriaki Kawanabe*[1], Hiroaki Fukushima[2], Satoko Murata[2], Yoshihito Ishihara[3], Takeshi Yanagita[1], Tarek Balam[2], Takashi Yamashiro[2]. [1]Okayama University Hospital, Japan, [2]Okayama University, Japan, [3]Okayama University, Department of Orthodontics, Japan
Disclosures: Noriaki Kawanabe, None

SA0238 **The Notch Target Gene, Sox2, May Mediate Notch-induced Maintenance of Bone Marrow Derived Mesenchymal Stem/progenitor Cells**
Teng Long*[1], Cuicui Wang[1], Regis O'Keefe[1], Matthew Hilton[2], Yufeng Dong[1]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA
Disclosures: Teng Long, None

SA0239 **Wnt-dependent Osteogenic Commitment of Mesenchymal Stem Cells Using a Novel GSK3β Inhibitor**
David Cook*[1], Simon Fellgett[1], Mary Elizabeth Pownall[1], Patrick O'Shea[2], Paul Genever[1]. [1]University of York, United Kingdom, [2]AstraZeneca, United Kingdom
Disclosures: David Cook, None

OSTEOBLASTS: STEROID/SERM EFFECTS

SA0240 **Vitamin D Metabolism and Action in Human Marrow Stromal Cells: Effects of Chronic Kidney Disease**
Shuanhu Zhou*, Meryl Leboff, Sushrut Waikar, Julie Glowacki. Brigham & Women's Hospital, USA
Disclosures: Shuanhu Zhou, None

OSTEOCLASTS: CELL ADHESION

SA0241 **Localized Elevation of Cytosolic Free Calcium is Required for Uropod Retraction and Osteoclast Migration**
Benjamin Wheal*[1], Natsuko Tanabe[2], S. Jeffrey Dixon[1], Stephen Sims[1]. [1]The University of Western Ontario, Canada, [2]Nihon University School of Dentistry, Japan
Disclosures: Benjamin Wheal, None

OSTEOCLASTS: CYTOKINES AND GROWTH FACTORS

SA0242 **In vitro Generation of Osteoclasts from Interleukin (IL)-3-dependent Mouse Bone Marrow Cells**
HUIXIAN HONG*[1], Zhenqi Shi[1], Shunqing Wang[2], Xu Feng[3]. [1]UAB, USA, [2]Department of Hematology2, First Municipal People's Hospital, Guangzhou Medical College, Guangdong, China, China, [3]University of Alabama at Birmingham, USA
Disclosures: HUIXIAN HONG, None

SA0243 **NF-kB RelB Null Mice Develop Erosive Arthritis by Increasing Inflammatory Monocyte/Macrophages**
Zhenqiang Yao*[1], Yanyun Li[2], Lianping Xing[1], Brendan Boyce[2]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA
Disclosures: Zhenqiang Yao, None

SA0244 **Osteocyte-derived RANKL in Bone Remodeling**
Tomoki Nakashima*[1], Mikihito Hayashi[1], Hiroshi Takayanagi[2]. [1]Tokyo Medical & Dental University, Japan, [2]The University of Tokyo, Department of Immunology, Japan
Disclosures: Tomoki Nakashima, None

SA0245 **RANKL Employs Distinct Binding Modes to Engage RANK and OPG**
Christopher Nelson[1], Julia Warren*[2], Steven Teitelbaum[2], Daved Fremont[1]. [1]Washington University in St. Louis, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Julia Warren, None

SA0246 **RANKL Induces TRAF3 Lysosomal Degradation Through NF-kB RelB, an Effect Prevented by the Lysosome Inhibitor Chloroquine**
Yan Xiu*[1], Yoshikazu Morita[2], Chen Zhao[1], Zhenqiang Yao[3], Lianping Xing[3], Brendan Boyce[1]. [1]University of Rochester Medical Center, USA, [2]Megmilk Snow Brand Co., Ltd., Japan, [3]University of Rochester, USA
Disclosures: Yan Xiu, None

OSTEOCLASTS: DIFFERENTIATION

SA0247 **A Network of Collagen Fibers Supporting Pre-osteoclast Trafficking from the Bone Marrow to the Bone Surface?**
Thomas Andersen*[1], Helene Kristensen[2], Jean-Marie Delaisse[3]. [1]Vejle Hospital, CSFU-IRS, University of Southern Denmark, Denmark, [2]Vejle Hospital, Denmark, [3]Vejle Hospital, IRS, University of Southern Denmark, Denmark
Disclosures: Thomas Andersen, None

SA0248 **Activation of the NLRP3 Inflammasome in Myeloid Cells Causes Massive Bone Resorption**
Sheri Bonar[1], Cynthia Brecks[2], Matthew McGeough[3], Susannah Brydges[3], Chang Yang[4], Deborah Novack[5], Hal Hoffman[3], Roberto Civitelli[5], Gabriel Mbalaviele*[5]. [1]Washington University in St. Louis, USA, [2]Washington University In St Louis, USA, [3]University of California, San Diego, La Jolla, CA, USA, [4]Washington University in St Louis School of Medicine, USA, [5]Washington University in St. Louis School of Medicine, USA
Disclosures: Gabriel Mbalaviele, None

SA0249 **Calcium/calmodulin-signaling Regulates TRPV4 Action by the Process Supporting Myosin IIa Association in Osteoclasts**
Ritsuko Masuyama*[1], Atsuko Mizuno[2], Hiroshi Kajiya[3], Hideki Kitaura[4], Koji Okabe[3], Toshihisa Komori[1]. [1]Nagasaki University Graduate School of Biomedical Sciences, Japan, [2]Jichi Medical University, Japan, [3]Fukuoka Dental College, Japan, [4]Tohoku University, Japan
Disclosures: Ritsuko Masuyama, None

SA0250 **c-Fos Plays an Essential Role in Up-regulation of RANK Expression in Osteoclast Precursors**
Atsushi Arai*[1], Toshihide Mizoguchi[1], Suguru Harada[2], Yasuhiro Kobayashi[1], Yuko Nakamichi[1], Hisataka Yasuda[3], Josef M. Penninger[4], Kazuhiro Yamada[1], Nobuyuki Udagawa[1], Naoyuki Takahashi[1]. [1]Matsumoto Dental University, Japan, [2]Chugai Pharmaceutical Co., Ltd., Japan, [3]Oriental Yeast Company, Limited, Japan, [4]Institute of Molecular Biotechnology of the Austrian Academy of Sciences, Austria
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SA0251 **Effect of Dietary Aromatic Amino Acids on Osteoclastic Differentiation**
Mona El Refaey*[1], Kehong Ding[1], Qing Zhong[2], Jianrui Xu[1], Mark Hamrick[1], William Hill[3], Xing-Ming Shi[1], Norman Chutkan[1], Monte Hunter[1], Wendy Bollag[1], Karl Insogna[4], Carlos Isales[2]. [1]Georgia Health Sciences University, USA, [2]Medical College of Georgia, USA, [3]Georgia Health Sciences University & Charlie Norwood VAMC, USA, [4]Yale University School of Medicine, USA
Disclosures: Mona El Refaey, None

SA0252 **Foxp3, the Master Transcriptional Regulator in Regulatory T Cells, Controls Osteoclastogenesis and Bone Mass**
Tim Hung-Po Chen[1], Yousef Abu-Amer*[2]. [1]Washington University School of Medicine, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Yousef Abu-Amer, None

SA0253 **Hsp90 Inhibitors Enhance Osteoclast Formation *in vitro* in a MITF-dependent Manner through the Induction of Stress Responses**
Julian Quinn*[1], Ryan Chai[2], A. Gabrielle J. Van Der Kraan[3], Matthew Gillespie[1], John Price[2]. [1]Prince Henry's Institute of Medical Research, Australia, [2]Dept of Biochemisty, Monash University, Australia, [3]Prince Henry's Institute, Australia
Disclosures: Julian Quinn, None

SA0254 **Impairment of Osteoclastic Bone Resorption in Rapidly Growing Female $p47^{phox}$ Knockout Mice**
Jin-Ran Chen*[1], Kelly Mercer[2], Oxana P. Lazarenko[3], Thomas M. Badger[4], Martin J. J. Ronis[5]. [1]Arkansas Children's Nutrition Center, & Department of Pediatrics, University of Arkansas for Medical Sciences, USA, [2]Arkansas Children's Nutrition Center, USA, [3]Arkansas Children's Nutrition Center, & Department of Physiology & Biophysics, University of Arkansas for Medical Sciences, USA, [4]Arkansas Children's Nutrition Center. The Departments of Pediatrics, Physiology & Biophysics, University of Arkansas for Medical Sciences, USA, [5]Arkansas Children's Nutrition Center, & Department of Pediatrics, Pharmacology & Toxicology, University of Arkansas for Medical Sciences, USA
Disclosures: Jin-Ran Chen, None

SA0255 **Rolofylline, an Adenosine A_1R Antagonist, Inhibits Osteoclast Differentiation as an Inverse Agonist**
Wenjie He*[1], Tuere Wilder[2], Bruce Cronstein[3]. [1]New York University Medical Center, USA, [2]NYU Medical Center, USA, [3]NYU Medical School, USA
Disclosures: Wenjie He, None

SA0256 **TACE Activity Regulates Osteoclastogenesis and Physiological Bone Remodeling**
Kyung-Hyun Park-Min*, Lionel Ivashkiv. Hospital for Special Surgery, USA
Disclosures: Kyung-Hyun Park-Min, None

SA0257 **TNF and IL-1 Synergistically Promote Osteoclastogenesis in RANKL- and RANK IVVY Motif-dependent Manner**
Joel Jules*[1], Zhenqi Shi[2], Monica Lewis[2], Xu Feng[2]. [1]University of Miami Miller School of Medicine, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Joel Jules, None

SA0258 **Tspan4 Co-localizes with β3 Integrin and Is Required for Osteoclast Differentiation**
Loise Salles*[1], Jonah Saltzman[1], Leslie Morse[2], Li Zhang[1], Prateek Jha[1], Ricardo Battaglino[1]. [1]The Forsyth institute, USA, [2]Harvard Medical School, USA
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OSTEOCLASTS: INHIBITION OF RESORPTION

SA0259 **Anti-Resorptive Agent Modulates Mucosal Barrier Immunity of the Oral Cavity in Mouse ONJ Models**
Sil Park*[1], Davood T. Quje[2], Ichiro Nishimura[3]. [1]UCLA, School of Dentistry, USA, [2]UCLA, Weintraub Center, USA, [3]University of California, Los Angeles, USA
Disclosures: Sil Park, None

SA0260 **Canonical Wnt Signaling Mediates an Osteoprotegerin-independent Inhibitory Effect on Osteoclastogenesis**
Johannes Keller*[1], Michael Amling[1], Joachim Albers[2], Anke Baranowsky[3], Thorsten Schinke[4]. [1]University Medical Center Hamburg-Eppendorf, Germany, [2]Universitätsklinikum Hamburg Eppendorf, Germany, [3]Universitätsklinikum Hamburg-Eppendorf, Germany, [4]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppe, Germany
Disclosures: Johannes Keller, None

SA0261 **Foxp3^{+} CD8 T-Cells Can Suppress Bone Turnover in Response to RANKL Administration and in Ovariectomized Mice.**
Reggie Aurora*[1], Zachary Buchwald[2], Jennifer Kiesel[2], Deborah Novack[3], Richard Di Paolo[2]. [1]Saint Louis University University, USA, [2]Saint Louis University School of Medicine, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Reggie Aurora, None

SA0262 **Importance of Proteolytic Degradation of Osteoprotegerin by Lysine-specific Gingipain in Periodontal Osteoclastogenesis**
Yoichi Miyamoto[1], Masamichi Takami[1], Kentaro Yoshimura[1], Kazuyoshi Baba[2], Atsushi Yamada[1], Ryutaro Kamijo[1], Toshifumi Maruyama[1], Kenji Mishima[2], Marie Hoshino[2], Rika Yasuhara[2], Tomohito Akiyama*[3]. [1]Showa University School of Dentistry, Japan, [2]showa univ., Japan, [3]Showa University School of Dentistry, JAPAN, Japan
Disclosures: Tomohito Akiyama, None

SA0263 **Mice with Inactivating Mutations in the RANK PVQEET$^{560–565}$ and PVQEQG$^{604–609}$ Motifs Exhibit Increased Bone Mass Due to Impaired Osteoclastogenesis**
Zhenqi Shi*[1], Joel Jules[2], Bob Kesterson[3], Dongfeng Zhao[4], Xu Feng[5]. [1]University of Alabama, USA, [2]University of Miami Miller School of Medicine, USA, [3]Department of Genetics, UAB, USA, [4]The University of Alabama At Birmingham, USA, [5]University of Alabama at Birmingham, USA
Disclosures: Zhenqi Shi, None

SA0264 **Prevention of Wear Particle-induced Osteolysis by a Novel V-ATPase Inhibitor Saliphenylhalamide (SaliPhe) through Inhibition of Osteoclast Maturation and Bone Resorption**
An Qin*[1], Taksum Cheng[2], Zhen Lin[3], Lei Cao[4], Shek Chim[5], Nathan Pavlos[2], Jiake Xu[2], Kerong Dai[4], Ming Hao Zheng[2]. [1]School of Surgery, The University of Western Australia, Australia, [2]University of Western Australia, Australia, [3]Centre for Orthopaedic Research, School of Surgery, The University of Western Australia, Western Australia, Australia, Australia, [4]Department of Orthopaedics, Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, P.R. China, China, [5]School of Pathology & Laboratory Medicine, The University of Western Australia, Western Australia, Australia, Australia
Disclosures: An Qin, None

OSTEOCLASTS: ISOLATION AND LINEAGE

SA0265 **Rosiglitazone Affects Osteoclast Activity in Type 2 Diabetes Mellitus.**
Shivani Agarwal*[1], Mishaela Rubin[1], Sanil Manavalan[1], Donald McMahon[2], Antonio Nino[3], Lorraine Fitzpatrick[3], John Bilezikian[2]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]GlaxosmithKline Pharmaceuticals, USA
Disclosures: Shivani Agarwal, None

OSTEOCLASTS: SIGNAL TRANSDUCTION

SA0266 **Overexpression of DRG2 Results in Increased Number and Activity of Osteoclast**
Hye-Seon Choi*, Ke Ke, JW Park. University of Ulsan, South Korea
Disclosures: Hye-Seon Choi, None

SA0267 **Plasma Membrane Ca^{2+}-ATPase-mediated Calcium Efflux Controls Osteoclast Differentiation and Survival**
Youngkyun Lee*[1], Hyung Joon Kim[2], Hong-Hee Kim[2]. [1]Kyungpook National University, Scool of Dentistry, South Korea, [2]Seoul National University, South Korea
Disclosures: Youngkyun Lee, None

SA0268 **Stat5 Suppresses Bone Resorption of Osteoclasts by Upregulating Expression of Dusp Family**
Jun Hirose*, Hironari Masuda, Yasunori Omata, Sakae Tanaka. The University of Tokyo, Japan
Disclosures: Jun Hirose, None

SA0269 **The Role of the Akt/GSK3beta/NFATc1 Axis during Osteoclastogenesis**
Jang Bae Moon, Jung Ha Kim, Nacksung Kim*. Chonnam National University Medical School, South Korea
Disclosures: Nacksung Kim, None

OSTEOCYTES: REGULATION OF BONE FORMATION

SA0270 **Changes in Gene Expression and Transcription Factor Binding Patterns in Response to 1,25-Dihydroxyvitamin D_3 and PTH During IDG-SW3 Osteocyte Progression**
Hillary St John*[1], Kathleen Bishop[2], Alex Carlson[2], Nancy Benkusky[2], Mark Meyer[2], Lynda Bonewald[3], J. Pike[2]. [1]UW Madison, USA, [2]University of Wisconsin-Madison, USA, [3]University of Missouri - Kansas City, USA
Disclosures: Hillary St John, None

SA0271 **Evaluation of Osteocyte Dedifferentiation in vitro and in vivo**
Elena Torreggiani*[1], Slavica Pejda[1], Igor Matic[1], Mark Horowitz[2], Ivo Kalajzic[1]. [1]University of Connecticut health Center, USA, [2]Yale University School of Medicine, USA
Disclosures: Elena Torreggiani, None

SA0272 **Matrix Metalloproteinase-13 is Required for Osteocytic Perilacunar Remodeling**
Simon Tang*, Tamara Alliston. University of California, San Francisco, USA
Disclosures: Simon Tang, None

SA0273 **Osteocyte-Produced Microvesicles: a Potential Mechanism for Communication with Osteoblasts and Osteoclasts**
Pat Veno, Matt Prideaux, Vladimir Dusevich, Lynda Bonewald, Sarah Dallas*. University of Missouri - Kansas City, USA
Disclosures: Sarah Dallas, None

OSTEOCYTES: REGULATION OF BONE MINERALIZATION

SA0274 **Sclerostin Stimulation of Osteocytic Osteolysis Involves Expression of Carbonic Anydrase II**
Masakazu Kogawa*[1], Asiri Wijenayaka[1], Renee Ormsby[1], Lynda Bonewald[2], David Findlay[1], Gerald Atkins[1]. [1]University of Adelaide, Australia, [2]University of Missouri - Kansas City, USA
Disclosures: Masakazu Kogawa, None

OSTEOCYTES: REGULATION OF MINERAL ION HOMEOSTASIS

SA0275 **Live Imaging of Fluid Flow-induced Ca^{2+} Signaling of Osteoblasts and Osteocytes in Bone: Implications for Gap Junctional Intercellular Communication**
Yoshihito Ishihara*[1], Yasuyo Sugawara[2], Hiroshi Kamioka[3], Noriaki Kawanabe[4], Keiji Naruse[5], Takashi Yamashiro[5]. [1]Okayama University, Department of Orthodontics, Japan, [2]Okayama University Graduate School of Medicine, Dentistry, & Pharmacentical Sc, Japan, [3]Okayama University Graduate School of Medicine, Dentistry, & Pharmaceutical Sc, Japan, [4]Okayama University Hospital, Japan, [5]Okayama University Graduate School of Medicine, Dentistry, & Pharmaceutical Sciences, Japan
Disclosures: Yoshihito Ishihara, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: BONE MINERAL DENSITY

SA0276 **Genetic Variants in GPR177 and LRP5 may be Association with Risk of Lumbar Spine Fracture**
Lee O'Brien*[1], Haojun Ouyang[2], John Krege[2], Jared Kohler[3]. [1]Lilly, USA, [2]Eli Lilly & Company, USA, [3]Biostat Solutions, Inc, USA
Disclosures: Lee O'Brien, Eli Lilly and Company, 3

SA0277 **Skeletal Responsiveness to Cold Exposure: Implications for Age-Related Osteoporosis**
Casey Doucette*[1], Katherine Motyl[1], Clifford Rosen[2]. [1]Maine Medical Center Research Institute, USA, [2]Maine Medical Center, USA
Disclosures: Casey Doucette, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: BONE REMODELING

SA0278 **Mice Like it Hot: Housing Mice at Room Temperature Results in Cancellous Bone Loss**
Urszula Iwaniec, Russell Turner*, Kenneth Philbrick, Laurence Lindenmaier, Dawn Olson, Gianni Maddalozzo. Oregon State University, USA
Disclosures: Russell Turner, None

SA0279 **Plasma Sphingosine 1-phosphate Levels and Risk of Vertebral Fracture in Postmenopausal Women**
Seung Hun Lee*[1], Beom-Jun Kim[2], Jung-Min Koh[2], Sun-Young Lee[3], Young-Sun Lee[3], Kyeong-Hye Lim[4], Tae-Ho Kim[5], Shin-Yoon Kim[6], Ghi-Su Kim[4]. [1]Asan Medical Center, University of Ulsan College of Medicine, South korea, [2]Asan Medical Center, South korea, [3]Asan Institute for Life Sciences, South korea, [4]Division of Endocrinology & Metabolism, Asan Medical Center, University of Ulsan College of Medicine, South korea, [5]Kyungpook National University School of Medicine, South korea, [6]Kyungpook National University Hospital, South korea
Disclosures: Seung Hun Lee, None

SA0280 **The Effects of Acute Hyperinsulinemia on Bone Metabolism in Healthy Adults**
Kaisa Ivaska*[1], H. Kalervo Vaananen[1], Maikki Heliovaara[2], Pertti Ebeling[2], Heikki Koistinen[2]. [1]University of Turku, Finland, [2]Helsinki University Hospital, Finland
Disclosures: Kaisa Ivaska, None

SA0281 **The Sympathetic Nervous System Mediates Trabecular Bone Loss Caused by the Second Generation Antipsychotic Risperidone**
Katherine Motyl*[1], Deborah Barlow[2], Karen Houseknecht[2], Clifford Rosen[3]. [1]Maine Medical Center Research Institute, USA, [2]University of New England, USA, [3]Maine Medical Center, USA
Disclosures: Katherine Motyl, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: BONE STRUCTURE

SA0282 **Bone Microstructure Analysis of Femoral Head in Osteoporosis: Ex vivo HR-pQCT Study**
Ko Chiba*[1], Andrew Burghardt[2], Makoto Osaki[3], Sharmila Majumdar[2]. [1]Nagasaki University Hospital, USA, [2]University of California, San Francisco, USA, [3]Nagasaki University, Japan
Disclosures: Ko Chiba, None

SA0283 **SNPs in 3'UTR RANK Gene Determine Site-Specific Low Trauma Fractures Independently of Bone Mineral Density**
Natalia Garcia-Giralt*[1], Guy Yoskovitz[1], Daniel Prieto-alhambra[2], Maria Rodriguez-Sanz[3], Roser Urreizti[4], Daniel Grinberg[5], Robert Güerri[6], Leonardo Mellibovsky[7], Xavier Nogues[8], Susana Balcells[9], Adolfo Diez-Perez[10]. [1]IMIM, Spain, [2]Institut Municipal D'Investigació Mèdica, United Kingdom, [3]IMIM-Parc de salut Mar, Spain, [4]Departament de genètica, Universitat de Barcelona, Spain, [5]The University of Barcelona, Spain, [6]Hospital Universitario Del Mar.Institut Municipal D'Investigació Mèdica, Spain, [7]Internal medicine, Parc de salut Mar, Spain, [8]Institut Municipal D'Investigació Mèdica, Spain, [9]University of Barcelona, Spain, [10]Parc De Salut Mar, Spain
Disclosures: Natalia Garcia-Giralt, None

SA0284 **Space Radiation-Induced Bone Loss - Radiation Quality Response In Mice**
Laura Bowman*[1], Eric W. Livingston[1], Gregory A. Nelson[2], Ted Bateman[3]. [1]University of North Carolina at Chapel Hill, USA, [2]Loma Linda University, USA, [3]Univesity of North Carolina, USA
Disclosures: Laura Bowman, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: DIETARY FACTORS

SA0285 **Higher Strontium Consumption is Anabolic in Goats**
Zhiqiang Xu*[1], Dahai Gu[2], Zhenhui Cao[2], Xiaobo chen[2], Hua Rong[2], Guozhou liao[2], Qichao Huang[2], Xi Zhang[1], Shizheng Gao[2], Qiuye Lin[2], Changrong Ge[3], Junjing Jia[4], Wei Yao[4]. [1]Yunnan Agricultural University, Peoples Republic of China, [2]Yunnan Provincial Key Laboratory of Animal Nutrition & Feed, Yunnan Agricultural University, China, [3]Yunnan Agricultural University, China, Peoples Republic of China, [4]University of California, Davis Medical Center, USA
Disclosures: Zhiqiang Xu, None

SA0286 **Iron Overload and Radiation Exposure Cause Oxidative Damage and Reduce Bone Density**
Evelyn Yuen*[1], Jennifer Morgan[2], Sara Zwart[3], Estela Gonzalez[1], Kaleigh Camp[1], Brandon Macias[1], Scott Smith[4], Susan Bloomfield[1]. [1]Texas A&M University, USA, [2]ORAU, USA, [3]USRA, USA, [4]Wyle/nasa Jsc, USA
Disclosures: Evelyn Yuen, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: GLUCOCORTICOIDS

SA0287 **Effect of Glucocorticoid Treatment on Wnt Signaling Antagonists (sclerostin and Dkk-1) and their Relationship to Bone Turnover and Bone Mass**
Laia Gifre*[1], Pilar Peris[2], Silvia Ruiz-Gaspà[3], Ana Monegal[4], Benet Nomdedeu[5], Nuria Guanabens[6]. [1]Hospital Clinic Barcelona, Spain, [2]Hospital Clínic of Barcelona, Spain, [3]CIBERhed, Hospital Clinic of Barcelona, Spain, [4]Rheumatology Department. Hospital Clinic of Barcelona, Spain, [5]Hematology Department. Hospital Clinic of Barcelona, Spain, [6]Universitat De Barcelona, Spain
Disclosures: Laia Gifre, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: GONADAL STEROIDS

SA0288 **Estrogen Regulates Physiological Bone Turnover by Targeting Mesenchymal Cells in Mice**
Alexandra Heyny*[1], Carmen Streicher[2], Pierre Chambon[3], Reinhold Erben[4]. [1]inst. of Physiology, Pathophysiology & Biophysics, Austria, [2]University of Veterinary Medicine Vienna, Austria, [3]Institut de Génétique et de Biologie Moléculaire et Cellulaire, France, [4]University of Veterinary Medicine, Austria
Disclosures: Alexandra Heyny, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: MALE OSTEOPOROSIS

SA0289 **A Controlled Intervention of Weight Loss and Bone Mineral Density in Older Men**
Claudia Pop*[1], Katherine Tomaino[1], Deeptha Sukumar[1], Yvette Schlussel[1], Christopher Gordon[2], Robert Zurfluh[1], Xiangbing Wang[3], Sue Shapses[1]. [1]Rutgers University, USA, [2]McMaster University, Canada, [3]Robert Wood Johnson Medical School, USA
Disclosures: Claudia Pop, None

SA0290 **A Critical Role for Caspase-2 in Regulating Osteoclast Numbers in Male Age-Related Osteoporosis**
Ramaswamy Sharma*[1], Difernando Vanegas[2], Daniel Victor[2], Marisa Lopez-Cruzan[3], Diane Horn[2], Kathleen Woodruff[2], Roberto Fajardo[4], Stephen Harris[5], Sherry Abboud Werner[5], Brian Herman[6]. [1]University of Texas Health Sciences Center At San Antonio, USA, [2]The University of Texas Health Science Center at San Antonio, USA, [3]UTHSCSA, USA, [4]UT Health Science Center, San Antonio, USA, [5]University of Texas Health Science Center at San Antonio, USA, [6]UT HSC San Antonio, USA
Disclosures: Ramaswamy Sharma, None

SA0291 **Serum Sclerostin and Bone Microarchitecture – Strong Positive Association in Men from the STRAMBO Cohort**
Pawel Szulc*[1], Stephanie Boutroy[2], Claudia Goettsch[3], Martina Rauner[4], Nicolas Vilayphiou[5], Michael Schoppet[6], Roland Chapurlat[7], Lorenz Hofbauer[8]. [1]INSERM UMR 1033, University of Lyon, Hopital E. Herriot, Pavillon F, France, [2]INSERM UMR 1033, University of lyon, France, [3]Division of Endocrinology, Diabetes, & Bone Diseases, Dresden University, Germany, [4]Medical Faculty of the TU Dresden, Germany, [5]INSERM UMR1033, Université de Lyon & Hospices Civils de Lyon, France, [6]Philipps-University, University of Marburg, Germany, [7]E. Herriot Hospital, France, [8]Dresden University Medical Center, Germany
Disclosures: Pawel Szulc, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: MISCELLANEOUS

SA0292 **A New Protective Function of Nell-1 Against Osteoporosis by Activation of Wnt/β-Catenin Signaling**
Aaron James*, Jia Shen, Mari Kim, Xinli Zhang, Khoi Le, Alan Nguyen, Todd Rackohn, Greg Asatrian, Donna Soffer, Cymbeline Culiat, John Adams, Kang Ting, Chia Soo. University of California, Los Angeles, USA
Disclosures: Aaron James, None

SA0293 **Low Holotranscobalamin and Cobalamins Predict Incident Fractures in Elderly Men; The MrOS Sweden**
Catharina Lewerin*[1], Herman Nilsson-Ehle[2], Stefan Jacobsson[3], Valter Sundh[4], Helena Johansson[5], Mattias Lorentzon[6], Magnus Karlsson[7], Osten Ljunggren[8], John Kanis[9], Steven Cummings[10], Claes Ohlsson[11], Dan Mellstrom[12]. [1]Västra Götaland, Sweden, [2]Section of Hematology & Coagulation, Sahlgrenska University Hospital, Sweden, [3]Department of Clinical Chemistry & Transfusion Medicine, Sahlgrenska Academy at the University of Gothenburg, Sweden, [4]Department of Community Medicine & Public Health, Geriatric Medicine, Sahlgrenska Academy at the University of Gothenburg, Sweden, [5]Center for Bone & Arthritis Research (CBR), Departments of Internal Medicine, at the Institute of Medicine, Sahlgrenska Academy at the University of Gothenburg, Sweden, [6]Center for Bone Research at the Sahlgrenska Academy, Sweden, [7]Skåne University Hospital Malmö, Lund University, Sweden, [8]Uppsala University Hospital, Sweden, [9]University of Sheffield, Belgium, [10]San Francisco Coordinating Center, USA, [11]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [12]Sahlgrenska University Hospital, Sweden
Disclosures: Catharina Lewerin, None

OSTEOPOROSIS - ASSESSMENT: BIOCHEMICAL MARKERS

SA0294 **A Comparison of Bone Turnover Markers in Hip Fracture Patients vs. a Matched Group of Non-Fratured Controls during the 12 Month Recovery Period Post-Hip Fracture**
Janet Yu-Yahiro*[1], Jay Magaziner[2], William Hawkes[3], Marc Hochberg[4], Denise Orwig[2], Rich Hebel[5], Anne R. Cappola[6]. [1]Union Memorial Hospital, USA, [2]University of Maryland, Baltimore, USA, [3]University of Maryland School of Medicine, Department of Epidemiology, Division of Gerontology, USA, [4]University of Maryland School of Medicine, USA, [5]University of Maryland School of Medicine, Department of Epidemiology & Public Health, Division of Gerontology, USA, [6]Perelman School of Medicine at the University of Pennsylvania, USA
Disclosures: Janet Yu-Yahiro, None

SA0295 **Effects of Aging on Bone Turnover Markers and Bone Density Regulating Hormones in Rats**
Rana Samadfam*, Susan Y. Smith. Charles River Laboratories, Canada
Disclosures: Rana Samadfam, Charles River, 3

SA0296 **Patients with Low-Energy Distal Radius Fracture Have Similar Bone Strength of the Femoral Neck Compared to Healthy Individuals, but Some Deviation in the Levels of Biochemical Markers of Bone Turnover**
Shigeharu Uchiyama*[1], Shota Ikegami[2], Mikio Kamimura[3], Toshihiko Imaeda[4], Kiichi Nonaka[5], Hiroyuki Kato[2]. [1]Shinshu University, School of Medicine, Japan, [2]Department of Orthopaedic Surgery, Shinshu University, School of Medicine, Japan, [3]Kamimura Clinic, Japan, [4]Department of Food & Nutritional Environment, College of Human Life & Environment, Kinjo Gakuin University, Japan, [5]Elk Corporation, Japan
Disclosures: Shigeharu Uchiyama, None

SA0297 **Quantification of the Circadian Modulation of the Bone Resorption Marker CTX-I in Serum and Urine under Controlled in-patient Conditions**
Maria Small*[1], Derk-Jan Dijk[2], Richard Eastell[3], Aldona Greenwood[2], John Sharpe[4], Mikihiro Yuba[4], Stephen Deacon[1]. [1]Ono Pharma UK Ltd, United Kingdom, [2]Surrey Clinical Research Centre, United Kingdom, [3]University of Sheffield, United Kingdom, [4]ONO Pharma UK, United Kingdom
Disclosures: Maria Small, ONO PHARMA UK LTD, 3

SA0298 **Serum Sclerostin Levels are Associated with Osteoporotic Fractures in Type 2 Diabetic Patients**
Masahiro Yamamoto*[1], Toru Yamaguchi[1], Mika Yamauchi[1], Kiyoko Nawata[2], Toshitsugu Sugimoto[3]. [1]Shimane University Faculty of Medicine, Japan, [2]Department of Health & Nutrition, The University of Shimane, Junior College, Matsue Campus, Japan, [3]Shimane University School of Medicine, Japan
Disclosures: Masahiro Yamamoto, None

SA0299 **Short-Term Effects of Anti-Catabolic and Anabolic Treatments on Bone Turnover Markers in Ovariectomized Rats**
Jukka Morko*, ZhiQi Peng, Katja Fagerlund, Mari Suominen, Jukka Rissanen, Jussi Halleen. Pharmatest Services Ltd, Finland
Disclosures: Jukka Morko, Pharmatest Services Ltd, 3

OSTEOPOROSIS - ASSESSMENT: BONE MINERAL DENSITY

SA0300 **Bone Shock Absorbance (BSA) Complements DXA BMD for More Accurate Discrimination of Elderly Women with and without Arm and Wrist Fractures**
Nelson Watts*[1], David Ralph[2], Diane Busch-James[2], Cyndy Cox[3], Ron Schultheis[2], Amit Bhattacharya[3]. [1]University of Cincinnati Bone Health & Osteoporosis Center, USA, [2]OsteoDynamics, USA, [3]University of Cincinnati, USA
Disclosures: Nelson Watts, OsteoDynamics, 1

SA0301 **Can Fracture Risk Calculators Help Determine Bone Density Testing Intervals in Men?**
Kaniksha Desai*[1], Valentina Petkov[1], Robert Adler[2]. [1]Virginia Commonwealth University, USA, [2]McGuire VA Medical Center, USA
Disclosures: Kaniksha Desai, None

SA0302 **Clinical Abdominal CT can Effectively Predict the Risk for Osteoporotic Vertebral Fracture**
Akifumi Nishida*[1], Masako Ito[2], Masataka Uetani[1]. [1]Nagasaki University School of Medicine, Japan, [2]Nagasaki University Hospital, Japan
Disclosures: Akifumi Nishida, None

SA0303 **Impact of a Reimbursement Change on Bone Mineral Density Testing in Ontario, Canada**
Susan Jaglal*[1], Gillian Hawker[1], Ruth Croxford[2], Cathy Cameron[3], Sarah Munce[1], Sonya Allin[4]. [1]University of Toronto, Canada, [2]Institute for Clinical Evaluative Sciences, Canada, [3]Women's College Hospital, Canada, [4]Toronto Rehabilitation Institute-University Health Network, Canada
Disclosures: Susan Jaglal, None

SA0304 **Management of Fragility Fractures: Impact of the Optimus Initiative on Family Physicians**
Marie-Claude Beaulieu*[1], Sophie Roux[2], Noémie Poirier[3], Michèle Beaulieu[4], François Cabana[5], Gilles Boire[3]. [1]Université de Sherbrooke, Canada, [2]University of Sherbrooke, Canada, [3]Centre hospitalier universitaire de Sherbrooke, Canada, [4]Merck Canada Inc, Canada, [5]CHUS, Canada
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SA0305 **Normative Data for Bone Mineral Density and Calcaneal Ultrasound in 25-year-old Swedish Women: The Peak-25 Cohort of 1061 Women**
Mattias Callréus*[1], Fiona McGuigan[2], Kristina Akesson[3]. [1]Skåne University Hospital, Sweden, [2]University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, [3]Skåne University Hospital, Malmö, Sweden
Disclosures: Mattias Callréus, None

SA0306 **Predictions of Vertebral Strength using QCT and Intra-Vertebral Heterogeneity Density vs. DXA**
Amira Hussein*[1], Stacyann Morgan[1], Glenn Barest[2], Elise Morgan[1]. [1]Boston University, USA, [2]Boston University School of Medicine, Radiology, USA
Disclosures: Amira Hussein, None

SA0307 **Short Term Caloric Restriction Does Not Reduce Bone Mineral Density in Early Type 2 Diabetic Rats**
Yun Kyung Jeon*[1], Min Jung Bae[1], WON JIN Kim[1], YANG SEON Yi[2], Sang Soo Kim[1], Bo Hyun Kim[1], Soo Hyoung Lee[3], Yong Ki Kim[4], In Joo Kim[1]. [1]Pusan National University Hospital, South Korea, [2]Pusan National Univeristy Hospital, South Korea, [3]Kim Young Ki clinic, South Korea, [4]Kim Yong Ki clinic, South Korea
Disclosures: Yun Kyung Jeon, None

SA0308 **Thoracic and lumbar regional differences in associations between vertebral deformity, BMD, and age in postmenopausal women**
Eual Phillips*[1], Chamith Rajapakse[2], Michael Wald[3], Felix Werner Wehrli[3]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania School of Medicine, USA, [3]University of Pennsylvania Medical Center, USA
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OSTEOPOROSIS - ASSESSMENT: BONE STRUCTURE

SA0309 **Accurate and Fast Strength Predictions of Patient-specific HR-pQCT-based plate-rod Models Distinguish Women with Vertebral Fractures**
Ji Wang*[1], Bin Zhou[1], Xiaowei Liu[2], Xiutao Shi[1], Emily Stein[3], Elizabeth Shane[3], X Guo[1]. [1]Columbia University, USA, [2]University of Pennsylvania, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Ji Wang, None

SA0310 **In Breastfeeding Women, Trabecular Bone Loss at the Radius, Seen by High Resolution Peripheral Quantitative CT (HRpQCT), Persists at 18 Months Postpartum**
Anna Kepley[1], Stephanie Boutroy[2], Chiyuan Zhang[1], Mariana Bucovsky[1], Mary Beth Vrabel[1], Shannon Kokolus[1], Polly Young[1], Adi Cohen*[2]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA
Disclosures: Adi Cohen, None

SA0311 **Lower Vertebral Body Bone Strength in Subjects with Prevalent Fracture Assessed by High Resolution Axial Skeleton Quantitative Computerized Tomography**
Rene Rizzoli*[1], Fanny Merminod[1], Mélany Hars[2], Bert Rietbergen[3]. [1]University Hospital, Switzerland, [2]Hôpitaux Universitaires De Genève, Switzerland, [3]Eindhoven University of Technology, The Netherlands
Disclosures: Rene Rizzoli, None

SA0312 **Mechanical Implications of Subtle Changes in Trabecular Bone Estimated by MRI-Based Finite Element Modeling**
Wenli Sun*[1], Chamith Rajapakse[2], X Guo[3], Felix Werner Wehrli[4]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania School of Medicine, USA, [3]Columbia University, USA, [4]University of Pennsylvania Medical Center, USA
Disclosures: Wenli Sun, None

SA0313 **Poor Bone Microarchitecture in Premenopausal Women with Recent Distal Radius Fracture Persists after Adjusting for Ultradistal Radius BMD**
Tamara Rozental[1], Laura Deschamps[1], Alex Taylor[2], Brandon Earp[3], David Zurakowski[4], Charles Day[1], Mary Bouxsein*[1]. [1]Beth Israel Deaconess Medical Center, USA, [2]Massachusetts General Hospital, USA, [3]Brigham & Women's Hospital, USA, [4]Children's Hospital Boston, USA
Disclosures: Mary Bouxsein, None

SA0314 **Rapid Cortical Bone Loss in Patients with Chronic Kidney Disease**
Thomas Nickolas*[1], Emily Stein[2], Chiyuan Zhang[3], Serge Cremers[3], Stephanie Boutroy[1], Xiaowei Liu[4], Donald McMahon[2], Mary Leonard[5], X Guo[3], Elizabeth Shane[2]. [1]Columbia University Medical Center, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University, USA, [4]University of Pennsylvania, USA, [5]Children's Hospital of Philadelphia, USA
Disclosures: Thomas Nickolas, None

SA0315 **Severities of Vertebral Fractures Evaluated with Semiquantitative Analysis (SQ) in Glucocorticoid-induced Osteoporosis (GIO)**
Mari Ushikubo*[1], Ikuko Tanaka[2], Shigenori Tamaki[3], Harumi Kuda[1], Keisuke Izumi[1], Kumiko Akiya[1], Hisaji Oshima[4]. [1]Department of Connective Tissue Diseases, Tokyo Medical Center, Japan, [2]National Center for Geratrics & Gerontology, Japan, [3]Nagoya Rheumatology Clinic, Japan, [4]Tokyo Medical Center, Japan
Disclosures: Mari Ushikubo, None

OSTEOPOROSIS - ASSESSMENT: ULTRASOUND

SA0316 **Evaluating the Effect of Osteoporosis on Femoral Cartilage Thickness using Ultrasonography in Female Patients with Knee Osteoarthritis**
Levent Tekin*[1], Alparslan Bayram Çarlı[2], Selim Akarsu[2], Mehmet Zeki Kıralp[2]. [1]Gulhane Military Medical Academy, Haydarpasa Training Hospital, Turkey, [2]GMMA Haydarpasa Training Hospital, Turkey
Disclosures: Levent Tekin, None

SA0317 **Noninvasive Prediction of Principal Trabecular Orientation Using Quantitative Ultrasound and Finite Element Analysis**
Liangjun Lin*[1], Wei Lin[2], Yi-Xian Qin[1]. [1]State University of New York at Stony Brook, USA, [2]Stony Brook University, USA
Disclosures: Liangjun Lin, None

OSTEOPOROSIS - EPIDEMIOLOGY: BONE MINERAL DENSITY

SA0318 **Changes in Bone Mineral Density over Time by Body Mass Index in the Health ABC Study**
Jennifer Lloyd*[1], Dawn Alley[1], William Hawkes[1], Marc Hochberg[2], Shari Waldstein[3], Tamara Harris[4], Stephen Kritchevsky[5], Ann Schwartz[6], Elsa Strotmeyer[7], Catherine Womack[8], Denise Orwig[1]. [1]University of Maryland, Baltimore, USA, [2]University of Maryland School of Medicine, USA, [3]University of Maryland, Baltimore County, USA, [4]Intramural Research Program, National Institute on Aging, USA, [5]Wake Forest Baptist Medical Center, USA, [6]University of California, San Francisco, USA, [7]University of Pittsburgh, USA, [8]University of Tennessee, USA
Disclosures: Jennifer Lloyd, None

SA0319 **Combined Hormonal Oral Contraceptive Use and Bone Mineral Density Change in the Premenopausal Population—10-year data from the Canadian Multicentre Osteoporosis Study**
Jerilynn Prior*[1], Heather Macdonald[1], Wei Zhou[2], Claudie Berger[2], Christopher Kovacs[3], David Hanley[4], Tassos Anastassiades[5], Stephanie Kaiser[6], and CaMOS Research Group[7]. [1]University of British Columbia, Canada, [2]McGill University, Canada, [3]Memorial University of Newfoundland, Canada, [4]University of Calgary, Canada, [5]Queen's University, Canada, [6]Dalhousie University, Canada, [7]., Canada
Disclosures: Jerilynn Prior, None

SA0320 **Evidence for Spontaneous Recovery of Bone Mineral Density after Treatment for Cushing's Syndrome: a Long-term Follow-up Study**
Anke van der Eerden[1], Martin Den Heijer*[2]. [1]Radboud University Nijmegen Medical Centre, Netherlands, [2]VU Medical Center, Postbus 7057, 1007 MB Amsterdam, The Netherlands
Disclosures: Martin Den Heijer, None

SA0321 **Fracture Risk is Increased in Severe Obesity with Low Bone Mineral Density**
Sarah Cawsey*, Rajdeep S Padwal, Stephanie Li, Arya M Sharma, Kerry Siminoski. University of Alberta, Canada
Disclosures: Sarah Cawsey, None

SA0322 **Geographic Disparities in BMD Testing and Osteoporosis Treatment for Manitoba, Canada**
William Leslie*, Patricia Caetano. University of Manitoba, Canada
Disclosures: William Leslie, None

SA0323 **Race/ethnic Differences in Associations between Bone Mineral Density and Fracture History**
Min-Ho Shin*[1], Joseph Zmuda[2], Elizabeth Barrett-Connor[3], Yahtyng Sheu[2], Alan Patrick[4], Sun-Seog Kweon[1], Hae-Sung Nam[5], Jane Cauley[2]. [1]Chonnam National University Medical School, South Korea, [2]University of Pittsburgh Graduate School of Public Health, USA, [3]University of California, San Diego, USA, [4]Tobago Health Studies Office, Scarborough, Trinidad & tobago, [5]Chungnam National University Medical School, South Korea
Disclosures: Min-Ho Shin, None

OSTEOPOROSIS - EPIDEMIOLOGY: DIET AND ENVIRONMENTAL FACTORS

SA0324 **Calcium and Vitamin D Intakes in a Prospective Population-based Study: the Canadian Multicentre Osteoporosis Study**
Wei Zhou*[1], Claudie Berger[2], Lisa Langsetmo[3], David Goltzman[2], Suzette Poliquin[4], Stephanie Kaiser[5], Robert Josse[6], Jerilynn Prior[7], Tanveer Towheed[8], Tassos Anastassiades[8], K. Shawn Davison[9], Christopher Kovacs[10], Emmanuel Papadimitropoulos[11], Nancy Kreiger[12]. [1]McGill University Health Centre, Canada, [2]McGill University, Canada, [3]Canandian Multicenter Osteoporosis Study, Canada, [4]Institut national d'excellence en santé et services sociaux, Canada, [5]Dalhousie University, Canada, [6]St. Michael's Hospital, University of Toronto, Canada, [7]University of British Columbia, Canada, [8]Queen's University, Canada, [9]Laval University, Canada, [10]Memorial University of Newfoundland, Canada, [11]Lilly, Canada, [12]University of Toronto, Canada
Disclosures: Wei Zhou, None

SA0325 **Dietary Patterns in Men and Women Aged 25 Years and Older: Relationship with Body Mass Index, 25-hydroxyvitamin D Levels, Fasting Glucose, and Risk of Diabetes Mellitus.**
Lisa Langsetmo*[1], Claudie Berger[2], Jerilynn Prior[3], David Hanley[4], Jacques Brown[5], Jonathan Adachi[6], Sophie Jamal[7], Robert Josse[8], Christopher Kovacs[9], Suzanne Morin[2], Susan Barr[3], K. Shawn Davison[10], David Goltzman[2], Nancy Kreiger[11]. [1]Canandian Multicenter Osteoporosis Study, Canada, [2]McGill University, Canada, [3]University of British Columbia, Canada, [4]University of Calgary, Canada, [5]CHUQ Research Centre, Laval University, Canada, [6]St. Joseph's Hospital, Canada, [7]The University of Toronto, Canada, [8]St. Michael's Hospital, University of Toronto, Canada, [9]Memorial University of Newfoundland, Canada, [10]Laval University, Canada, [11]University of Toronto, Canada
Disclosures: Lisa Langsetmo, None

SA0326 **Effect of Gamma-glutamyl Carboxylase gene Polymorphism on the Association between Serum Vitamin K and Gamma-carboxylation of Osteocalcin in Young Adults**
Mayu Haraikawa*[1], Naoko Tsugawa[2], NATSUKO SOGABE[3], Rieko Tanabe[4], Yuka Kawamura[1], Toshio Okano[2], Takayuki Hosoi[5], Masae Goseki-Sone[6]. [1]Department of Food & Nutrition, Faculty of Human Sciences & Design, Japan Women's University, Japan, [2]Kobe Pharmaceutical University, Japan, [3]KOMAZAWA WOMEN'S UNIVERSITY, Japan, [4]Department of Food & Nutrition, Faculty of Human Sciences & Design, Japan Women's Univerisity, Japan, [5]National Center for Geriatrics & Gerontology, Japan, [6]Japan Women's University, Japan
Disclosures: Mayu Haraikawa, None

SA0327 **Low Vitamin D Status is Prevalent among Aboriginal and Younger Women and is Related to Number of Milk Servings Consumed**
Nihal A Natour*[1], John Krahn[2], Hope Weiler[1], William Leslie[3]. [1]McGill University, Canada, [2]University of Saskatchewan, Canada, [3]University of Manitoba, Canada
Disclosures: Nihal A Natour, None

OSTEOPOROSIS - EPIDEMIOLOGY: FRACTURE OUTCOME

SA0328 **Bisphosphonate Use and Increased Incidence of Subtrochanteric Fracture in South Korea: Results from the National Claim Registry**
Young-Kyun Lee*[1], Yong-Chan Ha[2], Chan Soo Shin[3], Hyun-Koo Yoon[4], Deog-Yoon Kim[5]. [1]Seoul National University Bundang Hospital, South Korea, [2]Chung-Ang University Hospital, South Korea, [3]Department of Internal Medicine, Seoul National University College of Medicine, South Korea, [4]Cheil General Hospital & Women's Healthcare Center, South Korea, [5]Kyung Hee University Hospital, South Korea
Disclosures: Young-Kyun Lee, None

SA0329 **Changes in Health Related Quality of Life (HRQoL) after non-traditional fractures**
Yu Zhang*[1], Kerrie Sanders[2], Julie Pasco[3], Mark Kotowicz[4]. [1]University of Melbourne, Australia, [2]The University of Melbourne, Australia, [3]Deakin University, Australia, [4]Deakin University School of Medicine, Australia
Disclosures: Yu Zhang, None

SA0330 **Gender-Specific Hip Fracture Risk In Community-Dwelling And Institutionalized Seniors Age 65 Years And Older**
Eduard Sidelnikov*[1], Michael Finsterwald[2], Robert Theiler[3], Andreas Egli Linder[4], Andreas Platz[5], Hans-Peter Simmen[6], Christian Meier[7], Daniel Grob[8], Sacha Beck[9], Hannes B. Stähelin[10], Heike Bischoff-Ferrari[1]. [1]University of Zurich, Switzerland, [2]Centre on Aging & Mobility, University Hospital Zurich & City Hospital Waid, Switzerland, [3]Stadtspital Triemli, Switzerland, [4]Centre on Ageing & Mobility, Switzerland, [5]Department of Traumatology, Triemly City Hospital, Switzerland, [6]Department of Emergency Medicine & Traumatology, University Hospital Zurich, Switzerland, [7]Div. of Endocrinology, Diabetes & Metabolism, University Hospital Basel, Switzerland, [8]Centre on Aging & Mobility, University Hospital Zurich & City Hospital Waid; Acute Geriatric Care, City Hospital Waid, Switzerland, [9]Acute Geriatric Care, City Hospital Waid, Switzerland, [10]Department of Geriatrics, University Hospital Basel, Switzerland
Disclosures: Eduard Sidelnikov, None

SA0331 **Occurrence of Previous Depression in Patients with Femoral Fracture in Pre-operative Phase**
Fabiana Fonseca*[1], Ana Elisa Sena Klein Rosa[2], Segantin Bianca Isis[2], Priscila Primo Cáo[2], Thaise Arruda[2]. [1]PUC - SP, Brazil, [2]PUC-SP, Brazil
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SA0332 **Physical Activity and Incident Fracture in Postmenopausal Women: The Women's Health Initiative Observational Study**
Jean Wactawski-Wende*[1], Joseph C. Larson[2], Jane Cauley[3], Zhao Chen[4], Rebecca Jackson[5], Andrea LaCroix[6], Michael LaMonte[1], Meryl Leboff[7], Judith K. Ockene[8], John Robbins[9]. [1]University at Buffalo, USA, [2]Fred Hutchenson Cancer Research Center, USA, [3]University of Pittsburgh Graduate School of Public Health, USA, [4]University of Arizona, USA, [5]The Ohio State University, USA, [6]Fred Hutchinson Cancer Research Center, USA, [7]Brigham & Women's Hospital, USA, [8]University of Massachusetts, USA, [9]University of California, Davis Medical Center, USA
Disclosures: Jean Wactawski-Wende, None

SA0333 **Prevalence of Fractures in Women with Rheumatoid Arthritis or Systemic Lupus Erythematosus on Chronic Glucocorticoid Therapy in Spanish Population**
Maria Luz Rentero*[1], Encarnación Amigo[2], Nicolás Chozas[3], Manuel Fernández[4], Susana Sarnago[5]. [1]Medical Department Lilly, Spain, [2]Hospital de Lugo, Spain, [3]Hospital Puerta del Mar, Spain, [4]Hospital Sanitas La Moraleja, Spain, [5]Eli Lilly & Company, Spain
Disclosures: Maria Luz Rentero, Eli Lilly and Company, 3

SA0334 **Risk of Fracture among Treated and Untreated Men with Osteoporosis**
Karen Smoyer Tomic[1], Joanne LaFleur[2], Liisa Palmer[1], David M. Smith[1], Carly Paoli[3], Irene Agodoa*[3], Nicole Yurgin[4]. [1]Thomson Reuters, USA, [2]University of Utah, USA, [3]Amgen, USA, [4]Amgen Inc., USA
Disclosures: Irene Agodoa, Amgen, 9

SA0335 **Sex Steroid Hormones and Fracture in a Multi-ethnic Cohort of Women: The Women's Health Initiative (WHI)**
Jane Cauley*[1], Michelle Danielson[2], Robert Boudreau[2], Tanushree Prasad[2], Douglas Bauer[3], Rebecca Jackson[4], Jean Wactawski-Wende[5], Rowan Chlebowski[6], Kristine Ensrud[7]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]University of Pittsburgh, USA, [3]University of California, San Francisco, USA, [4]The Ohio State University, USA, [5]University at Buffalo, USA, [6]University of California, Los Angeles, USA, [7]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Jane Cauley, None

SA0336 **The Contributions of First Nations Ethnicity, Income, and Delays in Surgery on Mortality Post-fracture: A Population-based Analysis**
William Leslie[1], Sharon Brennan*[2], Heather Prior[1], Lisa Lix[3], Colleen Metge[1], Brenda Elias[1]. [1]University of Manitoba, Canada, [2]The University of Melbourne, Australia, [3]University of Saskatchewan, Canada
Disclosures: Sharon Brennan, None

OSTEOPOROSIS - EPIDEMIOLOGY: GENETIC STUDIES

SA0337 **A Proposed World-Wide Gene-Environment Interaction Study of BMD and Fracture Risk: Feasibility Analysis Based on the GEFOS-GENOMOS Collaboration**
Jonathan Reeve*[1], Stephen Kaptoge[2], On behalf of the GEFOS & GENOMOS consortium[3]. [1]Addenbrookes Hospital, United Kingdom, [2]University of Cambridge Bone Research Group, United Kingdom, [3]Erasmus Medical Center, Netherlands
Disclosures: Jonathan Reeve, None

SA0338 **Genome-Wide Association Study Identifies the Chromosome 1q23 Gene UHMK1 as a Novel Bone Mass Density Susceptibility Gene**
Hyung Jin Choi*[1], Ye An Kim[1], Joo-yeon Hwang[2], Lei Zhang[3], Yu-fang Pei[3], Jian Li[4], Qing Tian[4], Hong-Wen Deng[4], Ah Reum Khang[1], Jung Hee Kim[5], Sang Wan Kim[6], Jong-Young Lee[7], Bok-Ghee Han[7], Seong Yeon Kim[1], Nam H Cho[8], Chan Soo Shin[1]. [1]Department of Internal Medicine, Seoul National University College of Medicine, South Korea, [2]Republic of Korea, [3]Center of System Biomedical Sciences, University of Shanghai for Science & Technology, China, [4]Tulane University, USA, [5]Seoul National University College of Medicine, South Korea, [6]Seoul National University Boramae Hospital, South Korea, [7]Center for Genome Science, National Institute of Health, South Korea, [8]Department of Preventive Medicine, Ajou University School of Medicine, South Korea
Disclosures: Hyung Jin Choi, None

OSTEOPOROSIS - EPIDEMIOLOGY: LIFESTYLE AND BONE (ALCOHOL, TOBACCO)

SA0339 **Objectively Measured Physical Activity and Bone Mineral Content from Age 5 to 15 Years: Iowa Bone Development Study**
Kathleen F Janz*, Steven M Levy, Elena Letuchy, Trudy L Burns, Julie M Eichenberger Gilmore, James C Torner. University of Iowa, USA
Disclosures: Kathleen F Janz, None

SA0340 **The Influence of Educational Interventions on Modifiable Risk Factors for Osteoporosis After a Fragility Fracture**
Louis Bessette*[1], Claudia Beaudoin[2], Sonia Jean[3], Louis-Georges Ste-Marie[4], Jacques Brown[5]. [1]Centre Hospitalier De L'Universite Laval, Canada, [2]Crchuq Research Centre-chul, Canada, [3]INSTITUT NATIONAL DE SANTÉ PUBLIQUE DU QUÉBEC, Canada, [4]CHUM, Canada, [5]CHUQ Research Centre Laval University, Canada
Disclosures: Louis Bessette, Amgen, 5; Amgen, 2

OSTEOPOROSIS - EPIDEMIOLOGY: RISK FACTORS

SA0341 **A Distal Forearm Fracture in Childhood Increases the Risk for Fracture during Adulthood in Men, but not in Women**
Shreyasee Amin*[1], L. Joseph Melton[1], Sara Achenbach[1], Elizabeth Atkinson[1], Mark Dekutoski[1], Salman Kirmani[1], Philip Fischer[1], Sundeep Khosla[2]. [1]Mayo Clinic, USA, [2]College of Medicine, Mayo Clinic, USA
Disclosures: Shreyasee Amin, Merck & Co, 5

SA0342 **Abdominal Aortic Calcification is Associated with Vertebral Fractures Independent of Bone Mineral Density in Patients with Type 2 Diabetes**
Noriko Ogawa-Furuya*[1], Masahiro Yamamoto[1], Masayuki Shinohara[2], Toru Yamaguchi[1], Toshitsugu Sugimoto[3]. [1]Shimane University Faculty of Medicine, Japan, [2]Hosogi Hospital, Japan, [3]Shimane University School of Medicine, Japan
Disclosures: Noriko Ogawa-Furuya, None

SA0343 **BMI-Associated Increases in Proximal Femoral Volumetric BMD, Size and Strength Are Not Sufficient to Compensate for Increased Fall Forces in Obese Older Men**
Jian Shen*[1], Carrie Nielson[1], Lynn Marshall[1], David Lee[2], Tony Keaveny[3], Eric Orwoll[1]. [1]Oregon Health & Science University, USA, [2]O.N. Diagnostics, USA, [3]University of California, Berkeley, USA
Disclosures: Jian Shen, None

SA0344 **Estimated Frax® 10-Year Fracture Risk at the Time of Incident Fracture and Upon Refracture: Results from the Optimus Initiative**
Pierre-Marc April*[1], Noémie Poirier[2], Sophie Roux[3], Marie-Claude Beaulieu[1], Michèle Beaulieu[4], François Cabana[5], Gilles Boire[2]. [1]Université de Sherbrooke, Canada, [2]Centre hospitalier universitaire de Sherbrooke, Canada, [3]University of Sherbrooke, Canada, [4]Merck Canada Inc, Canada, [5]CHUS, Canada
Disclosures: Pierre-Marc April, None

SA0345 **Fractures in Patients Diagnosed with HIV**
Daniel Prieto-alhambra*[1], Arief Lalmohamed[2], Frank De Vries[3], Peter Vestergaard[4]. [1]Institut Municipal D'Investigació Mèdica, United Kingdom, [2]Department of Pharmacoepidemiology & Clinical Pharmacology, Utrecht Institute of Pharmaceutical Sciences, Netherlands, [3], [4]Aarhus University Hospital, Denmark
Disclosures: Daniel Prieto-alhambra, None

SA0346 **Iron Overload Accelerates Bone Loss in Healthy Postmenopausal Women and Middle-aged Men: a 3-year Retrospective Longitudinal Study**
Beom-Jun Kim*[1], Seong Hee Ahn[2], Sung Jin Bae[1], Seung Hun Lee[3], Jung-Min Koh[1], Ghi Su Kim[3]. [1]Asan Medical Center, South Korea, [2]Division of Endocrinology & Metabolism, Asan Medical Center, University of Ulsan College of Medicine, South Korea, [3]Asan Medical Center, University of Ulsan College of Medicine, South Korea
Disclosures: Beom-Jun Kim, None

SA0347 **Is Bisphosphonate Therapy for Benign Bone Disease Associated with Impaired Dental Healing?**
Gelsomina Borromeo[1], John Wark*[2], Caroline Brand[3], Michael McCullough[4], John Clement[4], Lisa Crighton[3], Graham Hepworth[5]. [1]The University of Melbourne, Australia, [2]University of Melbourne, Department of Medicine, Australia, [3]Melbourne Health, Australia, [4]Melbourne Dental School, University of Melbourne, Australia, [5]University of Melbourne, Australia
Disclosures: John Wark, Novartis Pharmaceuticals, 2

SA0348 **Mortality of Non-respondents in a Population-based Cohort (OSTPRE) Study**
Risto Honkanen*[1], R. Sund[2], Marjo Tuppurainen[3], Heli Koivumaa-Honkanen[4], Heikki Kröger[1]. [1]University of Eastern Finland, Finland, [2]National Institute for Health & Welfare, Finland, [3]Kuopiio University Hospital, Finland, [4]Kuopio University Hospital, lapland Hospital district, Finland
Disclosures: Risto Honkanen, None

SA0349 **Older Men with either High or Low Serum 25-hydroxy Vitamin D levels have Significantly Increased Fracture Risk: Results from the Prospective CHAMP Study.**
Kerrin Bleicher*[1], Markus Seibel[2], Robert Cumming[3], Vasikaran Naganathan[4]. [1]University of Sydney, Australia, [2]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [3]School of Public Health, University of Sydney, Australia, [4]Centre for Education & Research on Ageing, University of Sydney, Australia
Disclosures: Kerrin Bleicher, None

SA0350 **Wrist Fracture Incidence, Risk Factors, and Associations with Subsequent Fractures in Older Men**
Elizabeth Barrett-Connor*[1], Carrie Nielson[2], Kristine Ensrud[3], Eric Orwoll[2]. [1]University of California, San Diego, USA, [2]Oregon Health & Science University, USA, [3]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Elizabeth Barrett-Connor, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: ANOREXIA NERVOSA, ETC.

SA0351 **Trabecular Bone Micro-Architecture during SSRI Treatment Using Multi-Detector CT Imaging and Topological Analysis on a Continuum between Plates and Rods**
Punam K. Saha*, CHADI CALARGE, Cheng Li, Yinxiao Liu, Jessica Fishbaugher, Bille Tyler, Nichole Baker, Trudy Burns, Kathleen Janz, James Torner, Steven Levy. University of Iowa, USA
Disclosures: Punam K. Saha, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: MISCELLANEOUS

SA0352 **Bone Health in CHARGE syndrome**
Leila Khan*[1], Mariam Stevens[1], Krupa Doshi[1], Susan Williams[2], Angelo Licata[2]. [1]Cleveland Clinic, USA, [2]Cleveland Clinic Foundation, USA
Disclosures: Leila Khan, None

SA0353 **Effect of Obesity on Healthcare Utilisation and Quality of Life after Fracture in Postmenopausal Women: the Global Longitudinal study of Osteoporosis in Women (GLOW)**
Juliet Compston*[1], Julie Flahive[2], Steven Boonen[3], Adolfo Diez-Perez[4], Stephen Gehlbach[5], Susan Greenspan[6], Frederick Hooven[7], Robert Lindsay[8], Christian Roux[9], Philip Sambrook[10], Frederick Anderson[2], Stuart Silverman[11]. [1]University of Cambridge School of Clinical Medicine, United Kingdom, [2]UMass Medical School, USA, [3]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Belgium, [4]Autonomous University of Barcelona, Spain, [5]University of Massachusetts, USA, [6]University of Pittsburgh, USA, [7]University of Massachusetts Medical School, USA, [8]Helen Hayes Hospital, USA, [9]Hospital Cochin, France, [10]Royal North Shore Hospital, Australia, [11]Cedars-Sinai/UCLA, USA
Disclosures: Juliet Compston, None

SA0354 **Hypophosphatasia Diagnosed in Adults: Differential Features Based on Sex, Presence of Fractures, and Symptoms at Presentation**
Kathryn Berkseth[1], Peter Tebben[2], Matthew Drake[3], Robert Wermers*[4]. [1]University of Washington, USA, [2]Mercy Clinic, USA, [3]College of Medicine, Mayo Clinic, USA, [4]Mayo Clinic, USA
Disclosures: Robert Wermers, None

SA0355 **Incident Bone Fracture in Men with, or at Risk for, HIV-infection in the Multicenter AIDS Cohort Study (MACS), 1996-2011**

Vanessa Walker Harris*[1], Keri N. Althoff[2], Sandra Reynolds[2], Frank Palella[3], Lawrence Kingsley[4], Michelle Danielson[5], Jordan E. Lake[6], Todd Brown[7]. [1]Johns Hopkins University School of Medicine, USA, [2]Johns Hopkins School of Public Health, USA, [3]Northwestern School of Medicine, USA, [4]University of Pittsburgh School of Public Health, USA, [5]University of Pittsburgh, USA, [6]UCLA School of Medicine, USA, [7]Johns Hopkins University, USA

Disclosures: Vanessa Walker Harris, None

SA0356 **System-level Approaches to the Secondary Prevention of Osteoporotic Fractures: A Systematic Review and Meta-analysis**

Kirtan Ganda[1], Markus Seibel*[2], Michele Puech[3], Jian Sheng Chen[4]. [1]Concord Hospital, Australia, [2]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [3]Public Health Unit, Hornsby Ku-ringai Hospital, Australia, [4]Institute of Bone & Joint Research, The University of Sydney, Australia

Disclosures: Markus Seibel, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: MOBILITY DISORDERS

SA0357 **Serum Sclerostin Levels Positively Correlate with the Expanded Disability Status Scale in Ambulatory Women with Multiple Sclerosis**

Vit Zikan*[1], Ivan Raska Jr[1], Michaela Tyblova[2], Maria Luchavova[1], Eva Havrdova[2], Dana Michalska[1]. [1]Department of Internal Medicine III- Department of Endocrinology & Metabolism, First Faculty of Medicine, Charles University in Prague & General University Hospital in Prague, Czech Republic, [2]Department of Neurology, First Faculty of Medicine, Charles University in Prague & General University Hospital in Prague, Czech Republic

Disclosures: Vit Zikan, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: TRANSPLANTATION

SA0358 **New Onset Diabetes Mellitus After Liver Transplantation. Relationship with 25-hydroxyvitamin D Levels And Serum Osteocalcin.**

Fernando Sotillo[1], Guillermo Martinez Diaz-Guerra*[2], Raquel Sánchez-Windt[1], Mercedes Aramendi[1], Elena García[1], Federico Hawkins[3], Enrique Moreno[1]. [1]University Hospital 12 de Octubre, Spain, [2]University Hospital 12 Octubre, Spain, [3]Hospital Universitario, Spain

Disclosures: Guillermo Martinez Diaz-Guerra, None

SA0359 **Study of Bone Quality at the Time of Lung Transplant in Cystic Fibrosis Patients Using Rib Specimens**

Louis-Georges Ste-Marie*[1], Natalie Dion[2], Pasquale Ferraro[1], Caroline Albert[1], Nathalie Bureau[1], Audray Fortin[1], Valérie Jomphe[1], Larry Lands[3], Genevieve Mailhot[4]. [1]CHUM, Canada, [2]CHUM Research Centre, Saint-Luc Hospital, Canada, [3]MUHC-Montreal Children's Hospital, Canada, [4]Research Center CHU Sainte-Justine, University of Montreal, Canada

Disclosures: Louis-Georges Ste-Marie, Eli Lilly, 5; Servier, 5; Novartis, 5; Merck, 5; Alliance for better bone health, 5; AMGEN, 2; AMGEN, 5

OSTEOPOROSIS - TREATMENT (CLINICAL): ANABOLIC AGENTS

SA0360 **A Phase IIb Study of MK-5442 Calcium Sensing Receptor (CaSR) Antagonist in Bisphosphonate-treated Patients**

Felicia Cosman*[1], Nigel Gilchrist[2], Michael McClung[3], Joseph Foldes[4], Tobias de Villiers[5], Boyd Scott[6], Weili He[7], John McGinnis[7], Norman Heyden[7], Suvajit Samanta[7], Annpey Pong[7], Arthur Santora[8], Albert Leung[8], Andrew Denker[6]. [1]Helen Hayes Hospital, USA, [2]Department of Orthopaedic Medicine & Surgery, Christchurch Hospital, New zealand, [3]Oregon Osteoporosis Center, USA, [4]Hadassah Hebrew University Hospital, Israel, [5]Mediclinic Panorama, South africa, [6]Merck & Co., Inc., USA, [7]Merck Sharp & Dohme Corp., USA, [8]Merck Research Laboratories, USA

Disclosures: Felicia Cosman, Merck Sharp & Dohme Corp., 5

SA0361 **A Phase IIb, Randomized, Placebo-Controlled, Dose-Ranging Study of MK-5442 in the Treatment of Postmenopausal Women with Osteoporosis.**
Johan Halse*[1], Susan Greenspan[2], Felicia Cosman[3], Graham Ellis[4], Boyd Scott[5], Norman Heyden[6], Steven Doleckyj[6], Suvajit Samanta[6], Weili He[6], Arthur Santora[7], Albert Leung[7], Andrew Denker[5]. [1]Osteoporoseklinikken, Norway, [2]University of Pittsburgh, USA, [3]Helen Hayes Hospital, USA, [4]Helderberger Osteoporosis Clinic, South africa, [5]Merck & Co., Inc., USA, [6]MSD, USA, [7]Merck Research Laboratories, USA
Disclosures: Johan Halse, None

SA0362 **Pharmacokinetic Results of a Phase 2 Clinical Study of an Oral Tablet Formulation of PTH(1-31)NH_2**
Amy Sturmer*[1], William Stern[2], Jenna Giacchi[2], Ali Bolat[2], Sheela Mitta[2], Roxanne Tavakkol[2], John Trang[3], Jeffrey Wald[4], Lorie Fitzpatrick[4], Nozer Mehta[1]. [1]Unigene Laboratories, USA, [2]Unigene Laboratories, Inc., USA, [3]PK/PD International, Inc., USA, [4]GlaxoSmithKline, USA
Disclosures: Amy Sturmer, Unigene laboratories, 1

SA0363 **Short Term Treatment with Teriparatide Stimulates Circulating Osteogenic Precusor Cells in Postmenopausal Women with Osteoporosis**
Jeri Nieves*[1], Felicia Cosman[2], Mishaela Rubin[3], Sanil Manovalen[3], Marsha Zion[2], David Dempster[3], Nancy Barbuto[2], Robert Lindsay[2]. [1]Columbia University & Helen Hayes Hospital, USA, [2]Helen Hayes Hospital, USA, [3]Columbia University, USA
Disclosures: Jeri Nieves, None

SA0364 **Evaluation of the Densitometric Response at 12 and 24 Months after Strontium Ranelate (SR) Treatment, in Patients Previously Treated with Bisphosphonates (BP)**
Laura Maffei[1], Maria Valeria Premrou*[2], Carolina Pelegrin[2]. [1]Consultorios Asociados De Endocrinologia, Argentina, [2]no, Argentina
Disclosures: Maria Valeria Premrou, None

SA0365 **Treatment of Male Osteoporosis: Risedronate, Teriparatide or Both**
Marcella Walker*[1], Natalie Cusano[2], Megan Romano[2], James Sliney[2], Chiyuan Zhang[1], Donald McMahon[2], John Bilezikian[2]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA
Disclosures: Marcella Walker, None

OSTEOPOROSIS - TREATMENT (CLINICAL): BISPHOSPHONATES

SA0366 **Beneficial Effects of Zoledronate versus Placebo on Lumbar Spine Bone Mineral Density (BMD) and Microstructural Parameters (TBS) in Postmenopausal Women with Osteoporosis. A 3-Year Study**
Albrecht Popp*[1], Helene Buffat[1], Olivier Lamy[2], Romain Perrelet[1], Didier Hans[3], Kurt Lippuner[1]. [1]Osteoporosis Policlinic, University of Bern, Switzerland, [2]University Hospital, Switzerland, [3]Lausanne University Hospital, Switzerland
Disclosures: Albrecht Popp, Eli Lilly, 9; Amgen, 9

SA0367 **BMD Changes in Postmenopausal Women Over a 5-year Treatment-Free Period Following a 5-year Course of Alendronate**
Brian Mcnabb*[1], Eric Vittinghoff[2], Ann Schwartz[1], Douglas Bauer[1], Elizabeth Barrett-Connor[3], Kristine Ensrud[4], Dennis Black[1]. [1]University of California, San Francisco, USA, [2]UCSF, USA, [3]University of California, San Diego, USA, [4]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Brian Mcnabb, None

SA0368 **Crosstalk between Oral Microbiome and Host Innate Immune Response in the Tissues of Patients with Bisphosponate Related Osteonecrosis of the Jaw**
Smruti Pushalkar[1], Satoko Matsumura[1], Lalitha Ramanathapuram[1], Zoya Kurago[1], Kenneth Fleisher[2], Robert Glickman[1], Wenbo Yan[3], Yihong Li[1], Xin Li[4], Deepak Saxena*[2]. [1]NYU College of Dentistry, USA, [2]New York University College of Dentistry, USA, [3]Nyack College, USA, [4]New York University, USA
Disclosures: Deepak Saxena, None

SA0369 **Early Initiation of Bisphosphonate Does Not Affect Healing and Outcomes of Volar Plate Fixation of Osteoporotic Distal Radius Fractures**
Hyun Sik Gong*, Kee Jeong Bae, Jeong Hwan Kim, Jung Eun Lee. Seoul National University Bundang Hospital, South Korea
Disclosures: Hyun Sik Gong, None

SA0370 **Effect of Zoledronic Acid on Acute Bone Loss after Spinal Cord Injury**
Thomas Schnitzer*[1], Danielle Barkema[1], Kristina Herrmann[1], Ki Kim[2]. [1]Northwestern University, USA, [2]Rehabilitation Institute of Chicago, USA
Disclosures: Thomas Schnitzer, Merck & Co., Inc., 2; Novartis, 2; Amgen, 2; Lilly, 2

SA0371 **Effects of Bisphosphonate Alone or Combined Treatment of Bisphosphonate and Vitamin K2 on Serum Undercarboxylated-osteocalcin (ucOC) or Osteocalcin (OC) in Osteoporotic Women**
Yuji Kasukawa*[1], Naohisa Miyakoshi[1], Toshihito Ebina[2], Toshiaki Aizawa[3], Yoichi Shimada[4]. [1]Akita University Graduate School of Medicine, Japan, [2]Dept. of Orthopedic Surgery, Kakunodate General Hospital, Japan, [3]Dept. of Orthopedic Surgery, Kita-Akita General Hospital, Japan, [4]Dept. of Orthopedic Surgery, Akita University Graduate School of Medicine, Japan
Disclosures: Yuji Kasukawa, None

SA0372 **Exploration of Prognostic Factors on BMD Percent Change in Patients Administrated Risedronate -A Pooled Analysis of Clinical Trials in Japan-**
Ryoichi Muraoka[1], Ryo Okazaki*[2]. [1]Ajinomoto Phamaceuticals Co, Ltd., Japan, [2]Teikyo University Chiba Medical Center, Japan
Disclosures: Ryo Okazaki, None

SA0373 **Identifying Factors Involved in Predicting Response to Intravenous Zoledronic acid in Elderly Patients with Osteoporosis.**
Najia Siddique*[1], Ng Kin Cheung[2], Kevin MCarroll[2], Nessa Fallon[2], Miriam C.Casey[3], JB Walsh[2]. [1]St James University Hospital, Ireland, [2]St.James's Hospital, Ireland, [3]Stjames's Hospital, Ireland
Disclosures: Najia Siddique, None

SA0374 **Oral Sequesteration Not Associated with Bisphosphonate Use**
Aliya Khan*[1], Ed Peters[2], Neili Sifeldeen[2]. [1]McMaster University, Canada, [2]University of Alberta, Canada
Disclosures: Aliya Khan, None

SA0375 **Pre-existing Hyperparathyroidism Affects the Anti-fracture Efficacy of Oral Alendronate in Long-term Kidney Transplantation Survivors**
Atsushi Suzuki*[1], Sakura Yamamoto[1], Hitomio Sasaki[2], Hiroyuki Hirai[3], Yoshiteru Maeda[4], Sahoko Sekiguchi-Ueda[1], Yasumasa Yoshino[5], Shogo Asano[5], Megumi Shibata[6], Masaki Makino[4], Nobuki Hayakawa[7], Kiyotaka Hoshinaga[2], Mitsuyasu Itoh[4]. [1]Fujita Health University, Division of Endocrinology, Japan, [2]Department of Urology, Fujita Health University, Japan, [3]Fujita Health University Division of Endocrinology, Japan, Japan, [4]Division of Endocrinology, Fujita Health University, Japan, [5]Toyokawa City Hospital, Japan, [6]Fujita Health University Division of Endocrinology, Japan, [7]Faculty of Pharmacy, Meijo University, Japan
Disclosures: Atsushi Suzuki, None

SA0376 **Relationship Between Change in Total Hip BMD in Response to Zoledronic Acid 5 mg and Post-treatment Change in Total Hip BMD: the HORIZON-PFT Extension Study**
Richard Eastell*[1], Lisa Palermo[2], Brian Mcnabb[2], Steven Boonen[3], Felicia Cosman[4], Ian Reid[5], Steven Cummings[6], Dennis Black[2]. [1]University of Sheffield, United Kingdom, [2]University of California, San Francisco, USA, [3]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Belgium, [4]Helen Hayes Hospital, USA, [5]University of Auckland, New Zealand, [6]San Francisco Coordinating Center, USA
Disclosures: Richard Eastell, Novartis, 9

SA0377 **Resolution of Effects on Bone Turnover Markers and Bone Mineral Density after Discontinuation of Long-term Bisphosphonate Use**
Bente Langdahl*[1], Claude Laurent Benhamou[2], C. Conrad Johnston[3], Kenneth Saag[4], TOBIE DE VILLIERS[5], Andrew Denker[6], Annpey Pong[7], John McGinnis[7], Elizabeth Rosenberg[6], Arthur Santora[8]. [1]Aarhus University Hospital, Denmark, [2]CHR ORLEANS, France, [3]Indiana University School of Medicine, USA, [4]University of Alabama at Birmingham, USA, [5]PANORAMA HOSPITAL, South Africa, [6]Merck & Co., Inc., USA, [7]Merck Sharp & Dohme Corp., USA, [8]Merck Research Laboratories, USA
Disclosures: Bente Langdahl, Merck Sharp & Dohme Corp, 8; Merck Sharp & Dohme Corp, 2; Merck Sharp & Dohme Corp, 5

SA0378 **Withdrawn**

OSTEOPOROSIS - TREATMENT (CLINICAL): COMPLIANCE AND PERSISTENCE

SA0379 **Gastrointestinal Events and Association with Osteoporosis Treatment Initiation**
Ethel Siris*[1], Shiva Sajjan[2], Srinivasan Rajagopalan[3], Shuvayu Sen[4], Ankita Modi[2]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Merck & Company, USA, [3]Meddata Analytics, USA, [4]Merck & Co., Inc., USA
Disclosures: Ethel Siris, Amgen, Eli Lilly, 8; Amgen, Eli Lilly, Merck, 5

SA0380 **Osteoporotic Fracture Rate Among Women with at least One Year of Adherence to Osteoporosis Treatment**
Adolfo Diez-Perez*[1], Chun-Po Steve Fan[2], Shuvayu Sen[3], Ankita Modi[4]. [1]Parc De Salut Mar, Spain, [2]AsclepiusJT LLC, USA, [3]Merck & Co., Inc., USA, [4]Merck & Company, USA
Disclosures: Adolfo Diez-Perez, None

SA0381 **Outcomes in Patients with a Fractured Neck of Femur following the Establishment of a Fracture Liaison Service**
Jude Ryan*[1], Audrey Butler[2], Sheila Carew[3], Tina Sheehy[3], Aine Costelloe[3], Brian Lenehan[2], Declan Lyons[3], Margaret O' Connor[3]. [1]Midwest Regional Hospital, Ireland, [2]Department of Orthopaedic Surgery, Ireland, [3]Clinical Age Assessment Unit, Ireland
Disclosures: Jude Ryan, None

SA0382 **Persistence with Denosumab Therapy For Postmenopausal Osteoporosis**
Christine Simonelli*[1], Susan Mehle[2], Julie Morancey[1]. [1]HealthEast Osteoporosis Care, USA, [2]HealthEast Medical Research Institute, USA
Disclosures: Christine Simonelli, Amgen, 2

SA0383 **Primary Care Providers' Management after Receipt of an Osteoporosis Electronic Consult for Patients with Recent Fracture**
Richard Lee*[1], Karen Barnard[2], Kenneth Lyles[3], Megan Pearson[4], Cathleen Colon-Emeric[3]. [1]Duke University, USA, [2]Duke University Medical Center, Durham VAMC, USA, [3]Duke University Medical Center, USA, [4]Durham VA Medical Center, USA
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OSTEOPOROSIS - TREATMENT (CLINICAL): GONADAL STEROIDS AND SERMS

SA0384 **Withdrawn**

OSTEOPOROSIS - TREATMENT (CLINICAL): HEALTH ECONOMICS

SA0385 **Association Between Prevalent Osteoporosis (OP) and Total Health Care Costs in Managed Care Members with High Cost Chronic Diseases**
Sarah Thayer[1], Gabriel Gomez Rey[1], Jerald Seare[1], Brad Stolshek*[2]. [1]Optum, USA, [2]Amgen Inc, USA
Disclosures: Brad Stolshek, Amgen, 2

SA0386 **Lack of Osteoporosis Treatment in Real World Hip Fracture Patients**
Stephen Johnston[1], Yang Zhao*[2], Donna McMorrow[1], John Krege[3], Kelly Krohn[4]. [1]Thomson Reuters, USA, [2]Eli Lilly, USA, [3]Eli Lilly & Company, USA, [4]Lilly USA, LLC, USA
Disclosures: Yang Zhao, None

SA0387 **Treatment (Rx) of Post-Menopausal Women with High FRAX Scores may be Cost-Effective without First Performing Bone Densitometry**
John Schousboe*[1], William Leslie[2], Brent Taylor[3], Steven Cummings[4], L. Joseph Melton[5], Margaret Gourlay[6], Kristine Ensrud[7]. [1]Park Nicollet Clinic, University of Minnesota, USA, [2]University of Manitoba, Canada, [3]University of Minnesota, USA, [4]San Francisco Coordinating Center, USA, [5]Mayo Clinic, USA, [6]University of North Carolina, USA, [7]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: John Schousboe, None

OSTEOPOROSIS - TREATMENT (CLINICAL): OTHER AGENTS

SA0388 **A Randomized Open-Label Study to Evaluate the Safety and Efficacy of Denosumab and Ibandronate in Postmenopausal Women Sub-Optimally Treated with Daily or Weekly Bisphosphonates**
Christopher Recknor*[1], Edward Czerwinski[2], Henry Bone[3], Sydney Bonnick[4], Neil Binkley[5], Alfred Moffett[6], Suresh Siddhanti[7], Irene Ferreira[8], Prayashi Ghelani[9], Rachel Wagman[10], Jesse Hall[7], Michael Bolognese[11]. [1]United Osteoporosis Center, USA, [2]Medical College Jagiellonian University, Poland, [3]Michigan Bone & Mineral Clinic, USA, [4]Clinical Research Center of North Texas, USA, [5]University of Wisconsin, Madison, USA, [6]OB-GYN Associates of Mid-Florida, P.A., USA, [7]Amgen, Inc., USA, [8]Amgen Inc, United Kingdom, [9]Ovatech Solutions, United Kingdom, [10]Amgen, Incorporated, USA, [11]Bethesda Health Research, USA
Disclosures: Christopher Recknor, Roche, GSK, Eli-Lilly, Procter & Gamble, Merck, Novartis, Amgen, NPS, Zelos, 5; Eli-Lilly, Roche, Procter & Gamble, GSK, Merck, sonofi-aventis, 5

SA0389 **Antiresorptive Action is Dependent on Access to Remodeling Upon Cortical and Trabecular Surfaces: Comparison of Denosumab and Alendronate**
Roger Zebaze*[1], Cesar Libanati[2], Matthew Austin[2], John Bilezikian[3], Ego Seeman[1]. [1]Austin Health, University of Melbourne, Australia, [2]Amgen Inc., USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Roger Zebaze, Amgen, 2

SA0390 **Importance of Physician Communication and BMD testing in Management of Glucocorticoid-Induced Osteoporosis**
Stuart Silverman*[1], Jeffrey Curtis[2], Kenneth Saag[2], Julie Flahive[3], Adolfo Diez-Perez[4], Jonathan Adachi[5], Susan Greenspan[6], Steven Boonen[7], Cyrus Cooper[8], Coen Netelenbos[9], Nelson Watts[10], Juliet Compston[11], for the GLOW investigators[3]. [1]Cedars-Sinai/UCLA, USA, [2]University of Alabama at Birmingham, USA, [3]University of Massachusetts, USA, [4]Parc De Salut Mar, Spain, [5]St. Joseph's Hospital, Canada, [6]University of Pittsburgh, USA, [7]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Belgium, [8]University of Southampton, United Kingdom, [9]VU Medical Center, The Netherlands, [10]Mercy Health Osteoporosis & Bone Health Services, USA, [11]University of Cambridge School of Clinical Medicine, United Kingdom
Disclosures: Stuart Silverman, None

SA0391 **Long-term Denosumab Treatment Maintains Low Incidence of Fracture in Postmenopausal Women ⩾75 Years with Osteoporosis**
Socrates Papapoulos*[1], Michael R. McClung[2], Nathalie Franchimont[3], Jonathan D. Adachi[4], Henry G. Bone[5], Claude-Laurent Benhamou[6], Jordi Farrerons[7], J. Christopher Gallagher[8], Johan Halse[9], Kurt Lippuner[10], Zulema Man[11], Salvatore Minisola[12], Ove Törring[13], Nadia Daizadeh[3], Andrea Wang[3], Rachel B. Wagman[3], Steven Boonen[14]. [1]Leiden University Medical Center, Netherlands, [2]Oregon Osteoporosis Center, USA, [3]Amgen Inc., USA, [4]Charlton Medical Centre, Canada, [5]Michigan Bone & Mineral Clinic, USA, [6]INSERM U658, France, [7]Hospital de la Santa Creu I Sant Pau, Spain, [8]Creighton University Medical Center, USA, [9]Osteoporoseklinikken, Norway, [10]University Hospital, Switzerland, [11]Centro Tiemp, Argentina, [12]Sapienza, Università di Roma, Italy, [13]Karolinska Institutet Sodersjukhuset, Sweden, [14]Leuven University, Belgium
Disclosures: Socrates Papapoulos, Amgen Inc., Merck and Col., Novartis, Eli Lilly, GSK, 1

SA0392 **Odanacatib Improved Estimated Femoral Strength in Postmenopausal Women - Results of a 2-year Placebo-controlled Trial**
Tony Keaveny*[1], Kim Brixen[2], Roland Chapurlat[3], Angela Cheung[4], Thomas Fuerst[5], Bernie Dardzinski[6], Nadia Verbruggen[7], Shabana Ather[8], Elizabeth Rosenberg[6], Anne De Papp[6]. [1]University of California, Berkeley, USA, [2]Institute for Clinical Research, Denmark, [3]E. Herriot Hospital, France, [4]University Health Network, Canada, [5]Synarc Inc, USA, [6]Merck & Co., Inc., USA, [7]Merck Sharpe & Dohme, Belgium, [8]Merck & Co, Inc., USA
Disclosures: Tony Keaveny, Merck Sharp & Dohme Corp., 5; Merck Sharp & Dohme Corp., 9; Merck Sharp & Dohme Corp., 2

SA0393 **The Effect of Denosumab on Bone Mineral Density (BMD) Assessed by Baseline Bone Turnover in Men with Low BMD**
Paul Miller*[1], Ugis Gruntmanis[2], Steven Boonen[3], Yuqing Yang[4], Rachel Wagman[5], Jesse Hall[6], Eric Orwoll[7]. [1]Colorado Center for Bone Research, USA, [2]University of Texas Southwestern Medical Center, Dallas, USA, [3]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Belgium, [4]Amgen Inc, USA, [5]Amgen, Incorporated, USA, [6]Amgen, Inc., USA, [7]Oregon Health & Science University, USA
Disclosures: Paul Miller, Warner Chilcott, Amgen, Novartis, Roche, 8; Procter & Gamble, sanofi-aventis, Roche, Eli-Lilly, Merck, Novartis, Amgen, Takeda, Radius, GE, 2; Warner Chilcott, Merck, Eli Lilly, Amgen, Novartis, Roche, GSK, Baskter, Wright, 5

SA0394 **The Effect of Vitamin K_2 on Pregnancy-associated Osteoporosis: A Report of Four Patients**
Hiroyuki Tsuchie*[1], Naohisa Miyakoshi[1], Michio Hongo[1], Yuji Kasukawa[1], Yoshinori Ishikawa[2], Yoichi Shimada[2]. [1]Akita University Graduate School of Medicine, Japan, [2]Dept. of Orthopedic Surgery, Akita University Graduate School of Medicine, Japan
Disclosures: Hiroyuki Tsuchie, None

SA0395 **The Efficacy of Hydroxyapatite for Screw Augmentation in Osteoporotic Patients**
Jun Ho Lee*, Sang Hoon Jang, Ho Yeon Lee, Sang Ho Lee. Wooridul Spine Hospital, South Korea
Disclosures: Jun Ho Lee, None

OSTEOPOROSIS - TREATMENT (CLINICAL): QUALITY OF LIFE

SA0396 **Effects of Calcitonin on Pain, QOL, and Bone Marker in Osteoporosis Patients Suffering Vertebral Compression Fracture**
Shinya Tanaka*[1], Akira Yoshida[2], Hiroaki Suzuki[3], Manabu Ito[4]. [1]Saitama Medical University, Japan, [2]Yoshida Orthopedic Clinic, Japan, [3]Asahi Kasei Pharma, Japan, [4]Hokkaido University Graduate School of Medicine, Japan
Disclosures: Shinya Tanaka, None

SA0397 **Unpredictable Spontaneous Fusion after Vertebroplasty and Kyphoplasty in Osteoporotic Compression Fracture**
Jin Hwan Kim*[1], Jung Hoon Kim[1], Jae Hyup Lee[2]. [1]Inje University, Ilsanpaik Hospital, South korea, [2]Seoul National University, College of Medicine, South korea
Disclosures: Jin Hwan Kim, None

OSTEOPOROSIS - TREATMENT (CLINICAL): VITAMIN D AND METABOLITES

SA0398 **Are the IOM Vitamin D Guidelines Sufficient for Long Term Care Residents?**
Mary Anne Ferchak*, Carroll Lee, Gail Fiorito, Julie Wagner, Karen Vujevich, Subashan Perera, David Nace, Neil Resnick, Susan Greenspan. University of Pittsburgh, USA
Disclosures: Mary Anne Ferchak, None

SA0399 **Effect of Daily 800 IU Versus Single Oral Bolus of 300'000 IU Vitamin D on 25-hydroxyvitamin D Serum Concentration Increase in Postmenopausal Women with Osteoporosis**
Heike Bischoff-Ferrari*[1], Andreas Egli Linder[2], Kurt Lippuner[3], Albrecht Popp[3], Beatrice Günther[4], Petra Rindova[5], Robert Theiler[6]. [1]University of Zurich, Switzerland, [2]Centre on Ageing & Mobility, Switzerland, [3]Osteoporosis Policlinic, University of Bern, Switzerland, [4]Inselspital Zürich, Switzerland, [5]Triemli City Hospital, Switzerland, [6]Stadtspital Triemli, Switzerland
Disclosures: Heike Bischoff-Ferrari, None

SA0400 **Effects of Age and Vitamin D on Parathyroid Hormone Levels**
Frank Blocki*[1], Sudhaker D. Rao[2], Andre Valcour[3]. [1]DiaSorin Incorporated, USA, [2]Bone & Mineral Research Laboratory, Henry Ford Hospital, USA, [3]Center for Esoteric Testing, LabCorp, USA
Disclosures: Frank Blocki, DiaSorin Inc, 3

SA0401 **The Efficacy of High-Dose Oral Vitamin D_3 Administered Once a Year: Increased Fracture Risk Is Associated with 1,25 Vitamin D Level at 3-Months Post Dose**
Kerrie Sanders*[1], Gustavo Duque[2], Peter Ebeling[3], Thomas McCorquodale[2], Markus Herrmann[4], Catherine Shore-Lorenti[5], Geoffrey Nicholson[6]. [1]NorthWest Academic Centre, The University of Melbourne, Western Health, Australia, [2]Ageing Bone Research Program, University of Sydney, Australia, [3]The University of Melbourne, Australia, [4]ANZAC Research Institute, The University of Sydney, Concord, Australia, Australia, [5]NorthWest Academic Centre, University of Melbourne, Australia, [6]The University of Queensland, Australia
Disclosures: Kerrie Sanders, None

SA0402 **The Safety of Long-Term Use of Different Doses of Vitamin D3 Plus Calcium in Older Caucasian and African American Women**
Vinod Yalamanchili*[1], Munro Peacock[2], Lynette Smith[3], J. Christopher Gallagher[1]. [1]Creighton University Medical Center, USA, [2]Indiana University Medical Center, USA, [3]University of Nebraska Medical Center, USA
Disclosures: Vinod Yalamanchili, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): ANABOLIC AGENTS

SA0403 **BA058, a Novel Human PTHrP Analog, Restores Bone Density at the Spine and Femur in Osteopenic Sprague-Dawley Rats within 13 Weeks**
Elisabeth Lesage[1], Aurore Varela*[1], Susan Y. Smith[1], Gary Hattersley[2]. [1]Charles River Laboratories, Canada, [2]Radius, USA
Disclosures: Aurore Varela, None

SA0404 **Decreased Osteoclastogenesis in Bone Marrow Cells Derived From Ovariectomized Rats Treated with Sclerostin Antibody**
Min Liu*, Pam Kurimoto, Qing-Tian Niu, Kelly S. Warmington, Xiaodong Li, W. Scott Simonet, Hua Zhu Ke. Amgen Inc., USA
Disclosures: Min Liu, Amgen Inc., 3; Amgen Inc., 1

SA0405 **In Vivo Assessment of the Calcitonin Receptor Peptide for the Treatment of Osteoporosis**
David Komatsu*[1], Michael Hadjiargyrou[2], Srinivas Pentyala[3]. [1]Stony Brook University, Dept. of Orthopaedics, USA, [2]State University of New York at Stony Brook, USA, [3]Department of Anesthesiology, Stony Brook University, USA
Disclosures: David Komatsu, None

SA0406 **Long-term Sclerostin Antibody Treatment in Cynomolgus Monkeys: Sustained Improvements in Vertebral Microarchitecture and Bone Strength Following a Temporal Increase in Cancellous Bone Formation**
Michael Ominsky*[1], Rana Samadfam[2], Jacquelin Jolette[3], Susan Y. Smith[2], Hua Zhu Ke[1], Rogely Waite Boyce[4]. [1]Amgen Inc., USA, [2]Charles River Laboratories, Canada, [3]Charles River Laboratories, Preclinical Services Montreal, Canada, [4]Amgen Inc, USA
Disclosures: Michael Ominsky, Amgen, 3; Amgen, 1

SA0407 **Manipulations of Disulfide Bonds in an Amylin Octapeptide: A Mechanism to Modify Bioactivity**
Jillian Cornish*, Maureen Watson, Karen Callon, Renata Kowalczyk, Margaret Brimble. University of Auckland, New Zealand
Disclosures: Jillian Cornish, None

SA0408 **Negative Effect of N-Cadherin on the Anabolic Action of Parathyroid Hormone (PTH)**
Leila Revollo*[1], Jin Norris[2], Gabriel Mbalaviele[3], Roberto Civitelli[3]. [1]Washington University, Division of Bone & Mineral Diseases, USA, [2]WASHINGTON UNIVERSITY, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Leila Revollo, None

SA0409 **Treatment with an Inhibitor of Fatty Acid Synthase Reverses Bone Loss in Ovariectomized Mice**
Sandra Bermeo*[1], Wei Li[2], Christopher Vidal[3], Daniele Cultrone[4], Mamdouh Khalil[5], Gustavo Duque[6]. [1]Ph.D Student, Australia, [2]University of Sydney, Nepean Clinical School, Australia, [3]University of Sydney, Australia, [4]Ageing Bone Research Program, Sydney Medical School Nepean, The University of Sydney, Australia, [5]ANZAC Research Institute, Australia, [6]Ageing Bone Research Program, University of Sydney, Australia
Disclosures: Sandra Bermeo, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): BISPHOSPHONATES

SA0410 **Effects of Alfacalcidol and ED-71/eldecalcitol Alone or in Combination with Risedronate in Ovariectomized Rats**
Tetsuo Yano*[1], Mei Yamada[1], Makoto Shiozaki[1], Daisuke Inoue[2]. [1]Ajinomoto Pharmaceuticals Co., LTD, Japan, [2]Teikyo University Chiba Medical Center, Japan
Disclosures: Tetsuo Yano, Ajinomoto Pharmaceuticals, 3

SA0411 **Fluorescence Imaging Reveals High Bisphosphonate Delivery to the Mandible Regardless of Bone Turnover Status**
Joseph E. Perosky*[1], Adrienne F. Alimasa[1], Laurie McCauley[2], Kenneth Kozloff[1]. [1]University of Michigan Department of Orthopaedic Surgery, USA, [2]University of Michigan School of Dentistry, USA
Disclosures: Joseph E. Perosky, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): CALCIUM AND DIETARY FACTORS

SA0412 **Effects of Ascorbic Acid on Bone Density and Strength in Ascorbic Acid-deficient ODS Rats**
Toyohito Segawa*, Naohisa Miyakoshi, Yuji Kasukawa, Hiroyuki Tsuchie, Yoichi Shimada. Akita University Graduate School of Medicine, Japan
Disclosures: Toyohito Segawa, None

SA0413 **Inhibition of Osteoclastic Resorption and RANKL Expression and Increase of Osteoblastic Differentiation and Extra Cellular Matrix Mineralization by Sulforaphane, a Naturally Occurring Isothiocyanate**
Roman Thaler*[1], Monika Rumpler[2], Silvia Spitzer[2], Matteo Conti[3], Klaus Klaushofer[4], Franz Varga[2]. [1]Ludwig Boltzmann Institute of Osteology, Austria, [2]Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling. 1st Medical Department, Hanusch Hospital, Vienna, Austria, Austria, [3]Istituto Scientifico Romagnolo per lo Studio e la Cura dei Tumori (I.R.S.T.), Italy, [4]Hanusch Hospital, Austria
Disclosures: Roman Thaler, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): GONADAL STEROIDS AND SERMS

SA0414 **Raloxifene Prevents Skeletal Fragility in Adult Female Zucker Diabetic Sprague-Dawley (ZDSD) Rats**
Kathleen Hill*, Maxime Gallant, Drew Brown, Amy Sato, David Burr. Indiana University School of Medicine, USA
Disclosures: Kathleen Hill, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): OTHER AGENTS

SA0415 **A New Peptide Derived from the Matrix Protein Chondroadherin Reduces Motility of Osteoclast Precursors and Breast Cancer Cells through Inhibition of the Nitric Oxide Synthase 2 Pathway: Pre-clinical Evidence for Therapy**
Nadia Rucci*[1], Mattia Capulli[2], Ole Kristoffer[3], Kaare Gautvik[4], Lisbet Camper[5], Dick Heinegard[6], Anna Teti[1]. [1]University of L'Aquila, Italy, [2]Department of experimental Medicine, University of L'Aquila, Italy, [3]Department of Clinical Chemistry, Ullevaal University Hospital & Institute of Medical Biochemistry, University of Oslo, Norway, [4]Oslo University Hospital, Norway, [5]Department of Experimental Medical Science, Lund University, Sweden, [6]Lund University, Sweden
Disclosures: Nadia Rucci, None

SA0416 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Central Roles of Adiponectin on Bone Formation Through a Hypothalamic Relay
Yuwei Wu*[1], Qisheng Tu[2], Jin Tang[2], Dana Murray[2], Jessica Cheng[2], Maribel Rios[3], Zhihui Tang[4], Jake Jinkun Chen[2]. [1]Tufts University, USA, [2]Tufts University School of Dental Medicine, USA, [3]Tufts University School of Medicine, USA, [4]Peking University School of Stomatology, China
Disclosures: Yuwei Wu, None

SA0417 **Comparing Treatment Effects of Odanacatib and Alendronate in Lumbar Vertebrae of Ovariectomized Rhesus Monkeys using Quantitative Computed Tomography**
Sangeetha Somayajula*[1], Ghassan Fayad[2], Randolph Crawford[3], Seetha R. Kummari[4], Belma Dogdas[3], Mona L Purcell[5], Paul McCracken[6], Jacquelynn J Cook[5], Sherri L Motzel[7], Le Thi Duong[6], Don Williams[8], Antonio Cabal[8]. [1]Merck, USA, [2]Merck Research Laboratories - Modeling & Simulations, USA, [3]Merck Research Laboratories - Informatics IT, USA, [4]Case Western Reserve University, USA, [5]Merck Research Laboratories - Imaging, USA, [6]Merck Research Laboratories, USA, [7]Merck Research Laboratories - Lab Animal Resources, USA, [8]Merck & Co., Inc., USA
Disclosures: Sangeetha Somayajula, None

SA0418 **Efficacy of Odanacatib or Alendronate following Parathyroid Hormone Treatment in Estrogen-Deficient Rabbits**
Brenda Pennypacker*[1], Christopher Winkelmann[2], John Szumiloski[2], Randolph Crawford[2], Mary Belfast[3], Le Thi Duong[1]. [1]Merck Research Laboratories, USA, [2]Merck & Co., USA, [3]Merck & Company, USA
Disclosures: Brenda Pennypacker, Merck and Co., 3

SA0419 **In vivo Measurement of Bone Strontium Accumulation in Rats Using X-ray Fluorescence Spectroscopy**
Gregory Wohl*[1], Cheryl Druchok[1], Ashlie Altman[1], David Chettle[2], Ana Pejovic-Milic[3], Colin Webber[4], Jonathan Adachi[5], Karen Beattie[1]. [1]McMaster University, Canada, [2]Department of Medical Physics, McMaster University, Canada, [3]Department of Physics, Ryerson University, Canada, [4]Hamilton Health Sciences, Canada, [5]St. Joseph's Hospital, Canada
Disclosures: Gregory Wohl, None

SA0420 **Odanacatib Treatment Reduces Remodeling and Stimulates Modeling-based Bone Formation in Central Femur and Lumbar Vertebra of Adult OVX Monkeys**
Charles Chen*[1], Mei-Shu Shih[2], Hellen Zheng[3], Le Thi Duong[4]. [1]Merck & Co., Inc., USA, [2]RS Medical, USA, [3]MDS, USA, [4]Merck Research Laboratories, USA
Disclosures: Charles Chen, Merck, 3; Merck, 1

PAGET'S DISEASE: GENERAL

SA0421 **CXCL5 Stimulation of RANK Ligand Expression in Paget's Disease of Bone**
Kumaran Sundaram[1], Sudhaker Rao[2], William Ries[3], Sakamuri Reddy*[1]. [1]Charles P. Darby Children's Research Institute, USA, [2]Henry Ford Hospital, USA, [3]Medical University of South Carolina, USA
Disclosures: Sakamuri Reddy, None

SA0422 **Down-regulation of FoxO3a/SIRT1 Signaling by Measles Virus Nucleocapsid Protein is Implicated in Paget's Disease**
Feng-Ming Wang*[1], Benedicte Sammut[2], Quanhong Sun[3], Jolene Windle[4], G. David Roodman[1], Deborah Galson[3]. [1]Indiana University, USA, [2]University of Pittsburgh, Hillman Cancer Center, USA, [3]University of Pittsburgh, USA, [4]Virginia Commonwealth University, USA
Disclosures: Feng-Ming Wang, None

STEROID HORMONES AND RECEPTORS: CALCIUM-SENSING RECEPTORS

SA0423 **Identification and Characterization of A Novel Orally Active Calcium-Sensing Receptor Antagonist**
Etsuko Fujita*[1], Eiji Ochiai[1], Akiko Takeuchi[2], Yuri Sakai[1], Ryo Matsuyama[1], Motoko Hamada[1], Gen Unoki[1], Yohei Matsueda[1], Kei Yamana[1], Hiroyuki Sugiyama[1], Yoshiaki Azuma[1]. [1]Teijin Institute for Biomedical Research, Japan, [2]Teijin Institute for Bbiomedical Research, Japan
Disclosures: Etsuko Fujita, Teijin Pharma Ltd., 3

STEROID HORMONES AND RECEPTORS: GLUCOCORTICOIDS

SA0424 **Cushing Disease: Restoration of Bone Mass and Microarchitecture after Hypercortisolism Normalization**
Eugénie Koumakis*[1], Renaud Winzenrieth[2], Laurence Guignat[3], Catherine Cormier[4]. [1]Rheumatology Department A, Cochin Hospital, APHP, France, [2]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, France, [3]Endocrinology department, Cochin Hospital, APHP, France, [4]AP-HP Groupe Hospitalier Cochin, France
Disclosures: Eugénie Koumakis, None

SA0425 **Hypothalamic–pituitary–adrenal Axis is Essential for the Regulation of both Bone and Fat Metabolism via Melanocortin 2 Receptor**
Tsuyoshi Sato*[1], Dai Chida[1], Takanori Iwata[2], Michihiko Usui[3], Yuichiro Enoki[1], Masahito Matsumoto[1], Ren Xu[4], Satoko Sunamura[5], Hiroki Ochi[5], Toru Fukuda[6], Shu Takeda[7], Tetsuya Yoda[1]. [1]Saitama Medical University, Japan, [2]Tokyo Women's Medical University, Japan, [3]Showa University Dental School, Japan, [4]Tokyo Medical & Dental University, Japan, [5]Keio University, Japan, [6]Keio University School of Medicine, Japan, [7]Keio University, Dept. of Nephrology, Endocrinology & Metabolism, Japan
Disclosures: Tsuyoshi Sato, None

SA0426 **The Role of Osteocalcin in Glucocorticoid-Induced Metabolic Dysfunction**
Tara Brennan-Speranza[1], Holger Henneicke*[1], Sylvia Gasparini[2], Caren Gundberg[3], Colin Dunstan[4], Hong Zhou[1], Markus Seibel[1]. [1]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [2]Bone Research Program, ANZAC Research Institute, Australia, [3]Yale University School of Medicine, USA, [4]University of Sydney, Australia
Disclosures: Holger Henneicke, None

STEROID HORMONES AND RECEPTORS: PTH/PTHRP

SA0427 **Low Femoral and High Vertebral Bone Phenotype in α_{2C}AR Knockout Mice**
Marilia Teixeira*[1], Gisele M Martins[2], Cristiane Costa[2], Cecilia Gouveia[3]. [1]University of Sao Paulo, Brazil, [2]Institute of Biomedical Science, Brazil, [3]University of Sao Paulo, Institute of Biomedical Sciences, Brazil
Disclosures: Marilia Teixeira, None

STEROID HORMONES AND RECEPTORS: SEX STEROIDS

SA0428 **The Role of Activation Functions 1 and 2 of Estrogen Receptor-α for the Effects of Estradiol and Selective Estrogen Receptor Modulators (SERMs) in Male Mice**
Anna Borjesson*[1], Sara Windahl[2], Marie Lagerquist[3], Cecilia Engdahl[2], Helen Farman[2], Antti Koskela[4], Klara Sjogren[5], Jenny Kindblom[3], Alexandra Stubelius[2], Ulrika Islander[2], Maria C Antal[6], Andrée Krust[6], Pierre Chambon[6], Juha Tuukkanen[4], Claes Ohlsson[7]. [1]Sahlgrenska University Hospital, Clinical Pharmacology Lab, Sweden, [2]Center for Bone & Arthritis Research, Sahlgrenska Academy, Sweden, [3]Sahlgrenska University Hospital, Sweden, [4]University of Oulu, Finland, [5]Centre for Bone & Arthritis Research, Sweden, [6]Institut de Génétique et de Biologie Moléculaire et Cellulaire, France, [7]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden
Disclosures: Anna Borjesson, None

STEROID HORMONES AND RECEPTORS: VITAMIN D AND ITS ANALOGS

SA0429 **24,25-Dihydroxyvitamin D_3 Signals through Non-vitamin D Receptor Pathways in HepG2 Cells**
Kent Wehmeier*, Sarada Jaimungal, Jaisri Maharaj, Arshag Mooradian, Michael Haas. Department of Medicine University of Florida -Jacksonville College of Medicine, USA
Disclosures: Kent Wehmeier, None

SA0430 **Bone Mineral Density in Immigrant Women Living in Stockholm with Low Vitamin D Levels Postpartum**
Ingrid Bergstrom*[1], Ingrid Dahlman[2], Paul Gerdhem[1]. [1]Karolinska Institutet, Sweden, [2]Dept of endocrinology, metabolism & diabetes. Karolinska University Hospital Huddinge, Sweden
Disclosures: Ingrid Bergstrom, None

SA0431 **Control of Post-Gonadarche Bone Mass Acquisition via Expression and Action of Heterogeneous Nuclear Ribonucleoprotein D (hnRNPD)**
Hong Chen[1], Linda Gilbert[2], Thomas Lisse[3], Martin Hewison[4], Mark Nanes[5], John Adams*[4]. [1]VA / Emory University School of Medicine, USA, [2]Atlanta VA Medical Center, USA, [3]Mount Desert Island Biological Laboratory, USA, [4]University of California, Los Angeles, USA, [5]VA Medical Center & Emory University, USA
Disclosures: John Adams, None

SA0432 **Correlation between 25 Hydroxyvitamin D (25OHD) Levels and Latitude in a Brazilian Postmenopausal Population with Low Bone Mass: from *Arzoxifene Generation Study***
Henrique Arantes*[1], Alan Chiang[2], John Bilezikian[3], Marise Lazaretti Castro[4]. [1]UNIFESP, Brazil, [2]Eli Lilly & Company, USA, [3]Columbia University College of Physicians & Surgeons, USA, [4]Escola Paulista de Medicina, Brazil
Disclosures: Henrique Arantes, None

SA0433 **Genetic Control of Serum 1,25 dihydroxyvitamin D ($1,25(OH)_2D$) Level Under Normal and Low Dietary Calcium (Ca) Condition**
Rebecca Replogle*, Libo Wang, Min Zhang, James Fleet. Purdue University, USA
Disclosures: Rebecca Replogle, None

SA0434 **Identification of Cytoskeletal Binding Partners for the $1,25D_3$-MARRS Receptor**
Tremaine Sterling, Ilka Nemere*. Utah State University, USA
Disclosures: Ilka Nemere, None

SA0435 **Role of Calbindin-D_{9k} as a Facilitator of Calcium Entry via TRPV6**
Tibor Rohacs*[1], Puneet Dhawan[2], Yevgen Yudin[1], Baskaran Thyagarajan[1], Sylvia Christakos[3]. [1]UMDNJ-New Jersey Medical School, USA, [2]University of Medicine & Dentistry & New Jersey, USA, [3]University of Medicine & Dentistry & New Jersey - New Jersey Medical School, USA
Disclosures: Tibor Rohacs, None

SA0436 **Transgene Expression of CYP27B1 in Osteoblasts Promotes Bone Formation without Altering Bone Resorption**
Andrew Turner*[1], Paul Anderson[2], Rebecca Sawyer[3], Peter O'Loughlin[3], Gerald Atkins[4], Howard Morris[1]. [1]SA Pathology, Australia, [2]Musculoskeletal Biology Research, University of South Australia, Australia, [3]Musculoskeletal Biology Research, Chemical Pathology, SA Pathology, Australia, [4]University of Adelaide, Australia
Disclosures: Andrew Turner, None

SA0437 **UVB Radiation Ameliorates 25 Hydroxyvitamin D Deficiency in a Gender-dependent Manner in Mice: Role of 7-dehydrocholesterol Reductase**
Yingben Xue*[1], Lee Ying[2], Gordon Watson[2], David Goltzman[3]. [1]Calcium Research Lab, McGill University, Canada, [2]Children's Hospital Oakland Research Institute, USA, [3]McGill University, Canada
Disclosures: Yingben Xue, None

TUMORS AND BONE AND PAGET'S DISEASE (BASIC, TRANS. AND CLINICAL): BREAST AND PROSTATE

SA0438 **Differences and Similarities in Treatment Related Effects of Zoledronic Acid in Multiple Myeloma and Breast Cancer Patients with Metastasis to Bone**
Kent Soe*[1], Jean-Marie Delaisse[2], Erik H. Jakobsen[3], Charlotte T. Hansen[4], Torben Plesner[5]. [1]Vejle Hospital, University of Southern Denmark, Denmark, [2]Vejle Hospital, IRS, University of Southern Denmark, Denmark, [3]Vejle Hospital, Department of Oncology, Denmark, [4]Odense University Hospital, Dept. of Hematology, Denmark, [5]Vejle Hospital, Medical Department, Denmark
Disclosures: Kent Soe, Novartis, 2

SA0439 **Omega 3 Fatty Acids in Fish Oil Orchestrate a Reciprocal Axis between p53-miR-200c and Zeb1 to Prevent EMT in Breast Cancer Cells**
Chandi Mandal*[1], Goutam Ghosh Choudhury[1], Auriole Tamegnon[1], Triparna Ghosh-Choudhury[2], Nandini Ghosh-Choudhury[1]. [1]University of Texas Health Science Center at San Antonio, USA, [2]Baylor College of Medicine, USA
Disclosures: Chandi Mandal, None

SA0440 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Parathyroid Hormone-related Protein (PTHrP) Potentiates Myeloid-Derived Suppressor Cells (MDSCs) within the Bone Marrow via Osteoblast-Derived Interleukin (IL)-6 and Vascular Endothelial Growth Factor (VEGF)-A
Serk In Park*[1], Amy Koh[1], Fabiana Soki[2], Laurie McCauley[2]. [1]University of Michigan, USA, [2]University of Michigan School of dentistry, USA
Disclosures: Serk In Park, None

SA0441 **PGE2 Regulates Breast Cancer Proliferation and Osteoblastic RANKL Production in a Part of Bone Metastasis through its Receptor Subtype of EP4**
Satoshi Yokoyama[1], Kenta Watanabe[1], Michiko Hirata[1], Chiho Matsumoto[1], Takayuki Maruyama[2], Chisato Miyaura[1], Masaki Inada*[3]. [1]Tokyo University of Agriculture & Technology, Japan, [2]Ono Pharmaceutical Co., Ltd., Japan, [3]Toyko University of Agriculture & Technology, Japan
Disclosures: Masaki Inada, None

SA0442 **Withdrawn**

SA0443 **Thrombospondin-1 Regulates Bone Density in Healthy and Skeletal Metastatic States by Regulating Osteoclast-osteoblast Coupling**
Sarah Amend*[1], Ozge Uluckan[2], Michelle Hurchla[1], Li Jia[1], William Frazier[2], Katherine Weilbaecher[3]. [1]Washington University in St. Louis, USA, [2]Washington University in Saint Louis, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Sarah Amend, None

SA0444 **Vitamin D Strongly Influences Skeletal Metastasis Development in Breast Cancer: Comparison of Systemic Vitamin D Deficiency versus Local Ablation of CYP27B1 in Breast Tumor Cells**
Aimee-Lee Luco*[1], Jiarong Li[1], Rene St-Arnaud[2], Timothy Reinhardt[3], Richard Kremer[4]. [1]McGill University, Canada, [2]Shriners Hospital for Children & McGill University, Canada, [3]National Animal Disease Center, USDA, ARS, USA, [4]McGill University, Royal Victoria Hospital, Canada
Disclosures: Aimee-Lee Luco, None

TUMORS AND BONE AND PAGET'S DISEASE (BASIC, TRANS. AND CLINICAL): GENERAL

SA0445 **Curcumin Induces Cell Apoptosis In Human Chondrosarcoma Through Extrinsic Death Receptor Pathway**
Yi-Chin Fong*[1], Chih-Hsin Tang[2]. [1]China Medical University Hospital, Taiwan, [2]China Medical University, Taiwan
Disclosures: Yi-Chin Fong, None

SA0446 **Inverse Biological Coupling Between the Bone-specific Transcription Factor RUNX2 and the Tumor Suppressor p53 Levels in Osteosarcoma**
Hanna Taipaleenmaki*[1], Margaretha van der Deen[2], Ying Zhang[2], Jane Lian[2], Janet L. Stein[2], Gary Stein[2], Andre Van Wijnen[2]. [1]University of Turku, USA, [2]University of Massachusetts Medical School, USA
Disclosures: Hanna Taipaleenmaki, None

SA0447 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Osteoclast Activation by IAP Antagonists Opposes their Potential Anti-cancer Effects and Enhances Bone Metastasis
Chang Yang*[1], Jennifer Davis[2], Lynne Collins[3], Suwanna Vangveravong[3], Robert Mach[3], David Piwnica-Worms[3], Katherine Weilbaecher[4], Roberta Faccio[1], Deborah Novack[4]. [1]Washington University in St Louis School of Medicine, USA, [2]Washington University in St. Louis, USA, [3]Washington University in St Louis, USA, [4]Washington University in St. Louis School of Medicine, USA
Disclosures: Chang Yang, None

SA0448 **Parathyroid Hormone-related Peptide (PTHrP) blockade Inhibits Tumor Progression in a Model of Human Melanoma**
Dao Chao Huang*[1], Xian Fang Yang[2], Anne Camirand[1], Richard Kremer[1]. [1]McGill University, Royal Victoria Hospital, Canada, [2]McGill University Health Center, Canada
Disclosures: Dao Chao Huang, None

SA0449 **Raman Spectroscopy Demonstrates Radiation-induced Bone Composition Changes in Murine Tibiae**
Bo Gong*[1], Timothy Damron[2], Kenneth Mann[2], Megan Oest[2], Joseph Spadaro[3], Michael Morris[1]. [1]University of Michigan, USA, [2]SUNY Upstate Medical University, USA, [3]State University of New York Upstate Medical University, USA
Disclosures: Bo Gong, None

SA0450 **The Cancer Stem Cell Marker CD44 Promotes Bone Metastasis of Breast Cancer by Enhancing Tumorigenicity, Cell Motility, and Matrix Production**
Toru Hiraga*[1], Susumu Ito[2], Hiroaki Nakamura[1]. [1]Matsumoto Dental University, Japan, [2]Shinshu University, Japan
Disclosures: Toru Hiraga, None

SA0451 **The De-ubiquitinating Enzyme USP45 Is Critical to Epithelial-mesenchymal Transition (EMT) in Breast Cancer Cells Colonized Bone**
Soichi Tanaka*[1], Toshiyuki Yoneda[2]. [1]Osaka University, Japan, [2]Osaka University Graduate School of Dentistry, Japan
Disclosures: Soichi Tanaka, None

SA0452 **The Effect of Breast Carcinoma Cells on Bone Cells: A Biomechanical Study**
Xiuli Chen*[1], Sung Yun Park[2], Taeyong Lee[1]. [1]National University of Singapore, Singapore, [2]NUS, Singapore
Disclosures: Xiuli Chen, None

SA0453 **The Therapeutic Effects of Rank-Fc Against Osteosarcoma Target not only Osteoclasts but also Osteosarcoma Cells Directly**
Toru Akiyama*[1], Jonathan Clark[2], Peter Choong[2]. [1]Saitama Medical Center, Jichi Medical University, Japan, [2]Department of Orthopaedic Surgery, St. Vincent's Hospital Melbourne, Australia
Disclosures: Toru Akiyama, None

LB-SA01 **NBQX, a Glutamate Receptor (α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid/ kainate) Antagonist, Alleviates Inflammation, Pathology and Gait Abnormalities in Rat Antigen Induced Arthritis**
Cleo Bonnet[1], Anwen Williams[2], Sophie Gilbert[2], Ann Harvey[2], Deborah Mason*[2]. [1]Cardiff University, GBR, [2]Cardiff University, United Kingdom
Disclosures: Deborah Mason, None

LB-SA02 **Trabecular Bone Microarchitecture is Compromised in Obese Late Adolescent Females**
Hannah Goff*[1], Christopher Modlesky[2], Emma Laing[1], Norman Pollock[3], Harshvardhan Singh[2], Clifton Baile[4], Richard Lewis[1]. [1]The University of Georgia, USA, [2]University of Delaware, USA, [3]Georgia Health Sciences UniversityMedical College of Georgia, USA, [4]University of Georgia, USA
Disclosures: Hannah Goff, None

LB-SA03 **TBS as a Predictor of Vertebral Fracture in Polish Men.**
Roman Lorenc[1], Wanda Horst-Sikorska*[2]. [1]Specjalistyczny Osrodek Wieku Dojrzalego Sp. Z O.o., Poland, [2]ICP, Poland
Disclosures: Wanda Horst-Sikorska, None

LB-SA04 **Osteo-chondrogenic Function of BMP is Directed Toward Osteogenesis by Hh-Gli1 in the Perichondrium**
Hironori Hojo*[1], Shinsuke Ohba[2], Kiyomi Taniguchi[3], Masataka Shirai[3], Fumiko Yano[4], Taku Saito[5], Toshiyuki Ikeda[6], Keiji Nakajima[6], Yuske Komiyama[6], Naomi Nakagata[7], Kentaro Suzuki[7], Yuji Mishina[8], Masahisa Yamada[9], Tomohiro Konno[6], Tsuyoshi Takato[6], Hiroshi Kawaguchi[10], Hideki Kambara[3], Ung-Il Chung[11]. [1]The Center for Disease Biology & Integrative Medicine, Japan, [2]The University of Tokyo, Jpn, [3]Hitachi Central Research Laboratory, Japan, [4]University of Tokyo, Japan, [5]University of Tokyo, Graduate School of Medicine, Japan, [6]The University of Tokyo, Japan, [7]Kumamoto University, Japan, [8]University of Michigan, USA, [9]The Okinawa Institute of Science & Technology, Japan, [10]University of Tokyo, Faculty of Medicine, Japan, [11]University of Tokyo Schools of Engineering & Medicine, Japan
Disclosures: Hironori Hojo, None

LB-SA05 **Potential *Col10a1* Regulators Identified by Bioinformatics and Proteomic Methods**
Junxia Gu*[1], Yaojuan Lu[2], Feifei Li[3], Jeffrey Borgia[2], Qiping Zheng[2]. [1]Jiangsu University, China, [2]Rush University Medical Center, USA, [3]Anhui Medical University, China
Disclosures: Junxia Gu, None

LB-SA06 **Receptor Activity Modifying Proteins alter the G-Protein activation response of PTH receptors to PTH and PTHrP**
David Roberts[1], Gareth Richards[1], Aditya Desai[1], Timothy Skerry*[2]. [1]University of Sheffield, United Kingdom, [2]University of Sheffield Medical School, United Kingdom
Disclosures: Timothy Skerry, None

LB-SA07 **Continuous Infusion of PTH Stimulates New Bone Formation in Cyclooxygenase-2 (COX-2) Knockout Mice**
Shilpa Choudhary*, Adam Harris, Vilmaris Diaz-Doran, Douglas. J. Adams, Carol Pilbeam. University of Connecticut Health Center, USA
Disclosures: Shilpa Choudhary, None

LB-SA08 Fracture GWAS in the GEFOS Consortium Discovers New Loci Related to Hormonal and Neurological Pathways

Ling Oei*[1], Hou-Feng Zheng[2], Evangelia Ntzani [3], Carrie Nielson[4], Karol Estrada[5], Unnur Styrkársdóttir[6], Paul Ridker [7], Yi-Hsiang Hsu[8], Melissa Garcia[9], Aaron Aragaki[10], Emma Duncan[11], Anke Enneman[12], Terho Lehtimäki[13], Tõnu Esko[14], Stella Trompet[15], Stephen Kaptoge[16], Joel Eriksson[17], Najaf Amin[12], Annie Kung[18], Carolina Medina-Gomez[19], Evangelos Evangelou[3], Konstantinos Tsilidis[3], Gudmar Thorleifsson[6], Lynda Rose[7], Joseph Zmuda[20], Ching-Ti Liu[21], Albert Vernon-Smith[22], Priya Srikanth[4], Scott Wilson[23], Graeme Clark[24], Jorma Viikari[25], Evelin Mihailov[14], Alireza Moayyeri[26], Guo Li[27], Candace Kammerer[20], Mattias Lorentzon[28], Natalia Rivera[12], Sumei Xiao[29], Jian Yang[30], David Karasik[31], Kristin Siggeirsdottir[32], Edwin Oei[33], Kari Stefansson[6], Ville Aalto[34], Dana Willner[24], Nicholas Wareham[35], Ryan Minster[36], Joshua Bis[27], Cornelia van Duijn[12], Lizbeth Herrera[12], L. Adrienne Cupples[21], Thor Aspelund[37], Olli Raitakari[34], Paul Leo[24], Kay-Tee Khaw[38], John Robbins[39], Yongmei Liu[40], Stephan Breda[12], Robert Luben[38], Jane Cauley[20], Alice Arnold[27], Lisette Stolk[12], Joyce Van Meurs[5], Pak Sham[41], Maria Zillikens[33], Claes Ohlsson[42], Bruce Psaty[27], Tamara Harris[43], Jonathan Reeve[38], Wouter Jukema[15], Andres Metspalu[14], Mika Kahonen[13], Nathalie van der Velde[12], Matthew Brown[44], Vilmundur Gudnason[32], John Ioannidis[45], Andre Uitterlinden[46], Steven Cummings[47], Tim Spector[26], Douglas Kiel[31], Rebecca Jackson[48], Unnur Thorsteinsdottir[6], Daniel Chasman[7], Eric Orwoll[4], Brent Richards[2], Fernando Rivadeneira[5], for the GEFOS consortium Netherlands. [1]Erasmus University Medical Center, The netherlands, [2]McGill University, Canada, [3]University of Ioannina Medical School, Greece, [4]Oregon Health & Science University, USA, [5]Erasmus University Medical Center, The netherlands, [6]deCODE Genetics, Iceland, [7]Brigham & Women's Hospital, USA, [8]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [9]NIA, NIH, USA, [10]Division of Public Health Sciences, Fred Hutchinson Cancer Research Center, USA, [11]Royal Brisbane & Women's Hospital, Australia, [12]Erasmus MC, Netherlands, [13]University of Tampere & Tampere University Hospital, Finland, [14]University of Tartu, Estonia, [15]Leiden University Medical Center, Netherlands, [16]University of Cambridge Bone Research Group, United Kingdom, [17]University of Gothenburg, Center for Bone & Arthritis Research, Institute of Medicin, Sahlgrenska Academy, Sweden, [18]Dr. Kung-Wai Chee Clinic, Hong kong, [19]Erasmus Medical Center, The netherlands, [20]University of Pittsburgh Graduate School of Public Health, USA, [21]Boston University School of Public Health, USA, [22]Icelandic Heart Association & University of Iceland, Iceland, [23]University of Western Australia, Australia, [24]University of Queensland Diamantina Institute, Australia, [25]University of Turku & Turku University Hospital, Finland, [26]King's College London, United Kingdom, [27]University of Washington, USA, [28]Center for Bone Research at the Sahlgrenska Academy, Sweden, [29]The University of Hong Kong, , [30]Queensland Institute of Medical Research, Australia, [31]Hebrew SeniorLife, USA, [32]Icelandic Heart Association Research Institute, Iceland, [33]Erasmus MC, The netherlands, [34]Research Centre of Applied & Preventive Cardiovascular Medicine, University of Turku, Finland, [35]Medical Research Council (MRC) Epidemiology Unit, United Kingdom, [36]University of Pittsburgh, USA, [37]Icelandic Heart Association, Iceland, [38]University of Cambridge, United Kingdom, [39]University of California, Davis Medical Center, USA, [40]Wake Forest University School of Medicine, USA, [41]The University of Hong Kong, China, [42]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [43]Laboratory of Epidemiology, Demography, & Biometry, Intramural Research Program, National Institute of Aging, National Institutes of Health, USA, [44]Diamantina Institute of Cancer, Immunology & Metabolic Medicine, Australia, [45]Stanford University, USA, [46]Rm Ee 575, Genetic Laboratory, The netherlands, [47]San Francisco Coordinating Center, USA, [48]The Ohio State University, USA

Disclosures: Ling Oei, None

LB-SA09 A Role for TGF-βRII Expressing Cells in the Regulation of MCP-5 during Post-traumatic Osteoarthritis

Lara Longobardi*[1], Huseyin Ozkan[2], Alessandra Esposito[3], Tieshi Li[1], Timothy Myers[4], Joseph Temple[5], Anna Spagnoli[1]. [1]University of North Carolina at Chapel Hill, USA, [2], [3]University of North Carolina-Chapel Hill, USA, [4]University of North Carolina, USA, [5]UNC-Chapel Hill, USA

Disclosures: Lara Longobardi, None

LB-SA10 **Bone Resorption Inhibitory peptide Repairs Critical Size Defect on Calvariae in Mice**
Neil Alles*[1], Niroshani Surangika Soysa[2], Masud Khan[1], Abudullah Al Mamun[1], YURIKO FURUYA[3], Hisataka Yasuda[4], Keiichi Ohya[1], Kazuhiro Aoki[1]. [1]Tokyo Medical & Dental University, Japan, [2]Faculty of Dental Sciences, Uni. of Peradeniya, Sri lanka, [3]ORIENTAL YEAST CO.,LTD, Japan, [4]Oriental Yeast Company, Limited, Japan
Disclosures: Neil Alles, None

LB-SA11 **Effect of Aroeira Extract in Mice Osteoblasts-like and in Human Osteoblasts**
Adriana Matos*[1], Alessandra Cury Machado[2], Camila Peres Buzalaf[3], Anne Bosqueiro Dokkedal[4], Rodrigo Cardoso de Oliveira[2]. [1]University of Sao Paulo, Brazil, [2]Biochemistry, Department of Biological Sciences, Bauru Dental School,University of Sao Paulo, Brazil, [3]Biochemistry, Department of Biological Sciences, Bauru Dental School, University of Sao Paulo, Brazil, [4]Department of Biological Sciences, UNESP, Brazil
Disclosures: Adriana Matos, None

LB-SA12 **Resveratrol Partially Rescues Hematopoietic Defects through Improving Osteoblastic Niche in Bmi1 Deficient Mice**
Jinbo Li*[1], Jianliang Jin[1], Dengshun Miao[2]. [1]Nanjing Medical University, Peoples republic of china, [2]Nunjing Medical University, Peoples republic of china
Disclosures: Jinbo Li, None

LB-SA13 **The Crosstalk of Wnt5a and BMP2 during Dentin Repaired Process**
Su Yingying, Wang Chenglin, Ye Ling*. State Key Laboratory of Oral Diseases, West China School of Stomatology, Sichuan University, China
Disclosures: Ye Ling, None

LB-SA14 **Dynamic Changes of Chromatin Accessibility During Early Osteoclastogenesis**
KAZUKI INOUE*[1], Yuuki Imai[2]. [1]The University of Tokyo , Japan, [2]The University of Tokyo, Japan
Disclosures: KAZUKI INOUE, None

LB-SA15 **MiR-503 Regulates Osteoclastogenesis via Targeting RANK and Contributes to Osteoporosis**
Chao Chen*, Peng Chen, Hui Xie, Li Yang, Gen-Qing Xie, Ru-Chun Dai, Zhi-Feng Sheng, Lin-Qin Yuan, Hou-De Zhou, Xian-Ping Wu, Er-Yuan Liao, Xiang-Hang Luo.
The Second Xiangya Hospital of Central South University, China
Disclosures: Chao Chen, None

LB-SA16 **Functional Status Relates to the Occurrence of Wrist or Proximal Humerus Fractures: The Study of Osteoporotic Fractures**
Beatrice Edwards*[1], Dennis West[2], Alfred Rademaker[2], Bing Bing Weitner[2], Jaimee Holbrook[2], Teresa Hillier[3], Jane Cauley[4]. [1]Northwestern University Medical School, USA, [2]Northwestern University Feinberg School of Medicine, USA, [3]Kaiser Center for Health Research, USA, [4]University of Pittsburgh Graduate School of Public Health, USA
Disclosures: Beatrice Edwards, Eli Lilly, 7; Warner, 7; Amgen, 7

LB-SA17 **Decreased Circulating Sclerostin and Increased Immature Osteoprogenitor Cells in Postmenopausal Osteoporosis: The CEOR Study**
Mohammed-Salleh Ardawi*[1], Mohammed Qari[2], Abdulrahim Rouzi[1], Sharifa Al-Sibiani[3], Nawal Al-Senani[3]. [1]Center of Excellence for Osteoporosis Research & Faculty of Medicine, Saudi arabia, [2]Center of Excellence for Osteoporosis Research & Department of Hematology, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi arabia, [3]Center of Excellence for Osteoporosis Research & Department of Obstetrics & Gynecology & KAU Hospital,Faculty of Medicine, King Abdulaziz University, Saudi arabia
Disclosures: Mohammed-Salleh Ardawi, None

LB-SA18 **A Case of Atypical Femoral Fracture with Abnormal Cortical Bone Characterized by Impaired Mineralization and Pyrophosphate Accumulation**
Maziar Shabestari*[1], Adolfo Diez-Perez[2], Erik Fink Eriksen[3], Paul Roschger[4], Sonja Gamsjaeger[5], Eleftherios Paschalis[6], Klaus Klaushofer[7], Xavier Nogues[8], Peter Ebeling[9]. [1]University of Oslo, Norway, [2]Parc De Salut Mar, Spain, [3]Oslo University Hospital, Norway, [4]L. Boltzmann Institute of Osteology, Austria, [5]Ludwig Boltzmann Institute of Osteologie, Austria, [6]Ludwig Boltzmann Institute for Osteology, Austria, [7]Hanusch Hospital, Austria, [8]Institut Municipal D'Investigació Mèdica, Spain, [9]The University of Melbourne, Australia
Disclosures: Maziar Shabestari, None

LB-SA19 **Efficacy and Safety of Zoledronic Acid in Chinese Women With Post-menopausal Osteoporosis**
Xun Liu[1], Huiyong Shen[2], Lin Huang*[2]. [1]The Sun Yat-Sen Memorial Hospital, Peoples republic of china, [2]the Sun Yat-Sen Memorial Hospital, China
Disclosures: Lin Huang, Novartis Pharma, 11

LB-SA20 **Evidence for a Vitamin D3 Like Endocrine System in an Ascomycete *Magnaporthe grise*.**
Mihali Pandya*[1], Chandra Prakash[2], Mihir Sarang[2], Dr Bharat Chattoo[2]. [1]India, [2]Genome Research Center, India
Disclosures: Mihali Pandya, None

MEET-THE-PROFESSOR SESSIONS

1:00 pm - 2:00 pm **Mezzanine Level-Rooms M100 – M101**

Meet-the-Professor Session: Screening for Osteoporosis
Mezzanine Level-Room M100B
Susan L. Greenspan, M.D.
University of Pittsburgh, USA
Disclosures: Susan Greenspan, None

Meet-the-Professor Session: Subchondral Bone and Osteoarthritis
Mezzanine Level-Room M100C
David B. Burr, Ph.D.
Indiana University School of Medicine, USA
Disclosures: David Burr, Amgen Inc 6; Wright Medical 5; Eli Lilly and Co. 2

Meet-the-Professor Session: Mechanical Signal and Bone Formation
Mezzanine Level-Room M100D
Yi-Xian Qin, Ph.D.
State University of New York at Stony Brook, USA
Disclosures: Yi-Xian Qin, None

Meet-the-Professor Session: Role of T Cells in Osteoporosis and PTH Function
Mezzanine Level-Room M100E
Roberto Pacifici, M.D.
Emory University School of Medicine, USA
Disclosures: Roberto Pacifici, None

Meet-the-Professor Session: Glucocorticoid-induced Osteoporosis
Mezzanine Level-Room M101A
Marc C. Hochberg, M.D., MPH
University of Maryland School of Medicine, USA
Disclosures: Marc Hochberg, Novartis Pharma AG 6; Amgen, Eli Lilly, Genetech, Merck & Co. and Pfizer 5

Meet-the-Professor Session: Female Athletic Triad, Eating Disorders and Low Bone Mass
Mezzanine Level-Room M101B
Catherine M. Gordon, M.D.
Children's Hospital Boston and Harvard Medical School, USA
Disclosures: Catherine Gordon, None

Meet-the-Professor Session: Osteogenesis Imperfecta - Treatment
Mezzanine Level-Room M101C
Francis H. Glorieux, M.D., Ph.D.
Shriners Hospital for Children and McGill University, Canada
Disclosures: Francis Glorieux, None

LEADERSHIP FORUM: CONVERSATIONS WITH ASBMR ESTEEMED AWARD WINNERS

Sponsored by the Women in Bone and Mineral Research, Membership Development and Education Committees

1:00 pm - 2:00 pm **Minneapolis Convention Center**
Room 101C

Hear from ASBMR Esteemed Award Recipients as they provide insights to their research and career development. Each recipient will briefly discuss their career and research, highlighting the challenges they faced and the key leadership strategies they used to achieve success. Audience members will have the opportunity to ask questions—don't miss this unique opportunity to hear directly from the leaders in the field.

CLINICAL ROUNDTABLE/CASE CONFERENCE - MALE HORMONE REPLACEMENT THERAPY IN OSTEOPOROSIS

1:00 pm - 2:00 pm **Minneapolis Convention Center**
Auditorium-Main

Chair
Jean-Marc Kaufman, M.D., Ph.D.
University Hospital of Ghent, Belgium
Disclosures: Jean-Marc Kaufman, Servier 6

Effects of Testosterone Deficiency and Replacement on Bone Metabolism in Men
Joel S. Finkelstein, M.D.
Massachusetts General Hospital, USA
Disclosures: Joel Finkelstein, Abbott 9; AstraZeneca 9

SERMS and Estrogens in Men
Eric S. Orwoll, M.D.
Oregon Health and Science University, USA
Disclosures: Eric Orwoll, Eli Lilly 5; Merck 5; Amgen 2; Amgen 5; Eli Lilly 2; Merck 2

CONCURRENT ORAL SESSION 07: OSTEOCYTES

2:15 pm - 3:45 pm **Minneapolis Convention Center**
Room 101C

Moderators:
Charles A. O'Brien, Ph.D.
Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Charles O'Brien, None

Jian Q. Feng, M.D., Ph.D.
Texas A&M Health Science Center, USA
Disclosures: Jian Feng, None

2:15 pm **2012 ASBMR YOUNG INVESTIGATOR AWARD**
1037 **Osteocytes in the Homeostasis of Remote Organs**
Mari Sato*[1], Noboru Asada[1], Kentaro Minagawa[1], Yuko Kawano[1], Hiroki Kawano[1], Kanako Wakahashi[1], Akiko Sada[1], Kyoji Ikeda[2], Toshimitsu Matsui[1], Yoshio Katayama[1]. [1]Hematology, Dept. Med., Kobe Univ., Japan, [2]National Center for Geriatrics & Gerontology, Japan
Disclosures: Mari Sato, None

2:30 pm 1038 **PTH/PTHrP Receptor Signaling in Osteocytes Regulates Anabolic and Catabolic Bone Responses to PTH by Modulating Bone Remodeling via Sclerostin and RANKL Expression**
Vaibhav Saini*[1], Keertik Fulzele[2], Kevin Barry[3], Dean Marengi[3], Sutada Lotinun[4], Roland Baron[5], Paola Pajevic Divieti[6]. [1]MGH, Harvard Medical School, USA, [2]Massachusetts General Hospital; Harvard Medical School, USA, [3]MGH, USA, [4]Harvard School of Dental Medicine, USA, [5]Harvard School of Medicine & of Dental Medicine, USA, [6]MGH-Harvard Medical School, USA
Disclosures: Vaibhav Saini, None

2:45 pm 1039 **Inhibition of Wnt1 Class Induced Lrp6 Signaling Normalizes Bone Mass in *Sost;Lrp5* Double Knockout Mice**
Ming-Kang Chang*[1], David Jenkins[2], Ina Kramer[1], Seth Ettenberg[2], Marcel Merdes[1], Christine Henninger[1], Feng Cong[2], Michaela Kneissel[1]. [1]Novartis Institutes for Biomedical Research, Switzerland, [2]Novartis Institutes for BioMedical Research, USA
Disclosures: Ming-Kang Chang, Novartis, 3

3:00 pm 1040 **Expression of Notch in Osteocytes Prevents Disuse Osteoporosis**
Ernesto Canalis*[1], Kristen Parker[2], Jian Feng[3], Stefano Zanotti[1]. [1]St. Francis Hospital & Medical Center, USA, [2]Saint Francis Hospital & Medical Center, USA, [3]Texas A&M Health Science Center, USA
Disclosures: Ernesto Canalis, None

3:15 pm 1041 **RANKL Produced by Osteocytes Contributes to the Bone Loss Induced by Hyperparathyroidism**
Jinhu Xiong*[1], Melda Onal[1], Stavros Manolagas[1], Charles O'Brien[2]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]University of Arkansas for Medical Sciences, USA
Disclosures: Jinhu Xiong, None

3:30 pm 1042 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Direct Regulation of the RANKL Gene by PTH in Osteocytes Is Required to Stimulate Bone Resorption in the Adult Skeleton
Abdullah Ben-Awadh*, Naomie Olivos, Nicoletta Bivi, Matthew Allen, Lilian Plotkin, Xiaolin Tu, Teresita Bellido. Indiana University School of Medicine, USA
Disclosures: Abdullah Ben-Awadh, None

CONCURRENT ORAL SESSION 08: OSTEOCLASTS

2:15 pm - 3:45 pm **Minneapolis Convention Center**
Auditorium Room 1

Moderators:
Mary C. Nakamura, M.D.
University of California, San Francisco, USA
Disclosures: Mary Nakamura, None

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

2:15 pm 1043 **2012 ASBMR PRESIDENT'S AWARD**
Gna13 as a novel negative regulator of osteoclast differentiation and activation inhibits RANKL/AKT/NFATc1 signaling
Mengrui Wu*[1], Wei Chen[2], Yi-Ping Li[2]. [1]The University of Alabama at Birmingham, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Mengrui Wu, None

2:30 pm 1044 **VPS35 Haploinsufficiency Results in an Osteoporotic Pathology Due to an Impaired RANK Trafficking and Increased RANKL-induced Hyper-resorptive Osteoclast Formation**
Wen-Cheng Xiong*[1], Wen-Fang Xia[2], Fulei Tang[2], Xu Feng[3], Lin Mei[2]. [1]Medical College of Georgia, USA, [2]Georgia Health Sciences University, USA, [3]University of Alabama at Birmingham, USA
Disclosures: Wen-Cheng Xiong, None

2:45 pm 1045 **The SH3BP2 Cherubism Mutation Promotes TNF Induction of Osteoclastogenesis Independent of RANKL**
Tomoyuki Mukai*[1], Shu Ishida[2], Teruhito Yoshitaka[3], Yasuyoshi Ueki[4]. [1]University of Missouri - Kansas City, USA, [2]University Missouri-Kansas City School of Dentistry, USA, [3]University Missouri-Kansas City, School of Dentistry, USA, [4]University of Missouri-Kansas City, School of Dentistry, USA
Disclosures: Tomoyuki Mukai, None

3:00 pm 1046 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Canonical and Non-Canonical BMP signaling Pathways Regulate Osteoclastogenesis
Aaron Broege*, Lan Pham, Ann Emery, Mellissa Stemig, Michael O'Connor, Anna Petryk, Eric Jensen, Kim Mansky, Raj Gopalakrishnan. University of Minnesota, USA
Disclosures: Aaron Broege, None

3:15 pm 1047 **Deletion of Wnt Receptors Lrp5 and Lrp6 or β-catenin in Late Osteoclast Precursors Differentially Suppress Osteoclast Differentiation and Bone Metabolism**
Ming Ruan[1], Larry Pederson[1], Christine Hachfeld[1], Michael Thomson[2], Y.S. Prakash[3], Alan Howe[4], Bart Williams[5], Rachel Davey[6], Sundeep Khosla[7], Jennifer Westendorf[8], Merry Jo Oursler*[8]. [1]Endocrine Research Unit, Mayo Clinic, USA, [2]Anesthesiology, Mayo Clinic, USA, [3]Anesthesiology & Physiology, Mayo Clinic, USA, [4]Department of Pharmacology, University of Vermont College of Medicine, USA, [5]Van Andel Research Institute, USA, [6]University of Melbourne, Australia, [7]College of Medicine, Mayo Clinic, USA, [8]Mayo Clinic, USA
Disclosures: Merry Jo Oursler, None

3:30 pm 1048 **The Calcium-activated Potassium Channel SK4 (KCNN4/ IKCa1/KCa3.1) Modulates Bone Homeostasis via Osteoclasts**
Heeseog Kang*[1], Xiaoqing Xu[1], Qing Zhang[1], Michael Kim[1], Jodi Carlson Scholz[1], Aruna Behera[2], Donald Souza[2], Jie Zheng[2], James E Melvin[3], Gerald Nabozny[2], Jun Li[2], Agnès Vignery[1]. [1]Yale University, USA, [2]Boehringer Ingelheim, USA, [3]University of Rochester, USA
Disclosures: Heeseog Kang, None

CONCURRENT ORAL SESSION 09: CALCIOTROPIC HORMONES

2:15 pm - 3:45 pm **Minneapolis Convention Center**
Auditorium Room 2

Moderators:
Tao Qiu, Ph.D.
Johns Hopkins University School of Medicine, USA
Disclosures: Tao Qiu, None

Roberto Pacifici, M.D.
Emory University School of Medicine, USA
Disclosures: Roberto Pacifici, None

2:15 pm 1049 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
The Role of Osteal Macrophages in Anabolic Actions of PTH in Bone
Sun Wook Cho*[1], Fabiana Soki[2], Amy Koh[3], Matt Eber[3], Payam Entezam[3], Laurie McCauley[2]. [1]University of Michigan School of Dentistry, South Korea, [2]University of Michigan School of dentistry, USA, [3]University of Michigan, USA
Disclosures: Sun Wook Cho, None

2:30 pm 1050 **Impaired Anabolic Action of PTH on Bone Formation in *Fgf2* Knockout Mice is mediated by Attenuated Wnt Signaling**
Yurong Fei*[1], Liping Xiao[1], Marja Marie Hurley[2]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut Health Center School of Medicine, USA
Disclosures: Yurong Fei, None

2:45 pm 1051 **The Sclerostin-Independent Bone Anabolic Activity of Intermittent PTH Treatment is Mediated by T Cell Produced Wnt10b**
Jau-Yi Li*[1], Jonathan Adams[2], Ming-Kang Chang[3], M. Neale Weitzmann[2], Michaela Kneissel[3], Roberto Pacifici[2]. [1]Emory University, USA, [2]Emory University School of Medicine, USA, [3]Novartis Institutes for Biomedical Research, Switzerland
Disclosures: Jau-Yi Li, None

3:00 pm 1052 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
PTH Induces Differentiation of Mesenchymal Stem Cells by Enhancing BMP Signaling
Bing Yu*[1], Xiaoli Zhao[2], Chaozhe Yang[3], Janet Crane[4], William Lu[5], Mei Wan[6], Xu Cao[4]. [1]Johns Hopkins School of Medicine, USA, [2]The University of Hongkong, Hong Kong, [3]The University of Alabama At Birmingham, USA, [4]Johns Hopkins University, USA, [5]The University of Hong Kong, Hong Kong, [6]Johns Hopkins University School of Medicine, USA
Disclosures: Bing Yu, None

3:15 pm 1053 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
The p27 Pathway Modulates The Regulation of Skeletal Growth and Osteoblastic Bone Formation by Parathyroid Hormone-Related Peptide
Jing Zhang*[1], Min Zhu[2], David Goltzman[3], Andrew Karaplis[3], Dengshun Miao[4]. [1]Nanjing Medical University, China, [2]Najing Medical University, China, [3]McGill University, Canada, [4]Nunjing Medical University, Peoples Republic of China
Disclosures: Jing Zhang, None

3:30 pm 1054 **Bone Loss in Lactating Mice Requires RANKL Signaling**
Laleh Ardeshirpour*[1], Pamela Dann[2], Cristina Dumitru[2], Marina Stolina[3], Paul Kostenuik[3], John Wysolmerski[4]. [1]Yale University, USA, [2]Yale School of Medicine, USA, [3]Amgen Inc., USA, [4]Yale University School of Medicine, USA
Disclosures: Laleh Ardeshirpour, None

CONCURRENT ORAL SESSION 10: OSTEOPOROSIS - EPIDEMIOLOGY

2:15 pm - 3:45 pm **Minneapolis Convention Center**
Auditorium-Main

Moderators:
Anne C. Looker, Ph.D.
National Center for Health Statistics, USA
Disclosures: Anne Looker, None

Jeffrey R. Curtis, M.D., MPH
University of Alabama at Birmingham, USA
Disclosures: Jeffrey Curtis, None

2:15 pm 1055 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
The Risk of Hip Fracture after Initiating Antihypertensive Drugs in the Elderly
Debra Butt*[1], Muhammad Mamdani[2], Peter Austin[3], Karen Tu[3], Tara Gomes[3], Richard Glazier[3]. [1]University of Toronto, Canada, [2]Li Ka Shing Knowledge Institute, St. Michael's Hospital, Canada, [3]Institute for Clinical Evaluative Sciences, Canada
Disclosures: Debra Butt, None

2:30 pm 1056 **Risk of Hip Fracture Associated with Non-Benzodiazepine Hypnotics in Subgroups of Nursing Home Residents**
Sarah Berry*[1], Yoojin Lee[2], Shubing Cai[2], Vincent Mor[2], David Dore[2]. [1]Hebrew SeniorLife/ Beth Israel Deaconess Medical Center, USA, [2]Warren Alpert Medical School of Brown, USA
Disclosures: Sarah Berry, None

2:45 pm 1057 **Implications of Expanding Indications for Initiation of Drug Treatment to Prevent Fracture in Older Men**

Kristine Ensrud*[1], Kathy Wilt Peters[2], Brent Taylor[3], Margaret Gourlay[4], Meghan Donaldson[2], William Leslie[5], Terri Blackwell[6], Howard Fink[7], Eric Orwoll[8], John Schousboe[9]. [1]Minneapolis VA Medical Center / University of Minnesota, USA, [2]San Francisco Coordinating Center, USA, [3]University of Minnesota, USA, [4]University of North Carolina, USA, [5]University of Manitoba, Canada, [6]CPMC RESEARCH INSTITUTE, USA, [7]GRECC, Minneapolis VA Medical Center, USA, [8]Oregon Health & Science University, USA, [9]Park Nicollet Clinic, University of Minnesota, USA

Disclosures: Kristine Ensrud, None

3:00 pm 1058 **Association of Stressful Life Events with Accelerated Bone Loss in Older Men: the Osteoporotic Fractures in Men (MrOS) Study**

Howard Fink*[1], Michael Kuskowski[1], Jane Cauley[2], Brent Taylor[3], John Schousboe[4], Peggy Cawthon[5], Kristine Ensrud[6]. [1]GRECC, Minneapolis VA Medical Center, USA, [2]University of Pittsburgh Graduate School of Public Health, USA, [3]University of Minnesota, USA, [4]Park Nicollet Clinic, University of Minnesota, USA, [5]California Pacific Medical Center Research Institute, USA, [6]Minneapolis VA Medical Center / University of Minnesota, USA

Disclosures: Howard Fink, None

3:15 pm 1059 **Lower Fracture Risk in Older Men with Higher Sclerostin Concentration – A Prospective Analysis from the MINOS Study**

Pawel Szulc*[1], Cindy Betholon[2], Olivier Borel[3], Roland Chapurlat[4]. [1]INSERM UMR 1033, University of Lyon, Hopital E. Herriot, Pavillon F, France, [2]INSERM UMR 1033, France, [3]Inserm, France, [4]E. Herriot Hospital, France

Disclosures: Pawel Szulc, None

3:30 pm 1060 **Bone Mineral Density and Mortality in Two Large Prospective Population-based Cohort Studies: Strongest Relation with Death due to Chronic Lung Disease**

Natalia Campos-Obando*[1], Martha Castano-Betancourt[2], Ling Oei[3], Oscar Franco[4], Albert Hofman[5], Bruno H. Ch. Stricker[6], Fernando Rivadeneira[7], Andre G. Uitterlinden[8], M. Carola Zillikens[2]. [1]Deparment of Internal Medicine, Erasmus University Medical Center, Netherlands, [2]Department of Internal Medicine, Department of Epidemiology, Erasmus University Medical Center, Netherlands, [3]Department of Internal Medicine, Erasmus University Medical Center, Netherlands, [4]Cardiovascular Epidemiology Group, Erasmus University Medical Center, Netherlands, [5]Department of Epidemiology, Erasmus University Medical Center, Netherlands, [6]Deparment of Epidemiology, Department of Internal Medicine, Erasmus University Medical Medical Center, Netherlands, [7]Department of Epidemiology, Deparment of Internal Medicine, Erasmus University Medical Center, Netherlands, [8]Department of Epidemiology, Department of Internal Medicine, Erasmus University Medical Center, Netherlands

Disclosures: Natalia Campos-Obando, None

CONCURRENT ORAL SESSION 11: OSTEOPOROSIS - TREATMENT (PRECLINICAL)

2:15 pm - 3:45 pm **Minneapolis Convention Center**

Auditorium Room 3

Moderators:

Robert R. Recker, M.D.
Creighton University Osteoporosis Research Center, USA
Disclosures: Robert Recker, None

Robert S. Weinstein, M.D.
Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Robert Weinstein, None

2:15 pm **2012 ASBMR YOUNG INVESTIGATOR AWARD**

1061 **Sclerostin Inhibition Improves Bone Mass, Bone Strength, and Bone Defect Regeneration in Rats with Type 2 Diabetes Mellitus**

Christine Hamann*[1], Martina Rauner[2], Yvonne Hoehna[3], Ricardo Bernhardt[4], Jan Mettelsiefen[3], Claudia Goettsch[5], Klaus-Peter Guenther[3], Franklin Asuncion[6], Michael Ominsky[6], Lorenz Hofbauer[7]. [1]Dresden Technical University Medical Center, Germany, [2]Medical Faculty of the TU Dresden, Germany, [3]Dresden University Medical Center, Germany, [4]Technische Universität Dresden, Germany, [5]Brigham & Women's Hospital, Cardiovascular Division, USA, [6]Amgen Inc., USA, [7]Dresden University Medical Center, Germany

Disclosures: Christine Hamann, None

2:30 pm **Blosozumab, a Humanized Monoclonal Antibody, and A Chimeric Rodent Monoclonal**

1062 **Antibody Against Sclerostin Robustly Increase Bone Formation Activity in Intact Monkeys and Ovariectomized Rats**

Yanfei Ma*[1], Todd Page[1], Qianqiang Zeng[1], Mary D Adrian[1], David Halladay[1], Xuhao Yang[1], Masahiko Sato[2], Henry Bryant[1], Venkatesh Krishnan[1], David Waters[1], Rohn Millican[1], Jude Onyia[1], Stuart Kuhstoss[1]. [1]Eli Lilly & Company, USA, [2]Lilly Research Labs, USA

Disclosures: Yanfei Ma, Eli Lilly Company, 3

2:45 pm **Sclerostin Antibody Treatment Improves Bone Mass, Microarchitecture and Mechanical**

1063 **Properties in Mice Exposed to Microgravity: Results from the STS-135 Shuttle Mission**

Mary Bouxsein*[1], Ted Bateman[2], Andrea Hanson[3], Travis Pruitt[4], Eric Livingston[5], Michael Lemur[5], Leeann Louis[6], Rachel Ellman[1], Jordan Spatz[7], Kelly Warmington[8], Hong Lin Tan[8], Dave Hill[8], Denise Dwyer[8], Alicia Ortega[9], Schweta Maurya[10], Marina Stolina[11], Sutada Lotinun[12], Roland Baron[13], Chris Paszty[14], Virginia Ferguson[9]. [1]Beth Israel Deaconess Medical Center, USA, [2]Univesity of North Carolina, USA, [3]University of Washington, USA, [4]Clemson University, USA, [5]University of North Carolina, USA, [6]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, USA, [7]Harvard-MIT Division of Health Sciences & Technology (HST), USA, [8]Amgen Inc, USA, [9]University of Colorado, USA, [10] University of Colorado, USA, [11]Amgen Inc., USA, [12]Harvard School of Dental Medicine, USA, [13]Harvard School of Medicine & of Dental Medicine, USA, [14]Amgen, Inc., USA

Disclosures: Mary Bouxsein, Amgen Inc, 2

3:00 pm **Increased Bone Mass and Bone Strength by Sclerostin Antibody Is Maintained by a RANKL**

1064 **Inhibitor in Ovariectomized Rats with Established Osteopenia**

Xiaodong Li*[1], Kelly S. Warmington[2], Qing-Tian Niu[2], Frank J. Asuncion[2], Denise Dwyer[2], Mario Grisanti[2], Chun-Ya Han[2], Paul J. Kostenuik[2], Marina Stolina[2], Michael S. Ominsky[2], Hua Zhu Ke[2]. [1]Amgen, Inc., USA, [2]Amgen Inc., USA

Disclosures: Xiaodong Li, Amgen Inc., 1; Amgen Inc., 3

3:15 pm **LLP2A-Alendronate, a Novel Anabolic Treatment to Reverse Bone Loss**

1065

Wei Yao*[1], Min Guan[2], Junjing Jia[3], Yu-An Evan Lay[4], Ruiwu Liu[5], Kit Lam[5], Diana Olvera[6], Robert Ritchie[6], Jan Nolta[7], Nancy Lane[1]. [1]University of California, Davis Medical Center, USA, [2]Johns Hopkins, USA, [3]University of California, Davis, USA, [4]Musculoskeletal Research Unit, Department of Medicine, University of California Davis Medical Center, USA, [5]Department of Biochemistry & Molecular Medicine, University of California Davis Medical Center, USA, [6]Materials Sciences Division, Lawrence Berkeley National Laboratory, USA, [7]Stem Cell Program & Institute for Regenerative Cures, University of California Davis Medical Center, USA

Disclosures: Wei Yao, None

3:30 pm **An estrogen dendrimer conjugate incapable of stimulating the nuclear-initiated actions of**

1066 **estrogen receptors prevents the loss of cortical bone mass in estrogen deficient mice**

Shoshana Bartell*[1], Aaron Warren[1], Li Han[1], Srividhya Iyer[1], Sung Kim[2], Benita Katzenellenbogen[2], Ken Chambliss[3], Philip Shaul[3], John Katzenellenbogen[2], Paula Roberson[1], Robert Weinstein[1], Charles O'Brien[1], Robert Jilka[1], Maria Jose Almeida[1], Stavros Manolagas[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]University of Illinois, USA, [3]University of Texas Southwestern Medical Center at Dallas, USA

Disclosures: Shoshana Bartell, None

CONCURRENT ORAL SESSION 12: BONE ACQUISITION AND PEDIATRIC BONE DISEASE

2:15 pm - 3:45 pm **Minneapolis Convention Center**

Room 200DE

Moderators:
Babette Zemel, Ph.D.
Children's Hospital of Philadelphia, USA
Disclosures: Babette Zemel, None

Belinda R. Beck, Ph.D.
Griffith University, Australia
Disclosures: Belinda Beck, None

2:15 pm 1067 **A Six Year Exercise Intervention Program in 7-9 Year Old Children Improves Bone Mass and Bone Structure without Increasing the Fracture Risk – A Population-Based Prospective Controlled Study in 2395 Children**
Fredrik Detter*[1], Bjorn Rosengren[2], Jan-Åke Nilsson[3], Magnus Dencker[4], Magnus Karlsson[2]. [1]Clinical & Molecular Osteoporosis Research Unit, Lund University, Sweden, Sweden, [2]Skåne University Hospital Malmö, Lund University, Sweden, [3]Department of Orthopedics, Sweden, [4]Department o f Physeology, Sweden
Disclosures: Fredrik Detter, None

2:30 pm 1068 **Effect of Whole-Body Vibration Therapy (WBV) for Low Bone Mass in Adolescent Idiopathic Scoliosis Girls with Osteopenia: A Randomized, Controlled Trial**
Tsz Ping Lam*[1], Bobby Kin Wah Ng[2], Louis Wing Hoi Cheung[2], Kwong Man Lee[2], Ling Qin[3], Jack Chun Yiu Cheng[2]. [1]The Chinese University of Hong Kong, Peoples Republic of China, [2]Department of Orthopaedics & Traumatology, The Chinese University of Hong Kong, China, [3]Chinese University of Hong Kong, Hong Kong
Disclosures: Tsz Ping Lam, None

2:45 pm 1069 **Effects of aerobic exercise on carboxylated and undercarboxylated forms of osteocalcin and their relationship to exercise-induced changes in insulin sensitivity and visceral and total body fat in overweight children**
Norman Pollock*[1], Barbara Gower[2], Karl Wenger[1], Jerry Allison[1], Catherine Davis[1]. [1]Georgia Health Sciences University, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Norman Pollock, None

3:00 pm 1070 **Effects of a Specialized School Physical Education Program on Bone Structure and Strength: A 4-year Cluster Randomised Controlled Trial**
Robin Daly*[1], Gaele Ducher[1], Ross Cunningham[2], Briony Hill[1], Rohan Telford[3], Prisca Eser[4], Geraldine Naughton[5], Markus Seibel[6], Ahmad Javaid[7], Richard Telford[8]. [1]Centre for Physical Activity & Nutrition Research, Deakin University, Australia, [2]Fenner School of Environment & Society, Australian National University, Australia, [3]Centre for Research & Action in Public Health, Department of Health, University of Canberra, Australia, [4]Swiss Cardiovascular Centre Bern, University Hospital (Inselspital), Switzerland, [5]Centre of Physical Activity Across the Lifespan, Australian Catholic University, Australia, [6]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [7]The Canberra Hospital, Australia, [8]Clinical Trials Unit, The Canberra Hospital & Medical School, Australian National University, Australia
Disclosures: Robin Daly, None

3:15 pm 1071 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Sustained Effects of Physical Activity on Bone Health: Iowa Bone Development Study
Shelby Francis*, Elena Letuchy, Steven Levy, Kathleen Janz. University of Iowa, USA
Disclosures: Shelby Francis, None

3:30 pm **Does Stage of Sexual Maturation Determine the Relationship of Calcium Intake and Physical**
1072 **Activity to Bone Mass Accrual**
Joan Lappe*[1], Babette Zemel[2], Patrice Watson[3], Xiang Fang[3], Vicente Gilsanz[4], Heidi Kalkwarf[5], Sharon Oberfield[6], John Shepherd[7], Karen Winer[8]. [1]Creighton University Osteoporosis Research Center, USA, [2]Children's Hospital of Philadelphia, USA, [3]Creighton University, USA, [4]Children's Hospital Los Angeles, USA, [5]Cincinnati Children's Hospital Medical Center, USA, [6]Columbia University Medical Center, USA, [7]University of California, San Francisco, USA, [8]National Institutes of Health, NICHD, USA
Disclosures: Joan Lappe, None

DISCOVERY HALL COFFEE BREAK

3:30 pm - 4:00 pm **Minneapolis Convention Center**
Discovery Hall-Hall B

STATE-OF-THE-ART LECTURES - MSCS, HSC, VASCULATURE INTERACTIONS

Supported by an educational grant from Lilly USA, LLC

4:00 pm - 5:30 pm **Minneapolis Convention Center**
Room 101C

Co-Chairs
Clifford J. Rosen, M.D.
Maine Medical Center, USA
Disclosures: Clifford Rosen, None

Xuedong Zhou
West China School of Stomatology, Sichuan University, Peoples Republic of China
Disclosures: Xuedong Zhou, None

4:00 pm **Vascular Endothelial and Mesenchymal Stem Cells in Bone Formation**
Bjorn R. Olsen, Ph.D.
Harvard School of Dental Medicine, USA
Disclosures: Bjorn Olsen, None

4:30 pm **Endocrine Regulation of the Bone Vascular Axis**
Dwight A. Towler, M.D., Ph.D.
Washington University in St. Louis, USA
Disclosures: Dwight Towler, Barnes-Jewish Hospital Foundation 2; Sanford-Burnham Biomedical Research Institute 5; Merck & Co. 5; Daiichi-Sankyo 5; National Institutes of Health 2; Eli Lilly 5

5:00 pm **Smooth Muscle Cell Plasticity and Vascular Disease**
Catherine Shanahan, Ph.D.
King's College London, United Kingdom
Disclosures: Catherine Shanahan, Abbott 7

SYMPOSIUM - DURATION AND SAFETY OF OSTEOPOROSIS THERAPY

4:00 pm - 5:30 pm **Minneapolis Convention Center**
Auditorium-Main

Co-Chairs
Stuart L. Silverman, M.D.
Cedars-Sinai/UCLA, USA
Disclosures: Stuart Silverman, Amgen 5; Merck 5; Lilly 8; Amgen 8; Pfizer 8; Pfizer 2; Lilly 5

Bo Abrahamsen, M.D., Ph.D.
Copenhagen University Hospital Gentofte, Denmark
Disclosures: Bo Abrahamsen, Novartis 2; Merck 9; Nycomed 8; Amgen 2; Eli Lilly 8; Nycomed 5; Amgen 5

4:00 pm **Osteonecrosis of the Jaw**
John Hellstein
The University of Iowa, USA
Disclosures: John Hellstein, Levin and Papantonio 12; Valad and Vecchione, PLLC 12

4:30 pm **Atypical Femoral Fractures**
Regis J. O'Keefe, M.D.
University of Rochester, USA
Disclosures: Regis O'Keefe, None

5:00 pm **Length of Osteoporosis Treatment - What is the Evidence?**
Nelson B. Watts, M.D.
Mercy Health Osteoporosis and Bone Health Services, USA
Disclosures: Nelson Watts, Johnson & Johnson 5; Amgen 8; Novartis 8; Lilly 8; Warner Chilcott 8; Imagepace 5; Amgen 5; Bristol-Myers Squibb 5; OsteoDynamics 1; Baxter 5

CLINICAL EVENING AT ASBMR - EVIDENCE-BASED MANAGEMENT OF OSTEOPOROSIS

Supported by Educational Grants from Amgen, Inc., Lilly USA, LLC, Merck & Co., Inc and Warner Chilcott Company, LLC

Space is limited and available on a first-come, first-served basis. Attendees must be registered for the ASBMR 2012 Annual Meeting

5:30 pm - 8:30 pm **Hilton Minneapolis**
Minneapolis Grand Ballroom

Co-Chairs
Jane A. Cauley, Ph.D.
University of Pittsburgh Graduate School of Public Health, USA
Disclosures: Jane Cauley, Merck 5; Novartis 5

Robert A. Adler, M.D.
McGuire VA Medical Center, USA
Disclosures: Robert Adler, None

5:30 pm **Reception**

6:30 pm **Dinner**

7:00 pm **Glucocorticoid-Induced Osteoporosis and the ACR Guidelines**
Karen E. Hansen, M.D.
University of Wisconsin, USA
Disclosures: Karen Hansen, Takeda Pharmaceuticals 1

7:30 pm **Osteoporosis in Men and the Endocrine Society Guidelines**
Peter R. Ebeling, M.D., FRACP
The University of Melbourne, Australia
Disclosures: Peter Ebeling, Novartis 2; Eli-Lilly 2; Merck 2; Amgen 2

8:00 pm **DXA BMD Testing Interval in Older Women**
Kristine E. Ensrud, M.D., MPH
Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Kristine Ensrud, None

Margaret L. Gourlay, M.D., MPH
University of North Carolina, USA
Disclosures: Margaret Gourlay, None

ASBMR SOCIAL EVENT: A NIGHT AT THE MINNEAPOLIS INSTITUTE OF ARTS

Supported in part by an educational grant from Lilly USA, LLC
Ticket Required

8:30 pm - 11:30 pm **Minneapolis Institute of Arts**
2400 Third Avenue South

Join your colleagues for a special night at The Minneapolis Institute of Arts. Several galleries will be open exclusively for ASBMR guests to view the museum's collection of modernist design, contemporary, expressionist and impressionist art. Then the fun will move to the atrium and ballroom for dancing, dessert and drinks. Buses will be provided to take attendees from the convention center and select hotel routes for the 10-minute ride to the museum.

The **only** ASBMR provided shuttle will be on Saturday evening, October 13th to our social event at Minneapolis Institute of Arts. Social event shuttle stops will be as noted below to/from the Minneapolis Institute of Arts.

Route A:
- Stop 1 - Hilton Hotel, 1001 Marquette Avenue, (11th Street side of hotel)
  - Note: Attendees staying at the Holiday Inn Express and W Hotel should meet at the Hilton
- Stop 2 - Hyatt Hotel, 1300 Nicollet Avenue, (in front of hotel on Nicollet Avenue)
  - Note: Attendees staying at the Millennium should walk to the Hyatt
- Stop 3 - Convention Center, 1301 Second Avenue South, (Front of MCC Ball Room)
  - Note: Attendees staying at the Hilton Garden Inn should walk to MCC

Route B:
- Stop 1 - Marriott City Center, 30 South 7th Street, (7th Street - Front of Hotel)
  - Note: Attendees staying at the Marquette should walk to the Marriott
- Stop 2 - Best Western Normandy Hotel, 710 Marquette Avenue, (8th Street - Front of Hotel)
  - Note: Attendees staying at the Comfort Suites should walk to the Best Western Normandy

Shuttles begin running at 8:15 pm and will loop approximately every 15 minutes until 9:45 pm. At 9:45, shuttles will leave Minneapolis Institute of Arts every 15 minutes to drop off attendees at the above stops.

Sunday, October 14, 2012

Day-At-A-Glance

Time/Event/Location **All locations in the Minneapolis Convention Center unless otherwise noted**

REGISTRATION OPEN

7:30 am - 5:00 pm **Minneapolis Convention Center**
Hall C

POSTERS OPEN

8:00 am - 6:00 pm **Minneapolis Convention Center**
Discovery Hall-Hall B

PLENARY SYMPOSIUM I - STEROID HORMONAL REGULATION OF BONE

Supported by an educational grant from Lilly USA, LLC

8:00 am - 9:30 am **Minneapolis Convention Center**
Auditorium-Main

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

Mei Wan, M.D., Ph.D.
Johns Hopkins University School of Medicine, USA
Disclosures: Mei Wan, None

8:00 am **Steroid Receptor Coactivators: Keys to Mechanism of Action**
Bert O'Malley, M.D.
Baylor College of Medicine, USA
Disclosures: Bert O'Malley, None

8:40 am **Skeletal Interactions Between Glycoprotein and Steroid Hormones**
Mone Zaidi, M.B.B.S., Ph.D.
Mount Sinai Medical Center, USA
Disclosures: Mone Zaidi, None

9:05 am **Gene Transcription Regulation and Bone**
Shigeaki Kato, Ph.D.
The University of Tokyo, Japan
Disclosures: Shigeaki Kato, None

PRESENTATION OF THE ASBMR FULLER ALBRIGHT AWARD

9:30 am - 9:40 am **Minneapolis Convention Center**
Auditorium-Main

PRESENTATION OF THE ASBMR PAULA STERN ACHIEVEMENT AWARD

9:30 am - 9:40 am **Minneapolis Convention Center**
Auditorium-Main

DISCOVERY HALL OPEN

9:30 am - 4:30 pm **Minneapolis Convention Center**
Discovery Hall-Hall B

DISCOVERY HALL COFFEE BREAK

9:30 am - 10:00 am **Minneapolis Convention Center**
Discovery Hall-Hall B

CONCURRENT ORAL SESSION 13: OSTEOBLASTS

10:00 am - 11:30 am **Minneapolis Convention Center**
Auditorium Room 1

Moderators:
Jennifer J. Westendorf, Ph.D.
Mayo Clinic, USA
Disclosures: Jennifer Westendorf, None

Guozhi Xiao, Ph.D.
Rush University Medical Center, USA
Disclosures: Guozhi Xiao, None

10:00 am 1073 **Deletion of FoxO1, 3, and 4 from osteoprogenitor cells increases bone mass throughout life and attenuates adiposity in aged bone**
Srividhya Iyer*[1], Elena Ambrogini[1], Li Han[1], Shoshana Bartell[1], Aaraon Warren[2], Julie Crawford[2], Paula Roberson[2], Robert Weinstein[1], Charles O'Brien[1], Maria Jose Almeida[1], Stavros Manolagas[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]Central Arkansas Veterans Healthcare System, University of Arkansas for Medical Sciences, USA
Disclosures: Srividhya Iyer, None

10:15 am 1074 **Reciprocal Control of Osteogenic and Adipogenic Lineages by ERK/MAP Kinase Signaling and Transcription Factor Phosphorylation**
Chunxi Ge*[1], William Cawthorn[2], Yan Li[3], Guisheng Zhao[3], Jennifer Westendorf[4], Ormond MacDougald[5], Renny Franceschi[3]. [1]Pom Univ of Michigan School of Dentistry, USA, [2]Department of Molecular & Integrative Physiology University of Michigan, USA, [3]University of Michigan, USA, [4]Mayo Clinic, USA, [5]Department of Molecular & Integrative Physiology University of Michigan School of Medicine, USA
Disclosures: Chunxi Ge, None

10:30 am 1075 **Stem Cell Antigen-1 Positive (Sca-1+) Cell-based Gene Therapy with Fibroblast Growth Factor-2 (FGF2) Promotes Robust Recruitment of Osteoprogenitors in the Bone Marrow of Recipient Mice**
Susan Hall*[1], Shin Tai Chen[2], Kristy Howard[1], Daila Gridley[3], Subburaman Mohan[1], Kin-Hing William Lau[1]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]Jerry L. Pettis VA Medical Center, USA, [3]Loma Linda University, USA
Disclosures: Susan Hall, None

10:45 am 1076 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Loss of Osteoblastic Connexin 43 Results in Delayed Bone Formation, Increased Sclerostin Expression and Attenuated Wnt Signaling During Fracture Repair
Alayna Loiselle*[1], Emmanuel Paul[1], Gregory Lewis[1], Henry Donahue[2]. [1]Penn State Hershey, USA, [2]The Pennsylvania State University College of Medicine, USA
Disclosures: Alayna Loiselle, None

11:00 am 1077 **Bone as a Site of Insulin Resistance in Type 2 Diabetes**
Jianwen Wei*, Gerard Karsenty. Columbia University, USA
Disclosures: Jianwen Wei, None

11:15 am 1078 **Completing the Bone/Brain Circuit: Osteocalcin Signals within the Hypothalamus to Inhibit Bone Formation**
Shu Lin[1], Ronaldo Enriquez[1], Herbert Herzog[1], John Eisman[2], Paul Baldock*[2]. [1]Neuroscience Program, Garvan Institute of Medical Research, Australia, [2]Garvan Institute of Medical Research, Australia
Disclosures: Paul Baldock, None

CONCURRENT ORAL SESSION 14: BONE BIOMECHANICS AND QUALITY

10:00 am - 11:30 am **Minneapolis Convention Center**
Auditorium Room 2

Moderators:
Alesha B. Castillo, Ph.D.
VA Palo Alto Health Care System, USA
Disclosures: Alesha Castillo, None

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

10:00 am 1079 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
No Additive Effects of In Vivo Loading and Sclerostin Antibody Treatment on Bone Anabolism in Elderly Mice
David Pflanz*[1], Etienne Berthet[2], Annette Birkhold[3], Tobias Thiele[2], Chaoyang Li[4], Hua Zhu Ke[4], Georg Duda[2], Bettina Willie[5]. [1]Charité Universitätsmedizin Berlin, Germany, [2]Julius Wolff Institute, Charité - Universitätsmedizin Berlin, Germany, [3]Julius Wolff Institute, Charité Universitätsmedizin Berlin, Germany, [4]Amgen Inc., USA, [5]Charité-Universitätsmedizin Berlin, Germany
Disclosures: David Pflanz, None

10:15 am 1080 **Effects of Sclerostin Antibody on Tissue Level Strength in oim Mice**
Jean-Pierre Devogelaer*[1], Patrick Ammann[2], Mike Ominsky[3], Catherine Behets[4], Daniel Manicourt[5]. [1]St. Luc University Hospital, Belgium, [2]Division of Bone Diseases, Switzerland, [3]Amgen, USA, [4]Université Catholique de Louvain, Belgium, [5]Université Catholique de louvain, Belgium, Belgium
Disclosures: Jean-Pierre Devogelaer, None

10:30 am 1081 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Mechanical Loading and Intermittent Parathyroid Hormone Promote Osteoblastogenesis, Inhibit Adipogenesis, and have Opposing Effects on Osteoclast Activity In Periprosthetic Bone
Matthew Grosso*[1], Hayden-William Courtland[1], Xu Yang[1], James Sutherland[1], Anna Fahlgren[1], Eduardo Suero[1], F. Patrick Ross[1], Marjolein Van Der Meulen[2], Mathias Bostrom[1]. [1]Hospital For Special Surgery, USA, [2]Cornell University, USA
Disclosures: Matthew Grosso, None

10:45 am 1082 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Spatial patterns of Src activity differ in response to mechanical loading or EGF in osteocytes
Julia Hum*[1], Suzanne Young[2], Richard Day[1], Fredrick Pavalko[1]. [1]Indiana University School of Medicine, USA, [2]Indiana University, USA
Disclosures: Julia Hum, None

11:00 am 1083 **Deletion of Sirtuin 1 in Mature Osteoblasts Increases the Anabolic Response to Mechanical Loading *in vivo*, but Inhibits Wnt Signaling *in vitro***
Nicole Fleming[1], Jonathan Gali[1], Kellen Sakala[1], Katherine Matthews[1], Jeffry Nyman[2], Daniel Perrien*[2]. [1]Vanderbilt University, USA, [2]Vanderbilt University Medical Center, USA
Disclosures: Daniel Perrien, None

11:15 am 1084 **Lipocalin2 Is a New Osteoblast Mechano-Responding Gene That Regulates Osteoblast Differentiation and Osteoblast-Induced Osteoclastogenesis**
Mattia Capulli*[1], Nadia Rucci[2], Anna Teti[2]. [1]Department of experimental Medicine, University of L'Aquila, Italy, [2]University of L'Aquila, Italy
Disclosures: Mattia Capulli, None

CONCURRENT ORAL SESSION 15: GREG MUNDY MEMORIAL CANCER AND BONE SESSION

10:00 am - 11:30 am **Minneapolis Convention Center**

Room 200DE

Moderators:
Theresa A. Guise, M.D.
Indiana University, USA
Disclosures: Theresa Guise, None

T. John Martin, M.D., DSc
St. Vincent's Institute of Medical Research, Australia
Disclosures: T. John Martin, None

10:00 am 1085 **Breast Cancer-induced Osteolytic Bone Lesions are Inhibited by TGF-β Signaling in Osteoclasts, but not Inhibited when Targeted to Osteoblasts**
Xiaohong Li*[1], Jeffry Nyman[2], Alyssa Merkel[1], Kang-Hsien Fan[1], Neil Bhowmick[3], Lynn Matrisian[4], Julie Sterling[5]. [1]Vanderbilt University, USA, [2]Vanderbilt University Medical Center, USA, [3]Cedars-Sinai Medical Center, USA, [4]The pancreatic cancer action network, USA, [5]Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA
Disclosures: Xiaohong Li, None

10:15 am 1086 **2012 ASBMR MOST OUTSTANDING BASIC ABSTRACT AWARD**
SOST Inhibits Prostate Cancer Invasion
Bryan Hudson*[1], Gabriela Loots[2], Nick Hum[1], Cindy Thomas[1]. [1]Lawrence Livermore National Laboratory, USA, [2]Lawrence Livermore National Laboratory, UC Merced, USA
Disclosures: Bryan Hudson, None

10:30 am 1087 **Metformin Targets Tumor Cells and the Microenvironment to Prevent Prostate Cancer Initiation and Growth in Bone**
Tunde Akinyeke*[1], Tunde Akinyeke[1], Xinying Wang[1], Satoko Matsumura[1], Himaly Shinglot[1], Rupak Bhatt[1], Anjana Saxena[2], Wenbo Yan[3], Xin Li[1]. [1]New York University, USA, [2]CUNY-Brooklyn College, USA, [3]Nyack College, USA
Disclosures: Tunde Akinyeke, None

10:45 am 1088 **PLCγ2/β-catenin Pathway Controls Myeloid-Derived Suppressor Cells to Promote Bone Metastasis Independent of the Osteoclasts**
Aude-Helene CAPIETTO*[1], SEOKHO KIM[2], Deborah Novack[3], Roberta Faccio[2]. [1]Washington University School of Medicine, USA, [2]Washington University in St Louis School of Medicine, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Aude-Helene CAPIETTO, None

11:00 am 1089 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
miR-192 Impairs Osteolysis and Metastatic Angiogenesis by Novel Microvesicular Transfer Mechanisms
Karmele Valencia*[1], Diego Luis-Ravelo[2], Nicolas Bovy[3], Susana Martinez-Canarias[2], Carolina Zandueta[4], Iker Anton[1], Ingrid Struman[3], Sebastien Tabruyn[3], Eva Bandrés[2], Fernando Lecanda[1]. [1]Foundation for Applied Medical Research, Spain, [2]Center for Applied Medical Research, Spain, [3]GIGA Research, Molecular Biology & Genetic Engineering Unit, University of Liège, Belgium, [4]Fima University of Navarra, Spain
Disclosures: Karmele Valencia, None

11:15 am 1090 **Measles Virus Nucleocapsid Protein (MVNP) Induction of TANK Binding Kinase 1 (TBK1) Activity Contributes to the Development of Pagetic Osteoclasts**
Quanhong Sun*[1], Feng-Ming Wang[2], Benedicte Sammut[3], Jolene Windle[4], G. David Roodman[2], Deborah Galson[5]. [1]University of Pittsburgh, USA, [2]Indiana University, USA, [3]University of Pittsburgh, Hillman Cancer Center, USA, [4]Virginia Commonwealth University, USA, [5]University of Pittsburgh School of Medicine, USA
Disclosures: Quanhong Sun, None

CONCURRENT ORAL SESSION 16: OSTEOPOROSIS EPIDEMIOLOGY

10:00 am - 11:30 am **Minneapolis Convention Center**

Room 101C

Moderators:
Suzanne M. Cadarette, Ph.D.
University of Toronto, Canada
Disclosures: Suzanne Cadarette, None

Kenneth G. Saag, M.D., MSc
University of Alabama at Birmingham, USA
Disclosures: Kenneth Saag, None

10:00 am **2012 ASBMR YOUNG INVESTIGATOR AWARD**

1091 **Ten-Year Cumulative Incidence of Second Hip fracture in Women and Men. The Norwegian Epidemiologic Osteoporosis Studies (NOREPOS)**
Tone Omsland*[1], Nina Emaus[2], Grethe S. Tell [3], Luai Ahmed[4], Jacqueline Center[5], Clara Gjesdal[6], Siri Forsmo[7], Berit Schei[7], Anne Johanne Søgaaard[8], Haakon Meyer[8]. [1]Unversity of Oslo, Norway, [2]University of Tromsoe, 9037 Tromso, Norway, [3]University of Bergen, Norway, [4]Faculty of Health Sciences, University of Tromsø, Norway, [5]Garvan Institute of Medical Research, Australia, [6]Haukeland University Hospital, Norway, [7]Norwegian University of Science & Technology, Norway, [8]Norwegian Institute of Public Health, Norway
Disclosures: Tone Omsland, None

10:15 am **Contribution of Refracture to Early Fracture-Associated Mortality**

1092 Dana Bliuc*, Nguyen Nguyen, Tuan Nguyen, John Eisman, Jacqueline Center. Garvan Institute of Medical Research, Australia
Disclosures: Dana Bliuc, None

10:30 am **Clinical Characteristics Among Patients with Different Femur Fracture Subtypes**

1093 Suzanne Morin*[1], Claudie Berger[1], Jacques Brown[2], William Leslie[3], Michelle Wall[4], Lisa Langsetmo[5], Stephanie Kaiser[6], Jerilynn Prior[7], Robert Josse[8], David Hanley[9], Alexandra Papaioannou[10], Jonathan Adachi[11], Christopher Kovacs[12], K. Shawn Davison[13], W.P. Olszynski[14], Tanveer Toweed[15], David Goltzman[1]. [1]McGill University, Canada, [2]CHUQ Research Centre, Laval University, Canada, [3]University of Manitoba, Canada, [4]McGill University Health Center Research Institute, Canada, [5]Canandian Multicenter Osteoporosis Study, Canada, [6]Dalhousie University, Canada, [7]University of British Columbia, Canada, [8]St. Michael's Hospital, University of Toronto, Canada, [9]University of Calgary, Canada, [10]Hamilton Health Sciences, Canada, [11]St. Joseph's Hospital, Canada, [12]Memorial University of Newfoundland, Canada, [13]Laval University, Canada, [14]Midtown Professional Center (#103), Canada, [15]Queen's University, Canada
Disclosures: Suzanne Morin, None

10:45 am **Change in Bone Mineral Density (BMD) Does Not Improve Fracture Prediction Beyond Baseline BMD**

1094 Sarah Berry*[1], Elizabeth Samelson[2], Robert McLean[3], Kerry Broe[4], L. Adrienne Cupples[5], Douglas Kiel[6]. [1]Hebrew SeniorLife/Beth Israel Deaconess Medical Center, USA, [2]Hebrew SeniorLife, Harvard Medical School, USA, [3]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [4]Institute for Aging Research, Hebrew SeniorLife, USA, [5]Boston University School of Medicine, USA, [6]Hebrew SeniorLife, USA
Disclosures: Sarah Berry, None

11:00 am **2012 ASBMR YOUNG INVESTIGATOR AWARD**

1095 **Trajectories of change in physical function: Effects on Fractures and Mortality**
Kamil Barbour*[1], Li-Yung Lui[2], Deborah Barnes[3], Kristine Ensrud[4], Ann Newman[5], Kristine Yaffe[3], Steven Cummings[6], Jane Cauley[7]. [1]CDC, USA, [2]California Pacific Medical Center Research Institute, USA, [3]University of California San Francisco, USA, [4]Minneapolis VA Medical Center / University of Minnesota, USA, [5]Department of Epidemiology, University of Pittsburgh, Pittsburgh, PA, USA, [6]San Francisco Coordinating Center, USA, [7]University of Pittsburgh Graduate School of Public Health, USA
Disclosures: Kamil Barbour, None

11:15 am 1096 **Direct Healthcare Costs for 5 Years Post Fracture in Canada: A Population-Based Assessment**

William Leslie*[1], Lisa Lix[2], Greg Finlayson[1], Colleen Metge[1], Suzanne Morin[3], Sumit Majumdar[4]. [1]University of Manitoba, Canada, [2]University of Saskatchewan, Canada, [3]McGill University, Canada, [4]University of Alberta, Canada

Disclosures: William Leslie, Amgen, 2

CONCURRENT ORAL SESSION 17: OSTEOPOROSIS - TREATMENT (CLINICAL)

10:00 am - 11:30 am **Minneapolis Convention Center**

Auditorium-Main

Moderators:

Meryl S. Leboff, M.D.
Brigham and Women's Hospital, USA
Disclosures: Meryl Leboff, None

Aliya Khan, M.D.
McMaster University, Canada
Disclosures: Aliya Khan, None

10:00 am 1097 **The Effects of Combined Denosumab and Teriparatide Administration on Bone Mineral Density in Postmenopausal Women: The DATA (Denosumab And Teriparatide Administration) Study**

Benjamin Leder*[1], Alexander Uihlein[2], Robert Neer[3], Ruchit Kumbhani[4], Erica Siwila-Sackman[5], Sherri-Ann Burnett-Bowie[3]. [1]Massachusetts General Hospital Harvard Medical School, USA, [2]Massachuseets General Hospital, USA, [3]Massachusetts General Hospital, USA, [4]Massachusetts General Hopsital, USA, [5]Massachusettts General Hospital, USA

Disclosures: Benjamin Leder, Amgen, 5; Merck, 5

10:15 am 1098 **Effects of Denosumab on Fracture Risk in Japanese Patients with Osteoporosis - Results of 2-year Data from the Denosumab fracture Intervention RandomizEd placebo Controlled Trial (DIRECT)**

Toshitaka Nakamura*[1], Toshio Matsumoto[2], Toshitsugu Sugimoto[3], Takayuki Hosoi[4], Takami Miki[5], Itsuo Gorai[6], Hideki Yoshikawa[7], Yoshiya Tanaka[8], Sakae Tanaka[9], Tetsuo Nakano[10], Masako Ito[11], Teruki Sone[12], Toshiyuki Yoneda[13], Shigeyuki Matsui[14], Hideo Takami[15], Masao Fukunaga[12]. [1]University of Occupational & Environmental Health, Japan, [2]University of Tokushima Graduate School of Medical Sciences, Japan, [3]Shimane University School of Medicine, Japan, [4]National Center for Geriatrics & Gerontology, Japan, [5]Osaka City University Medical School, Japan, [6]Hori Hospital, Japan, [7]Osaka University Graduate School of Medicine, Japan, [8]University of Occupational & Environmental Health, Japan, Japan, [9]The University of Tokyo, Japan, [10]Tamana Central Hospital, Japan, [11]Nagasaki University Hospital, Japan, [12]Kawasaki Medical School, Japan, [13]Osaka University Graduate School of Dentistry, Japan, [14]The Institute of Statistical Mathematics, Japan, [15]Daiichi Sankyo Co., LTD., Japan

Disclosures: Toshitaka Nakamura, Teijin Pharma, 5; Daiichi-Sankyo Co., 5; Chugai Pharmaceutical Co., 5; Asahi-Kasei Pharma Co., 5; Amgen Inc., 5

10:30 am 1099 **Relationship Between Changes in Bone Mineral Density and Incidence of Fracture with 6 Years of Denosumab Treatment**

Paul D. Miller*[1], Steven Cummings[2], Jean-Yves Reginster[3], Nathalie Franchimont[4], Gerolamo Bianchi[5], Michael A. Bolognese[6], Roland Chapurlat[7], Federico Hawkins[8], David L. Kendler[9], Beatriz Oliveri[10], Jose R. Zanchetta[11], Nadia Daizadeh[4], Andrea Wang[4], Rachel B. Wagman[4], Socrates Papapoulos[12]. [1]University of Colorado Health Sciences Center & Colorado Center for Bone Research, USA, [2]San Francisco Coordinating Center, USA, [3]University of Liège, Belgium, [4]Amgen Inc., USA, [5]Azienda Sanitaria Genovese, Italy, [6]Bethesda Health Research Center, USA, [7]Hôpital Edouard Herriot, France, [8]Hospital Universitario, Spain, [9]University of British Columbia, Canada, [10]Sección Osteopatías Médicas, Hospital de Clínicas, Universidad de Buenos Aires, Argentina, [11]Instituto de Investigaciones Metabolicas & University of Salvador, Argentina, [12]Leiden University Medical Center, Netherlands

Disclosures: Paul D. Miller, Procter & Gamble, SanofilAventis, Roche, Eli Lilly, Merck, Novartis, Amgen, Takeda, Radius, GE, 2; Warner Chilcott, Merck, Eli Lilly, Amgen, Novartis, Roche, GlaxoSmithKline, Baxter, Wright, 5; Warner Chilcott, Amgen, Novartis, Roche,, 8

10:45 am 1100 **Hip and Spine Strength Effects of Adding Versus Switching to Teriparatide in Postmenopausal Women with Osteoporosis Treated with Prior Alendronate or Raloxifene**

Felicia Cosman*[1], Tony Keaveny[2], David Kopperdahl[3], Robert Wermers[4], Xiaohai Wan[5], Kelly Krohn[6], John Krege[5]. [1]Helen Hayes Hospital, USA, [2]University of California, Berkeley, USA, [3]O.N. Diagnostics, USA, [4]Mayo Clinic, USA, [5]Eli Lilly & Company, USA, [6]Lilly USA, LLC, USA

Disclosures: Felicia Cosman, Lilly, Amgen, Novartis, 8; Lilly, Amgen, Merck5; Lilly, 9; Lilly, Novartis, 2

11:00 am 1101 **A Phase 2 Randomized Trial of Orally Administered PTH(1-31)NH_2 Tablets in Postmenopausal Women with Osteoporosis**

Nozer Mehta[1], Morten Karsdal*[2], Roxanne Tavakkol[3], William Stern[3], Amy Sturmer[1], Sheela Mitta[3], Kim Henriksen[2], Jeppe Andersen[4], Bente Riis[4], Peter Alexandersen[5], Ivo Valter[6], Bettina Nedergaard[7], Christence Teglbjaerg[7], Antonio Nino[8], Lorraine Fitzpatrick[8], Claus Christiansen[2], Felicia Cosman[9]. [1]Unigene Laboratories, USA, [2]Nordic Bioscience A/S, Denmark, [3]Unigene Laboratories, Inc., USA, [4]Nordic Bioscience, Denmark, [5]Center for Clinical & Basic Research A/S, Denmark, [6]Center for Clinical & Basic Research, Estonia, [7]Center for Clinical & Basic Research, Denmark, [8]GlaxosmithKline Pharmaceuticals, USA, [9]Helen Hayes Hospital, USA

Disclosures: Morten Karsdal, Unigene Laboratories, Inc., 3

11:15 am 1102 **Absence of the Anabolic Window Characterizes Premenopausal Women with Idiopathic Osteoporosis Who Do Not Respond to Teriparatide**

Adi Cohen*[1], Polly Young[2], Emily Stein[3], David Dempster[2], Hua Zhou[4], Robert Recker[5], Joan Lappe[5], Chiyuan Zhang[2], Donald McMahon[3], Serge Cremers[2], Alexander Zwahlen[6], Ralph Müller[6], Elizabeth Shane[3]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA, [4]Helen Hayes Hospital, USA, [5]Creighton University Osteoporosis Research Center, USA, [6]ETH Zurich, Switzerland

Disclosures: Adi Cohen, None

CONCURRENT ORAL SESSION 18: STEROIDS AND BONE

10:00 am - 11:30 am **Minneapolis Convention Center**

Auditorium Room 3

Moderators:

Gerald J. Atkins, Ph.D.
University of Adelaide, Australia
Disclosures: Gerald Atkins, None

Geert J.V. Carmeliet, M.D., Ph.D.
Katholieke Universiteit Leuven, Belgium
Disclosures: Geert Carmeliet, None

10:00 am 2012 ASBMR YOUNG INVESTIGATOR AWARD

1103 Vitamin D Activation of Functionally Distinct Regulatory MicroRNAs in Primary Human Osteoblasts

Thomas Lisse*[1], Rene Chun[2], Sandra Rieger[3], John Adams[4], Martin Hewison[4]. [1]Mount Desert Island Biological Laboratory, USA, [2]UCLA/Orthopedic Hospital Research Center, USA, [3]Mount Desert Island Biological Laboratory, Institute for Regenerative Medicine, USA, [4]University of California, Los Angeles, USA

Disclosures: Thomas Lisse, None

10:15 am 1104 Transgenic Expression of the Vitamin D Receptor (VDR) Restricted to the Ileum, Cecum and Colon of VDR Knockout Mice Rescues VDR Dependent Rickets

Puneet Dhawan*[1], Connie Hasio[2], Ghassan Yehia[2], Liesbet Lieben[3], Geert Carmeliet[4], Sylvia Christakos[5]. [1]University of Medicine & Dentistry & New Jersey, USA, [2]UMDNJ-New Jersey Medical School, USA, [3]KU Leuven, Belgium, [4]Katholieke Universiteit Leuven, Belgium, [5]University of Medicine & Dentistry & New Jersey - New Jersey Medical School, USA

Disclosures: Puneet Dhawan, None

10:30 am 2012 ASBMR YOUNG INVESTIGATOR AWARD

1105 Blocking Osteogenic Differentiation and Mineralization: a Struggle between VDR and RUNX2 in the Mouse Mesenchymal Stem Cells

Mark Meyer*[1], Chang-Hun Lee[2], Nancy Benkusky[1], Buer Sen[3], Janet Rubin[4], J. Pike[1]. [1]University of Wisconsin-Madison, USA, [2]University of Wisconsin at Madison, USA, [3]University of North Carolina At Chapel Hill, USA, [4]University of North Carolina, Chapel Hill, School of Medicine, USA

Disclosures: Mark Meyer, None

10:45 am 2012 ASBMR YOUNG INVESTIGATOR AWARD

1106 Glucocorticoid-Induced Leucine Zipper (GILZ): An Anabolic Effect Mediator of Glucocorticoids

Guodong Pan*[1], Kehong Ding[1], Nianlan yang[1], Mark Hamrick[1], Carlos Isales[2], Xing-Ming Shi[2]. [1]Georgia Health Sciences University, USA, [2]Medical College of Georgia, USA

Disclosures: Guodong Pan, None

11:00 am 1107 Osteoblast-specific Estrogen Receptor Alpha Knockout Mice Have Compromised Bone Mass and Architecture

Katherine Melville*[1], Timothy Bruhn[1], Sohaib Khan[2], John Schimenti[1], F. Patrick Ross[3], Russell Main[4], Marjolein Van Der Meulen[1]. [1]Cornell University, USA, [2]University of Cincinnati, USA, [3]Hospital for Special Surgery, USA, [4]Purdue University, USA

Disclosures: Katherine Melville, None

11:15 am 1108 Endocrine Actions of Parathyroid Cyp27b1 in The Ca^{2+} and Skeletal Homeostasis: Studies of Parathyroid-Specific Knockout Mice

Zhiqiang Cheng[1], Chia-Ling Tu[1], Alfred Li[1], Christian Santa-Maria[1], Hanson Ho[1], Michael You[1], Nathan Liang[1], Tsui-Hua Chen[1], Rachel Roston[1], Dolores Shoback[1], Daniel Bikle[1], Wenhan Chang*[2]. [1]Endocrine Unit, VA Medical Center, University of California, San Francisco, USA, [2]University of California, San Francisco, USA

Disclosures: Wenhan Chang, None

MEET-THE-PROFESSOR SESSIONS

10:30 am - 11:30 am **Mezzanine Level-Rooms M100 – M101**

Meet-the-Professor Session: Female Athletic Triad, Eating Disorders and Low Bone Mass
Mezzanine Level-Room M100C

Catherine M. Gordon, M.D.
Children's Hospital Boston and Harvard Medical School, USA

Disclosures: Catherine Gordon, None

Meet-the-Professor Session: Glucocorticoid-induced Osteoporosis
Mezzanine Level-Room M100D

Marc C. Hochberg, M.D., MPH
University of Maryland School of Medicine, USA

Disclosures: Marc Hochberg, Novartis Pharma AG 6; Amgen, Eli Lilly, Genetech, Merck & Co. and Pfizer 5

Meet-the-Professor Session: Screening for Osteoporosis
Mezzanine Level-Room M100E

Susan L. Greenspan, M.D.
University of Pittsburgh, USA
Disclosures: Susan Greenspan, None

POSTER SESSION II AND POSTER TOURS*

11:30 am - 1:30 pm **Discovery Hall-Hall B**

*Poster Tours Will Begin at the ASBMR Networking Center at 12:00 noon

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: CELLULAR AND MOLECULAR MECHANISMS

SU0001 **Age Related Sexual Dimorphism of Trabecular Bone Loss Is Inversely Associated with Adipogenic and Osteoclastic but not Osteogenic Activities**
Beth Bragdon*[1], Elise Morgan[2], Robert Burns[3], Amelia Baker[4], Anna Belkina[4], Gerald Denis[4], Jennifer Schlezinger[5], Louis Gerstenfeld[4]. [1]Boston University Medical School, USA, [2]Boston University, USA, [3]Boston University School of Medicine, Department of Orthopaedics, USA, [4]Boston University School of Medicine, USA, [5]Boston University, School of Public Health, USA
Disclosures: Beth Bragdon, None

SU0002 **Cell Signaling Pathways Regulate Postnatal Intervertebral Disc Growth and Maintenance**
Chitra Dahia*[1], Eric Mahoney[2], Christopher Wylie[2]. [1]Cincinnati Children's Hospital Medical Center, USA, [2]Cincinnati Children's Hospital, USA
Disclosures: Chitra Dahia, None

SU0003 **ERCC1 Deficiency Impairs Bone Homeostasis via an NF-κB-dependent Mechanism**
Qian Chen[1], Andria Robinson[2], Cheryl Clauson[2], Laura Niedernhofer[2], Paul Robbins[2], Hong-Jiao Ouyang*[2]. [1]University of Missouri - Kansas City, USA, [2]University of Pittsburgh, USA
Disclosures: Hong-Jiao Ouyang, None

SU0004 **Fibronectin Fragments in Human Intervertebral Disc Tissue and their Effects on Disc Cells**
Dessislava Markova[1], Nancy Ruel[2], Ana Chee[2], Carla Scanzello[2], D. Greg Anderson[3], Sherrill Adams[4], E.J. Thonar[2], Howard An[2], Yejia Zhang*[5]. [1]Thomas Jefferson University, USA, [2]Rush University Medical Center, USA, [3]Rothman Institute, USA, [4]University of Pennsylvania School of Dental Medicine, USA, [5]Rush University Medical CTR, USA
Disclosures: Yejia Zhang, None

SU0005 **Identification of Trabecular Excrescences in Aging Bone**
Adam Taylor*[1], Chris Platt[2], Jonathan Jarvis[2], Lakshminarayan Ranganath[2], James Gallagher[2], Alan Boyde[3]. [1]Lancaster University, United Kingdom, [2]University of Liverpool, United Kingdom, [3]Barts & The London School of Medicine & Dentistry, United Kingdom
Disclosures: Adam Taylor, None

SU0006 **Muscle Strength of the Upper Dominant Limb in Postmenopausal Women with Primary Hyperparathyroidism**
Cristiana Cipriani*[1], Elisabetta Romagnoli[2], Jessica Pepe[3], Claudia Castro[3], Antonella D'Angelo[3], Addolorata Scarpiello[3], Maurizio Angelozzi[3], Salvatore Minisola[4]. [1]University of Rome, Italy, [2]Dpt of Internal Medicine & Medical Specialties, University "Sapienza", Rome, Italy, [3]Department of Internal Medicine & Medical Disciplines, "Sapienza" University of Rome, Italy, [4]"Sapienza", University of Rome, Italy
Disclosures: Cristiana Cipriani, None

SU0007 **Ros/redox Signaling Regulates Bone Turnover in an Age-specific Manner in Female Mice**
Kelly Mercer*[1], Larry Suva[1], Thomas Badger[2], Jin-Ran Chen[3], Martin Ronis[1]. [1]University of Arkansas for Medical Sciences, USA, [2]Arkansas Children's Nutrition Center, USA, [3]University of Arkansas for Medical Science, Arkansas Children's Nutrition Center, USA
Disclosures: Kelly Mercer, None

SU0008 **The Novel Identification of CD163 Expressing Phagocytes in Joint Cartilage and its Scavenger Role in Cartilage Degradation**
Kai Jiao[1], Jing Zhang[1], Mian Zhang[1], Yuying Wei[1], Yaoping Wu[1], Zhongying Qiu[1], Jianjun He[1], Yunxin Cao[1], Jintao Hu[1], Han Zhu[1], Lina Niu[1], Xu Cao[2], Kun Yang[3], Meiqing Wang*[1]. [1]Fourth Military Medical University, China, [2]Johns Hopkins University, USA, [3]Fourth Military Medical Uniersity, China
Disclosures: Meiqing Wang, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: FRAILTY AND SARCOPENIA

SU0009 **Bone and Muscle Relationship in Korean Old People from KNHANES V(2010)**
Sangmo Hong*[1], Chang Beom Lee[1], Yong Soo Park[1], Dong Sun Kim[1], Ye Soo Pack[2], You Hern Ahn[1], Woong-Hwan Choi[1]. [1]Endocrinology & metabolism, Hanyang University College of medicine, South korea, [2]Hanyang University College of medicine, South korea
Disclosures: Sangmo Hong, None

SU0010 **Changes in Lean Tissue Index, Functional Ability and Muscle Strength amongst Older Patients on Haemodialysis**
Grahame Elder*[1], Avalon Moonen[2], Sjorjiana Green[2], Margaret Phillips[3]. [1]Westmead Hospital, Australia, [2]Clinical School, University of Notre Dame, Australia, [3]Department of Renal Medicine, Westmead Hospital, Australia
Disclosures: Grahame Elder, None

SU0011 **Factors Associated with 20-foot Walking Speed in the US Elderly Population**
David R Nelson[1], Lei Chen[2], Yang Zhao*[2], Zhanglin Cui[2], Joseph A Johnston[1]. [1]Eli Lilly & Company, USA, [2]Eli Lilly, USA
Disclosures: Yang Zhao, Eli Lilly and Company, 3

SU0012 **Gait Speed as a Measure of Frailty in Long Term Care Residents**
Carroll Lee*[1], Mary Anne Ferchak[1], Julie Wagner[1], Donna Medich[1], Megan Miller[2], Subashan Perera[1], David Nace[1], Neil Resnick[1], Susan Greenspan[1]. [1]University of Pittsburgh, USA, [2]University of Pittsburgh, Division of Endocrinology, USA
Disclosures: Carroll Lee, None

SU0013 **Kyphosis and Paraspinal Muscle Composition in Older Men: Is There a Relation**
Wendy Katzman*[1], Dana Miller-Martinez[2], Lynn Marshall[3], Nancy Lane[4], Deborah Kado[5]. [1]University of California, San Francisco, USA, [2]University of California Los Angeles, USA, [3]Oregon Health & Science University, USA, [4]University of California at Davis, USA, [5]University of California, Los Angeles, USA
Disclosures: Wendy Katzman, None

SU0014 **Sarcopenia, Exercise and Fall Prevention in the Elderly**
Eduardo Abreu[1], An-Lin Cheng[1], Leticia Brotto[1], Keyna Chertoff[1], Glenda Kinder[2], Elizabeth Jackson[3], Tina Uridge[4], Patricia Kelly[5], Marco Brotto*[6]. [1]University of Missouri at Kansas City, USA, [2]University of Missouri Extension, USA, [3]Clay County Public Health Center, USA, [4]Clay County Senior Services, USA, [5]Uniervsity of Missouri at Kansas City, USA, [6]University of Missouri - Kansas City, USA
Disclosures: Marco Brotto, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: OSTEOARTHRITIS AND RHEUMATOID ARTHRITIS

SU0015 **Estrogen Receptor α Gene Polymorphisms in Degenerative Disease of the Temporomandibular Joint**
Melissa Stemig*, Shanti Kaimal, Sandra Myers, Mohammad Islam. University of Minnesota School of Dentistry, USA
Disclosures: Melissa Stemig, None

SU0016 **Insulin Suppresses ADAMTS4 and BMP2 Expression in Osteorthritic Fibroblast-like Synoviocytes**
Daisuke Hamada*[1], Haobin Ye[1], Robert Maynard[2], Stephen Kates[2], Randy Rosier[2], Matthew Hilton[2], Michael Zuscik[3], Robert Mooney[2]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA, [3]University of Rochester School of Medicine & Dentistry, USA
Disclosures: Daisuke Hamada, None

SU0017 **Notch and Non-canonical NF-kB Proteins Interact to Inhibit Mesenchymal Stem Cell Differentiation into Osteoblasts in Chronic Inflammation**
Hengwei Zhang*[1], Lei Shu[2], Matthew Hilton[2], Christopher Ritchlin[3], Brendan Boyce[2], Lianping Xing[3]. [1]Univeristy of Rochester, USA, [2]University of Rochester Medical Center, USA, [3]University of Rochester, USA
Disclosures: Hengwei Zhang, None

SU0018 **Relationship between Microstructure and Degree of Mineralization of Subchondral Bone In Osteoarthritis: Synchrotron Radiation Micro CT Study**
Ko Chiba*[1], Nobuhito Nango[2], Shogo Kubota[2], Narihiro Okazaki[3], Kenji Taguchi[3], Makoto Osaki[3], Masako Ito[4]. [1]Nagasaki University Hospital, USA, [2]Ratoc System Engineering Co., Ltd., Japan, [3]Nagasaki University, Japan, [4]Nagasaki University Hospital, Japan
Disclosures: Ko Chiba, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: REHABILITATION AND EXERCISE

SU0019 **Effects of Short-term Aerobic Exercise Intervention on Bone Metabolism, Physical Fitness, and Body Composition in Postmenopausal Women**
Huei-Jhen Wen*[1], Tsang-hai Huang[2], Tzai-Li Li[3], Paun-Yen Chong[4]. [1]Tzu Chi University, Taiwan, [2]National Cheng-Kung University, Taiwan, [3]National Taiwan Sport University, Taiwan, [4]Tzu-Chi Hospital, Taiwan
Disclosures: Huei-Jhen Wen, None

SU0020 **High-impact Bone Exercise does not have Controversial Effects on Articular Cartilage: a Randomized Controlled Quantitative MRI Study (ISRCTN58314639)**
Juhani Multanen*[1], Miika T Nieminen[2], Arja Häkkinen[3], Urho Kujala[4], Timo Jämsä[5], Hannu Kautiainen[6], Eveliina Lammentausta[2], Riikka Ahola[7], Harri Selänne[8], Risto Ojala[2], Ilkka Kiviranta[9], Ari Heinonen[4]. [1]University of Jyväskylä, Finland, [2]Department of Diagnostic Radiology, Oulu University Hospital, Finland, [3]Department of Physical Medicine & Rehabilitation, Central Finland Central Hospital, Finland, [4]Department of Health Sciences, University of Jyväskylä, Finland, [5]Department of Medical Technology, Institute of Biomedicine, University of Oulu, Finland, [6]Unit of Primary Health Care, Kuopio University Hospital, Finland, [7]University of Oulu, Finland, [8]LIKES Sports Medical Clinic, Finland, [9]Department of Orthopaedics & Traumatology, University of Helsinki & Helsinki University Central Hospital, Finland
Disclosures: Juhani Multanen, None

SU0021 **Increased Cortical Thickness at the Superior Femoral Neck with Unilateral High Impact Exercise in Older Men: A Randomised Blinded Study**
Sarah Allison*[1], Jonathan P Folland[1], Winston J Rennie[2], Gregory D Summers[3], Kenneth Poole[4], Katherine Brooke-Wavell[1]. [1]Loughborough University, United Kingdom, [2]University Hospitals of Leicester, United Kingdom, [3]Royal Derby Hosital, United Kingdom, [4]University of Cambridge, United Kingdom
Disclosures: Sarah Allison, None

SU0022 **Is Cross-Sectional Area of Quadriceps Muscle and Thigh Intermuscular Fat in a Single MRI Slice Representative of the Volume in Women Enrolled in the Osteoarthritis Initiative?**
Arpita Parmar, Karen Beattie, Ashlie Altman, Monica Maly, Norma MacIntyre*. McMaster University, Canada
Disclosures: Norma MacIntyre, None

SU0023 **Whole Body Vibration Exercise Improves Body Balance and Walking Velocity in Postmenopausal Osteoporotic Women Treated with Alendronate: Galileo and Alendronate Intervention Trail (GAIT)**
Jun Iwamoto*, Tsuyoshi Takeda, Hideo Matsumoto. Keio University School of Medicine, Japan
Disclosures: Jun Iwamoto, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: ASSESSMENT OF PEDIATRIC BONE DISEASE

SU0024 **Cortical and Trabecular Microarchitecture and Finite Element Analysis Strength Estimates at the Ultradistal Radius Reflect Skeletal Fragility in Adolescent Girls with Anorexia Nervosa**
Alexander Faje*[1], Lamya Karim[2], Alex Taylor[1], Karen Miller[1], Nara Mendes[1], Erinne Meenaghan[1], Mary Bouxsein[2], Madhusmita Misra[1], Anne Klibanski[3]. [1]Massachusetts General Hospital, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Massachusetts General Hospital, Harvard Medical School, USA
Disclosures: Alexander Faje, None

SU0025 **Longitudinal Assessment of Bone Density and Structure in Childhood Survivors of Acute Lymphoblastic Leukemia (ALL) without Cranial Irradiation**
Sogol Mostoufi-Moab*[1], Jill Brodsky[2], Babette Zemel[3], Jill Ginsberg[1], Justine Shults[4], Elizabeth Isaacoff[1], Mary Leonard[3]. [1]The Children's Hospital of Philadelphia, USA, [2]The Mid-Hudson Medical Group, USA, [3]Children's Hospital of Philadelphia, USA, [4]The University of Pennsylvania, USA
Disclosures: Sogol Mostoufi-Moab, None

SU0026 **Withdrawn**

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE ACQUISITION

SU0027 **Changes in Bone Mineral Density and Bone Strength from 16 to 34 Years of Age, As Assessed by High Resolution Peripheral Quantitative Computed Tomography**
Lauren Burt*[1], Heather Macdonald[2], David Hanley[1], Steven Boyd[1]. [1]University of Calgary, Canada, [2]University of British Columbia, Canada
Disclosures: Lauren Burt, None

SU0028 **Characterisation of Musculoskeletal Phenotype in Pre-pubertal Gambian Children**
Kate Ward*[1], Landing Jarjou[2], Yankuba Sawo[2], Gail Goldberg[3], Ann Prentice[1]. [1]MRC Human Nutrition Research, United Kingdom, [2]MRC Keneba, Gambia, [3]MRC Human Nutrition Research; MRC Keneba The Gambia, United Kingdom
Disclosures: Kate Ward, None

SU0029 **Early-Life Exposure of Male Mice to Estrogen Alters the Trajectory of Somatic Growth and Skeletal Development**
Kara Connelly*[1], Emily Larson[2], Robert Klein[3]. [1]Oregon Health & Science University, USA, [2]Ohsu (cr113), USA, [3]Portland VA Medical Center, USA
Disclosures: Kara Connelly, None

SU0030 **Exploring the Relationship Between Lower Extremity Muscle Work During Gait and Bone Structure in Individuals With Unilateral Cerebral Palsy**
Harshvardhan Singh*[1], Jacques Riad[2], Brianne Mulrooney[3], Todd Royer[1], Freeman Miller[4], Christopher Modlesky[3]. [1]Department of Kinesiology & Applied Physiology, University of Delaware, USA, [2]Department of Orthopedics Astrid Lindgrens Children's Hospital Stockholm, Sweden, [3]University of Delaware, USA, [4]Department of Orthopedics, AI duPont Hospital for Children, USA
Disclosures: Harshvardhan Singh, None

SU0031 **Factors Affecting Timing and Tempo of BMAT Accrual May Provide a Mechanistic Link among Metabolic and Bone Health**
Krista Casazza*[1], Lynae Hanks[2], Anna Newton[1], Stephenie Wallace[1]. [1]UAB, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Krista Casazza, None

SU0032 **Impact of Seasonal Flux in 25-hydroxyvitamin D on Bone Turnover in Pre- and Early Pubertal Black and White Youth**
Kumaravel Rajakumar*[1], Michael Holick[2], Charity Moore[3], Elan Cohen[3], Flora Olabopo[4], Mary Ann Haralam[4], Jaimee Bogusz[5], Anita Nucci[6], Susan Greenspan[7]. [1]University of Pittsburgh School of Medicine, USA, [2]Boston University School of Medicine, USA, [3]Center for Research on Health Care, University of Pittsburgh, USA, [4]Department of Pediatrics, University of Pittsburgh, USA, [5]Department of Medicine, Boston University School of Medicine, USA, [6]Division of Nutrition, Georgia State University, USA, [7]University of Pittsburgh, USA
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SU0033 **Maternal Diet Does Not Alter Skeletal Response to Postnatal Caloric Restriction in Female Mice**
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Disclosures: Maureen Devlin, None

SU0034 **Reduced Carbohydrate, Weight Loss Diet is Associated with Greater Bone Mineral Content in Early Pubertal Obese African-American Girls**
Lynae Hanks*[1], Anna Newton[1], Krista Casazza[2]. [1]University of Alabama at Birmingham, USA, [2]UAB, USA
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SU0035 **Skeletal Effects of Obesity Are Prevented by a Diet Containing Soy Protein Isolate via Preservation of Insulin Signaling in Bone**
Jin-Ran Chen*[1], Jian Zhang[1], Oxana P. Lazarenko[2], Jay J. Cao[3], Thomas M. Badger[2], Martin J. J. Ronis[4]. [1]Arkansas Children's Nutrition Center, & Department of Pediatrics, University of Arkansas for Medical Sciences, USA, [2]Arkansas Children's Nutrition Center, & Department of Physiology & Biophysics, University of Arkansas for Medical Sciences, USA, [3]USDA, Agricultural Research Service, Grand Forks Human Nutrition Research Center, USA, [4]Arkansas Children's Nutrition Center, & Department of Pediatrics, Pharmacology & Toxicology, University of Arkansas for Medical Sciences, USA
Disclosures: Jin-Ran Chen, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE LOSS

SU0036 **A Case of Noonan Syndrome With a *SHOC2* Mutation Associated With Cortical And Trabecular Osteopenia And Early Onset Fragility Fractures**
Bindu Avatapalle[1], Raja Padidela*[1], Jill Clayton-Smith[2], Tony Freemont[3], Emma Burkitt Wright[4], M Zulf Mughal[1]. [1]Manchester Children's Hospital, United Kingdom, [2]Genetic Medicine, Manchester Academic Health Sciences Centre, United Kingdom, [3]Manchester Academic Health Sciences Centre, University of Manchester, United Kingdom, [4]Manchester Academic Health Science,University of Manchester, United Kingdom
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BONE ACQUISITION AND PEDIATRIC BONE DISEASE: PATHOPHYSIOLOGY OF PEDIATRIC BONE DISEASE

SU0037 **Acute BMP2 Response Following Induction of Ischemic Osteonecrosis in Immature Femoral Head**
Nobuhiro Kamiya*[1], Sasha Shafer[1], Ila Oxendine[1], Harry Kim[2]. [1]Texas Scottish Rite Hospital for Children, USA, [2]Scottish Rite Hospital for Children, USA
Disclosures: Nobuhiro Kamiya, None

SU0038 **Children and Adolescents with Cystic Fibrosis have Normal Volumetric BMD and Geometry at the Radius, but Low Muscle Area at the Forearm**
ONDREJ SOUCEK*[1], Jan Lebl[2], Veronika Skalicka[3], Dana Zemkova[2], Miloslav Rocek[4], Zdenek Sumnik[5]. [1]2nd Faculty of Medicine, Charles University, Prague, Czech republic, [2]Department of Pediatrics, 2nd Faculty of Medicine, Charles University & University Hospital Motol in Prague, Czech republic, [3]Department od Pediatrics, 2nd Faculty of Medicine, Charles University & University Hospital Motol in Prague, Czech republic, [4]Department of Radiology, 2nd Faculty of Medicine, Charles University & University Hospital Motol in Prague, Czech republic, [5]University Hospital Motol, Czech republic
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SU0039 **Impact of the Enzymatic Crosslinking of the Collagen Matrix on the Macroscopic Mechanical Behaviour of the Cortical Bone from Children**

Jean-Philippe Berteau*[1], Evelyne Gineyts[2], Helene Follet[3], Martine Pithioux[4], Cécile Baron[5], Philippe Lasaygues[6], Patrick Chabrand[5], Georges Boivin[3]. [1]Institut des Sciences du Mouvement ISM, CNRS UMR 6233, Université Aix Marseille, & Laboratoire de Mécanique et d'Acoustique Equipe PICNRS - UPR 7051, France, [2]INSERM, UMR1033, Université de Lyon, France, [3]INSERM, UMR1033 ; Universite De Lyon, France, [4]1Institut des Sciences du Mouvement ISM, CNRS UMR 6233, Université Aix Marseille, France, [5]Institut des Sciences du Mouvement ISM, CNRS UMR 6233, Université Aix Marseille, France, [6]Laboratoire de Mécanique et d'Acoustique Equipe PICNRS - UPR 7051, Université Aix Marseille, France

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SU0040 **Skeletal Findings in the First 12 Months Following Initiation of Glucocorticoid Therapy for Pediatric Nephrotic Syndrome**

Leanne M. Ward*[1], Véronique Phan[2], Janusz Feber[1], Tom Blydt-Hansen[3], Nathalie Alos[2], Stephanie Atkinson[4], David A. Cabral[5], Robert Couch[6], Elizabeth A. Cummings[7], Ronald Grant[8], Paivi M. Miettunen[9], Helen Nadel[5], Frank Rauch[10], Celia Rodd[10], Robert Stein[11], David Stephure[9], Shayne Taback[3], Brian Lentle[5], Mary Ann Matzinger[1], Nazih Shenouda[1], Kerry Siminoski[6], , and the Canadian STOPP Consortium[12]. [1]University of Ottawa, Canada, [2]Université de Montréal, Canada, [3]University of Manitoba, Canada, [4]McMaster University, Canada, [5]University of British Columbia, Canada, [6]University of Alberta, Canada, [7]Dalhousie University, Canada, [8]University of Toronto, Canada, [9]University of Calgary, Canada, [10]McGill University, Canada, [11]University of Western Ontario, Canada, [12]Canadian Pediatric Bone Health Working Group, Canada

Disclosures: Leanne M. Ward, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: TREATMENT OF PEDIATRIC BONE DISEASE

SU0041 **Effects of Low Magnitude Mechanical Signals (LMMS) on Bone Density and Structure in Pediatric Crohn Disease: A Randomized Trial**

Mary Leonard*[1], Justine Shults[2], Babette Zemel[1], Kevin Hommel[3], Keenan Brown[4], Soroosh Mahboubi[1], Jin Long[1], Clinton Rubin[5]. [1]Children's Hospital of Philadelphia, USA, [2]University of Pennsylvania, USA, [3]Cincinnati Children's Hospital Medical Center, USA, [4]Mindways Software, USA, [5]State University of New York at Stony Brook, USA

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SU0042 **Longitudinal follow up of clinical and radiological indices in children with Idiopathic Juvenile Osteoporosis following two years of bisphosphonate treatment**

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Disclosures: Jennifer Harrington, None

SU0043 **Low-amplitude, High-frequency Vibration and Musculoskeletal Health in the mdx Mouse Model of Duchenne Muscular Dystrophy**

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Disclosures: Susan Novotny, None

BONE BIOMECHANICS AND QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

SU0044 **A Combinatory Biological and Physicochemical Response Lead to Bone Loss Following Radiation Exposure in Young Mice**

Danielle Green*[1], Benjamin Adler[1], M. Ete Chan[1], Alvin Acerbo[2], Lisa Miller[3], Clinton Rubin[4]. [1]Stony Brook University, USA, [2]Brookhaven National Laboratody, USA, [3]Brookhaven National Laboratory, USA, [4]State University of New York at Stony Brook, USA

Disclosures: Danielle Green, None

SU0045 **A Combined HR-pQCT and Fracture Mechanics-Based Finite Element Approach for Fracture Risk Assessment of Human Radius**
Ani Ural*[1], Peter Bruno[1], Bin Zhou[2], Xiutao Shi[2], Elizabeth Shane[3], X Guo[2]. [1]Villanova University, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Ani Ural, None

SU0046 **A Technique for Laminar Analysis of Cortical Microarchitecture in Longitudinal Studies**
Jasmine Nirody*, Willy Tjong, Janina Patsch, Thomas Link, Brian Feeley, C. Benjamin Ma, Galateia Kazakia. University of California, San Francisco, USA
Disclosures: Jasmine Nirody, None

SU0047 **Assessment of Sound Wave Velocities in Osteons Reveals a Strong Correlation with Bone Matrix Mineralization Density**
Stéphane Blouin[1], Stephan Puchegger[2], Andrea Berzlanovich[3], Klaus Klaushofer[1], Paul Roschger*[1]. [1]Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling, 1st Medical Department Hanusch Hospital, Austria, [2]University of Vienna, Faculty of Physics, Dynamics of Condensed Systems, Austria, [3]Medical University of Vienna, Department of Forensic Medicine, Austria
Disclosures: Paul Roschger, None

SU0048 **Association of Incident Hip Fracture with Femoral Strength Assessed by Finite Element Analysis of Dxa Scans in the Study of Osteoporotic Fracture**
Lang Yang*[1], Lisa Palermo[2], Dennis Black[2], Richard Eastell[1]. [1]University of Sheffield, United Kingdom, [2]University of California, San Francisco, USA
Disclosures: Lang Yang, None

SU0049 **Automatic Definition of Identical Follow-Up Volumes of Interest Using Image Registration for the Application to In Vivo Micro-CT Studies of Bone Quality**
Graeme Campbell*[1], Friederike Grundmann[2], Nicolai Purcz[3], Markus Boettcher[3], Christian Schem[2], Sanjay Tiwari[3], Claus-C Glueer[3]. [1]Christian-Albrechts Universität zu Kiel, Germany, [2]University Hospital Schleswig-Holstein, Campus Kiel, Germany, [3]Christian Albrechts Universitaet zu Kiel, Germany
Disclosures: Graeme Campbell, None

SU0050 **Bisphosphonates Prevent the Decline in Serum TGF-β1 Levels Following Long-Term Estrogen Deficiency**
Junjing Jia*[1], Wei Yao[2], Sarah Amugongo[1], Mohammad Shahnazari[3], Zhiqiang Cheng[4], Yu-An Evan Lay[5], Diana Olvera[6], Robert Ritchie[6], Tamara Alliston[4], Nancy Lane[2]. [1]University of California, Davis, USA, [2]University of California, Davis Medical Center, USA, [3]UCSF VA Medical Center, USA, [4]University of California, San Francisco, USA, [5]Musculoskeletal Research Unit, Department of Medicine, University of California Davis Medical Center, USA, [6]Materials Sciences Division, Lawrence Berkeley National Laboratory, USA
Disclosures: Junjing Jia, None

SU0051 **Cell-independent Benefits of Raloxifene on Bone Matrix: A Novel Mechanism for Improving Mechanical Properties**
Maxime Gallant*[1], Drew M. Brown[1], Max Hammond[2], Joseph Wallace[3], Jiang Du[4], Alix C. Deymier-Black[5], Jon Almer[6], Stuart Stock[7], Matthew Allen[1], David Burr[1]. [1]Indiana University School of Medicine, USA, [2]Weldon School of Biomedical Engineering, Purdue University, USA, [3]Indiana University Purdue University Indianapolis (IUPUI), USA, [4]University of California, San Diego, USA, [5]Department of Materials Science & Engineering, Northwestern University, USA, [6]Advanced Photon Source, Argonne National Laboratory, USA, [7]Northwestern University, Feinberg School of Medicine, USA
Disclosures: Maxime Gallant, None

SU0052 **Comparative Biochemical Analysis Demonstrates High Efficiency and Speed of Glucose-based in vitro Glycation Process of Bone**
Grazyna Sroga*, Alankrita Siddula, Deepak Vashishth. Rensselaer Polytechnic Institute, USA
Disclosures: Grazyna Sroga, None

SU0053 **Cortical and Trabecular Bone Structure Analysis at the Distal Radius – Prediction of Biomechanical Strength by DXA and MRI**
Thomas Baum*[1], Melanie Kutscher[2], Dirk Mueller[3], Christoph Raeth[4], Felix Eckstein[5], Eva-Maria Lochmueller[5], Ernst J. Rummeny[2], Thomas M. Link[6], Jan S. Bauer[2]. [1]Klinikum rechts der Isar, Technische Universität München, Deu, [2]Institut fuer Radiologie, Klinikum rechts der Isar, Technische Universitaet Muenchen, Germany, [3]Institut und Poliklinik fuer Diagnostische Radiologie, Universitaetsklinikum Koeln, Germany, [4]Max-Planck-Institute fuer extraterrestrische Physik, Germany, [5]Institute of Anatomy & Musculoskeletal Research, Paracelsus Medical University Salzburg, Austria, [6]Musculoskeletal & Quantitative Imaging Research Group, Department of Radiology & Biomedical Imaging, University of California San Francisco, USA
Disclosures: Thomas Baum, None

SU0054 **Effects of Age-Related Cortical Thinning and Trabecular Bone Loss on the Strain Distribution in the Lumbar Spine Following Interbody Fusion**
Lillian Chatham*[1], Vikas Patel[1], Dana Carpenter[2]. [1]University of Colorado Denver | Anschutz Medical Campus, USA, [2]University of Colorado Denver, USA
Disclosures: Lillian Chatham, None

SU0055 **Effects of Cyclical Treatments with Anabolic and Anti-resorptive Agents on Cortical Bone Mass and Strength**
Sarah Amugongo*[1], Wei Yao[2], Dan Walsh[3], Junjing Jia[1], Mohammad Shahnazari[4], Diana Olvera [5], Robert O Ritchie[5], Nancy Lane[2]. [1]University of California, Davis, USA, [2]University of California, Davis Medical Center, USA, [3]USA, [4]UCSF VA Medical Center, USA, [5]Materials Sciences Division, Lawrence Berkeley National Laboratory, USA
Disclosures: Sarah Amugongo, None

SU0056 **Fabric Based Tsai-Wu Yield-Strength Criterion for Vertebral Trabecular Bone in Stress Space**
Uwe Wolfram*[1], Thomas Gross[2], Dieter Pahr[2], Jakob Schwiedrzik[3], Philippe Zysset[1]. [1]University of Bern, Switzerland, [2]Institute for Lightweight Design & Structural Biomechanics, Vienna University of Technology, Austria, Austria, [3]Institute for Surgical Technology & Biomechanics, University of Bern, Switzerland, Switzerland
Disclosures: Uwe Wolfram, None

SU0057 **Identification of Biochemical, Mechanical, and Structural Factors that Define Bone Quality**
Steven Tommasini*[1], Andrea Trinward[2], Alvin Acerbo[3], Lisa Miller[4], Stefan Judex[2]. [1]Yale University School of Medicine, USA, [2]Stony Brook University, USA, [3]Brookhaven National Laboratody, USA, [4]Brookhaven National Laboratory, USA
Disclosures: Steven Tommasini, None

SU0058 **Mechanical Competence of the Proximal Femur as Predicted from DXA, DXA-equivalent CT (CTXA) and Structure Analysis**
Volker Kuhn*[1], Annemaria Leib[1], Holger Boehm[2], Thomas Link[3], Felix Eckstein[4]. [1]Medical University Innsbruck, Austria, [2]LMU Munich, Germany, [3]University of California, San Francisco, USA, [4]PMU, Austria
Disclosures: Volker Kuhn, None

SU0059 **Withdrawn**

SU0060 **Predicting Vertebral Bone Strength with a Quantitative Computed Tomography-based Finite-element Method -Creation of Strength Data According to Age Range in a Normal Population and Analysis of Factors Affecting Strength-**
MASAKO KANEKO*[1], ISAO OHNISHI[2], Sakae Tanaka[1]. [1]The University of Tokyo, Japan, [2]Clinical Medical Reseach Center, International University of Health & Welfare, Japan
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SU0061 **Site Specific Micro-structural and Mechanical Properties of Human Distal Femur**
Myong-Hyun Baek[1], Kwang-Kyun Kim*[2], Ye-Yeon Won[1], Ye-Soo Park[3]. [1]Ajou University Hospital, South korea, [2]Konyang University Hospital, South korea, [3]Hanyang University Hospital, South korea
Disclosures: Kwang-Kyun Kim, None

SU0062 **The Association Between Resorption Cavities and Mechanical Failure Processes in Human Cancellous Bone**
Floor Lambers*[1], Craig Slyfield[1], Evgeniy Tkachenko[1], Amanda Bouman[1], Tony Keaveny[2], Christopher Hernandez[1], Ivana Yi[2], Michale Jekir[2]. [1]Cornell University, USA, [2]University of California, Berkeley, USA
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SU0063 **The Effect of Image Registration and Endocortical Segmentation Methods on Longitudinal HR-pQCT Analysis of Cortical Bone Quality**
Willy Tjong, Andrew Burghardt, Janina Patsch, Sharmila Majumdar, Galateia Kazakia*. University of California, San Francisco, USA
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SU0064 **Vertebral Deformity Fracture Number and Severity are Associated with Mechanical Competence at Peripheral Bone Derived by Micro-MRI Based Biomechanics**
Chamith Rajapakse*[1], Eual Phillips[2], Wenli Sun[2], Michael Wald[3], Peter Snyder[2], X Guo[4], Felix Werner Wehrli[3]. [1]University of Pennsylvania School of Medicine, USA, [2]University of Pennsylvania, USA, [3]University of Pennsylvania Medical Center, USA, [4]Columbia University, USA
Disclosures: Chamith Rajapakse, None

SU0065 **Viscosity of the Organic Phase of Bone Evaluated at Bone Structural Unit Level**
Pierrick Crozier[1], Insaf Hadjab[2], Thierry Douillard[1], Sylvain Meille[1], Georges Boivin[3], Jérôme Chevallier[1], Helene Follet*[3]. [1]CNRS, UMR5510, Université de Lyon, France, [2]Université De Lyon, France, [3]INSERM, UMR1033 ; Universite De Lyon, France
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SU0066 **What Is the Performance in Vertebral Fracture Discrimination by Bone Mineral Density (BMD), Micro-architecture Estimation (TBS), Body Mass Index (BMI) and FRAX in Stand-alone or Combined Approaches: The OsteoLaus Study**
Olivier Lamy*[1], Marc-Antoine Krieg[2], Delphine Stoll[3], Berengère Aubry-Rozier[3], Marie Metzger[3], Didier Hans[4]. [1]Chief of the Bone Unit, Switzerland, [2]University Hospital, Switzerland, [3]Lausanne University Hospital - Center of Bone Diseases, Switzerland, [4]Lausanne University Hospital, Switzerland
Disclosures: Olivier Lamy, None

BONE BIOMECHANICS AND QUALITY: CHANGES IN BONE QUALITY IN UNTREATED AND TREATED OSTEOPOROSIS

SU0067 **Early Vascular and Bone Changes after Zoledronate Treatment**
Mohammed Elsalanty*[1], Chestine Guevarra[2], Nicole Howie[3], Ibrahim Zakhary[3], James Borke[4]. [1]Georgia Health Science University, USA, [2]US Advanced Education Program in Periodontics, Fort Gordon, USA, [3]Georgia Health Sciences University, USA, [4]Western University, USA
Disclosures: Mohammed Elsalanty, None

SU0068 **In Vitro Exposure of Rat Femur to Strontium Chloride Influences Bone Material Level Properties and Increases Bone Strength**
Patrick Ammann*, René Rizzoli. Division of Bone Diseases, Department of Rehabilitation & Geriatrics, University Hospital & Faculty of Medecine, Switzerland
Disclosures: Patrick Ammann, Servier, 5

SU0069 **TGF-β Suppression with a Neutralizing Antibody Increases Vertebral Body Strength in Female Mice**
Alexander Makowski*[1], Sasidhar Uppuganti[1], Barbara Rowland[1], Alyssa Merkel[1], Daniel Perrien[2], Julie Sterling[3], Jeffry Nyman[2]. [1]Vanderbilt University, USA, [2]Vanderbilt University Medical Center, USA, [3]Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA
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BONE BIOMECHANICS AND QUALITY: DISUSE OSTEOPOROSIS

SU0070 **Bone Mineral Loss at the Hip in Acute Spinal Cord Injury**
William Edwards*[1], Thomas Schnitzer[2], Karen Troy[1]. [1]University of Illinois at Chicago, USA, [2]Northwestern University, USA
Disclosures: William Edwards, Merck & Co., Inc., 2

SU0071 **Low Intensity Pulsed Ultrasound Improves Mechanical Strength and Structural Quality in a Disuse Osteopenia Model**
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BONE BIOMECHANICS AND QUALITY: MECHANICAL LOADING CELLULAR AND MOLECULAR EFFECTS

SU0072 **Altered Bone Microarchitecture and Material Properties as Well as Reduced Osteocyte Frequency Predict Significant Changes in the Transmission of Strain to Osteocytes Within Aged Cortical Bone of Non-Human Primates**
Amber Stern*[1], Matthew Stern[1], Branson Billings[1], Vladimir Dusevich[1], Christopher Bergman[2], Thomas Register[3]. [1]University of Missouri - Kansas City, USA, [2]Wake Forest University School of Medicine, USA, [3]Wake Forest School of Medicine, USA
Disclosures: Amber Stern, None

SU0073 **Fluid Flow Induced Osteoclast Differentiation Is Associated with Alterations in Genes Regulating Apoptosis, Necrosis and Osteoblast Differentiation**
Aleksey Dvorzhinskiy*[1], Rune Madsen[1], Benjamin McArthur[1], Goran Andersson[2], F. Patrick Ross[1], Mathias Bostrom[1], Anna Fahlgren[1]. [1]Hospital for Special Surgery, USA, [2]Karolinska Institute, Sweden
Disclosures: Aleksey Dvorzhinskiy, None

SU0074 **Mechanically Activated Src Induces Activation of RhoA through mTORC2 in Mesenchymal Stem Cells**
William R. Thompson*[1], Sherwin Yen[1], Buer Sen[2], Zhihui Xie[1], Natasha Case[3], Maya Styner[3], Christophe Guilluy[1], Keith Burridge[1], Janet Rubin[3]. [1]University of North Carolina, USA, [2]University of North Carolina At Chapel Hill, USA, [3]University of North Carolina, Chapel Hill, School of Medicine, USA
Disclosures: William R. Thompson, None

SU0075 **New Insights into Human SOST Mechanotransduction: Role of Nitric Oxide**
Jesus Delgado-Calle*[1], Jose Riancho[2], Jenneke Klein-Nulend[3]. [1]IFIMAV-H.U. Marqués de Valdecilla-University of Cantaria, Spain, [2]University of Cantabria, Spain, [3]ACTA-VU University Amsterdam, Dept Oral Cell Biology (Rm # 11N-63), The netherlands
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BONE BIOMECHANICS AND QUALITY: MECHANICAL LOADING EFFECTS IN HUMANS AND INTACT ANIMALS

SU0076 **Association between the Fracture Site and the Mechanical Axis of Lower Extremities in Patients with Atypical Femoral Fracture**
Yoshitomo Saita*[1], Muneaki Ishijima[2], Atsuhiko Mogami[3], Mitsuaki Kubota[4], Takefumi Kaketa[1], Kei Miyagawa[5], Nana Nagura[3], Tomoki Wada[3], Taisuke Sato[6], Susumu Fukasaku[6], Hogaku Gen[5], Osamu Obayashi[3], Masayuki Nemoto[6], Kazuo Kaneko[1]. [1]Department of Orthopaedics, Juntendo University School of Medicine, Japan, [2]Juntendo University, Faculty of Medicine, Japan, [3]Department of Orthopaedic Surgery, Juntendo Shizuoka Hospital, Japan, [4] Department of Orthopaedics, Juntendo University School of Medicine, Japan, [5]Department of Orthopaedic Surgery, Chiba Central Medical Center, Japan, [6]Department of Orthopaedic Surgery, Kitanarashino Hanawa Hospital, Japan
Disclosures: Yoshitomo Saita, None

SU0077 **Cox-2 is Not Essential for the Bone Formation Response to Long Term Tibial Compression in Mice**
Bryan Hackfort*[1], Gwendolin Alvarez[1], Mohammed Akhter[2], Diane Cullen[1]. [1]Creighton University, USA, [2]Creighton University Osteoporosis Research Center, USA
Disclosures: Bryan Hackfort, None

SU0078 **Customary Activity as a Potential Confounding Variable in Experiments on Mechanically-Adaptive Bone Remodelling Using Unilateral Loading**
Lee Meakin*[1], Toshihiro Sugiyama[2], Gabriel Galea[1], Lance Lanyon[3], Joanna Price[1]. [1]University of Bristol, United Kingdom, [2]Yamaguchi University School of Medicine, Japan, [3]Royal Veterinary College, United Kingdom
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SU0079 **Effect of Angiogenic Inhibition on Whole Bone and Local Mechanical Properties after Damaging Osteogenic Mechanical Loading**
Ryan Tomlinson*[1], Anne Schmieder[1], Gregory Lanza[1], Matthew Silva[2]. [1]Washington University in St. Louis, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Ryan Tomlinson, None

SU0080 **Stat3 in Osteocytes Is Required for Skeletal Mechanotransduction**
Hongkang Zhou*[1], Lei Li[1], Nicoletta Bivi[2], Evan Himes[1], Layla Mihuti[1], Teresita Bellido[2], Jiliang Li[3]. [1]Indiana University Purdue University Indianapolis, USA, [2]Indiana University School of Medicine, USA, [3]Indiana University, Purdue University Indianapolis, USA
Disclosures: Hongkang Zhou, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: ANALYSIS TECHNIQUES

SU0081 **Global Small RNA Profiling During Osteoblast Differentiation**
Yukiko Maeda*[1], Jonathan Gordon[1], Jason Dobson[1], Carlo Croce[2], Janet L. Stein[1], Andre Van Wijnen[1], Gary Stein[1], Jane Lian[1]. [1]University of Massachusetts Medical School, USA, [2]The Ohio State University, USA
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BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: ANALYSIS: CALCIFICATION

SU0082 **A new FT-IR Parameter describing Acid Phosphate Substitution in Biologic Hydroxyapatite**
Mila Spevak[1], Tracy Hunter[1], Carol Flach[2], Richard Mendelsohn[2], Adele Boskey*[1]. [1]Hospital for Special Surgery, USA, [2]Rutgers University, USA
Disclosures: Adele Boskey, None

SU0083 **Trauma-induced Heterotopic Ossification In A Mouse Model**
Xuhui Liu*[1], Heejae Kang[2], Hubert Kim[3], Robert Nissenson[4], Mohammad Shahnazari[5], Olla Larm[6], Lars Adolfsson[6], Bernard Halloran[7]. [1]University of California, San Francisco, USA, [2]San Francisco Veterans Affairs Medical Center, USA, [3]University of California at San Francisco, USA, [4]VA Medical Center & University of California, San Francisco, USA, [5]UCSF VA Medical Center, USA, [6]ExThera AB, Sweden, [7]VA Medical Center (111N), USA
Disclosures: Xuhui Liu, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: CARTILAGE AND CHONDROCYTES

SU0084 **Cartilage-Specific Expression of Mechano-Sensitive MicroRNA-365 Affects Post-natal Skeletal Development and Bone Mass *in vivo***
Qian Chen*[1], Kun Yang[2]. [1]Brown University School of Medicine, USA, [2]Brown University, USA
Disclosures: Qian Chen, None

SU0085 **Constitutively Active PTH/PTHrP Receptor-signaling in Bone-specific Type I Collagen-Expressing Cells Disrupts Mandibular Condyle Formation**
Takeo Tsutsui*[1], Kenn Holmbeck[2], Susan Yamada[2], Joanne Shi[3], Mara Riminucci[4], Paolo Bianco[5], Takeki Tsutsui[1], Pamela Robey[6]. [1]The Nippon Dental University, Japan, [2]NIDCR, USA, [3]nidcr,nih, USA, [4]University La Sapienza, Italy, [5]Universita La Sapienza, Italy, [6]National Institute of Dental & Craniofacial Research, USA
Disclosures: Takeo Tsutsui, None

SU0086 **Control of Mesenchymal Lineage Progression by microRNAs Targeting the Skeletal Gene Regulators Trps1 and Runx2**
Ying Zhang*, Rong-lin Xie, Jonathan Gordon, Janet L. Stein, Jane Lian, Andre Van Wijnen, Gary Stein. University of Massachusetts Medical School, USA
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SU0087 **Estrogen Receptor Beta Increases Mandibular Condylar Cartilage Turnover**
Sunil Wadhwa[1], Yosuke Kamiya*[2], Achint Utreja[2], Manshan Xu[2], Jing Chen[3], Hicham Drissi[2], Zana Kalajzic[2]. [1]University of Connecticut, USA, [2]University of Connecticut Health Center, USA, [3]Columbia University, USA
Disclosures: Yosuke Kamiya, None

SU0088 **Interleukin-10 Promote Chondrocyte Proliferation and Hypertrophy through Ihh and BMP-Smad Pathway**
Seungwoo Han*[1], Hyeri Park[2], Eunju Lee[2], Younkwan Jung[3], Gunwoo Kim[4]. [1]Daegu Fatima Hospital, South korea, [2]Laboratory for arthritis & bone biology, Fatima research institute, South korea, [3]Republic of korea, [4]Laboratory for arthritis & bone biology, Fatima research institute, Department of Internal Medicine, Daegu Fatima Hospital, South korea
Disclosures: Seungwoo Han, None

SU0089 **Notch Gain of Function Inhibits Chondrocyte Differentiation via Rbpj-Dependent Suppression of *Sox9***
Shan Chen*[1], Jianning Tao[1], Yangjin Bae[1], Tao Yang[1], Ming-Ming Jiang[1], Terry Bertin[1], Yuqing Chen[1], Brendan Lee[2]. [1]Baylor College of Medicine, USA, [2]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Shan Chen, None

SU0090 **Proteoliposomes harboring Alkaline Phosphatase and Annexin V**
Pietro Ciancaglini[1], Mayte Correia*[2], Ana Maria Simao[2], Tina Moreira[3], Marc Hoylaerts[4], Jose Luis Millan[3]. [1]FFCLRP-USP, Brazil, [2]University of Sao Paulo - Usp, Brazil, [3]Sanford-Burnham Medical Research Institute, USA, [4]Center for Molecular & Vascular Biology, University of Leuven, Belgium
Disclosures: Mayte Correia, None

SU0091 **Rapid Membrane Responses of Rat Costochondoral Chondrocytes to 17Beta-Estradiol Are Sex and Estrogen Receptor Alpha and Beta Dependent**
Khairat ELBaradie*, Barbara Boyan, Zvi Schwartz, Yun Wang. Georgia Institute of Technology, USA
Disclosures: Khairat ELBaradie, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: GENE IDENTIFICATION AND EXPRESSION

SU0092 **Crosstalk between Endothelial Progenitor Cells and Mesenchymal Stem Cells**
Bettina Hafen*[1], Katrin Schlegelmilch[2], Alexander Keller[2], Susanne Wiesner[2], Norbert Schuetze[3]. [1]University of Wuerzburg,Orthopedic Center for Musculoskeletal Research, Germany, [2]University of Würzburg, Germany, [3]University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany
Disclosures: Bettina Hafen, None

SU0093 **Expression profiling of miRNA-mRNA regulatory network correlated with bone mass in inbred strains of mice**
Jee Hyun An*[1], Jae-Yeon Yang[2], Hyojung Park[2], Sang Wan Kim[3], Woong-Yang Park[4], Seong Yeon Kim[2], Chan Soo Shin[2]. [1]Department of Internal Medicine, Konkuk University Hospital, South korea, [2]Department of Internal Medicine, Seoul National University College of Medicine, South korea, [3]Seoul National University Boramae Hospital, South korea, [4]Department of Biochemistry & Molecular Biology, Seoul National University College of Medicine, South korea
Disclosures: Jee Hyun An, None

SU0094 **Generation of FAM20C-GFP Transgenic Mice**
Jianjun Hao*[1], Erxia Du[2], Deborah Kaback[3], Wuchen Yang[1], Siu-Pok Yee[3]. [1]University of Connecticut Health Center, USA, [2]Department of Craniofacial Sciences, Division of Orthodontics, University of Connecticut Health Center, USA, [3]Department of Genetics & Development Biology, University of Connecticut Health Center, USA
Disclosures: Jianjun Hao, None

SU0095 **Identification of SOX9 Target Genes and Characterization of Its Binding Sites in Chondrocytes**
Chundo Oh[1], Yue Lu[1], Liang Shoudan[1], Hideyo Yasuda*[2], Benoit DeCrombrugghe[3]. [1]U.T.M.D.Anderson Cancer Center, USA, [2]U.T.M.D. Anderson Cancer Center, USA, [3]UT MD Anderson Cancer Center, USA
Disclosures: Hideyo Yasuda, None

SU0096 **Withdrawn**

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: GENERAL

SU0097 **Apatite-Mullite Glass-Ceramic as a Suitable Scaffold Material for Bone Tissue Engineering**
Niki Gosling*[1], Paul Genever[2], David Wood[3], Richard Hall[3]. [1]The University of York, United Kingdom, [2]University of York, United Kingdom, [3]University of Leeds, United Kingdom
Disclosures: Niki Gosling, None

SU0098 **Comparison between Intramedullary Pinning and External Fixation for Mouse Tibia Fracture**
Yusuke Hagiwara*, Douglas Adams, Nathaniel Dyment, Xi Jiang, David Rowe. University of Connecticut Health Center, USA
Disclosures: Yusuke Hagiwara, None

SU0099 **Fetal Exposure to Selective Serotonin Reuptake Inhibitors Delays Bone Growth in the Appendicular Skeleton in Rat Offspring**
Zahra Hosseini*[1], Maryam Badv[2], Nicole De Long[3], Alison Holloway[3], Gregory Wohl[1]. [1]McMaster University, Canada, [2]McMaster School of Biomedical Engineering, Canada, [3]Department of Obstetrics & Gynecology, Canada
Disclosures: Zahra Hosseini, None

SU0100 **Functional Consequences of Fibrodysplasia Ossificans Progressiva-associated Mutations $ACVR1^{R206H}$ and $ACVR1^{Q207E}$ in Comparison to Constitutive Active $ACVR1^{Q207D}$**
Julia Haupt*[1], Alexandra Deichsel[2], Katja Stange[2], Ekaterina Kajikhina[3], Cindy Ast[4], Naima Souidi[2], Frederick Kaplan[5], Eileen Shore[6], Petra Seemann[2]. [1]BCRT, USA, [2]BCRT, Germany, [3]IMPRS-IDI, Germany, [4]Carnegie Institute for Science, USA, [5]University of Pennsylvania Hospital, USA, [6]University of Pennsylvania, USA
Disclosures: Julia Haupt, None

SU0101 **Myeloid Elf-1-Like Factor Stimulates Adipogenic Differentiation through the Induction of Peroxisome Proliferator-activated Receptor γ (PPARγ) Expression in Bone Marrow**
Kyunghwa Baek*[1], Je-Yoel Cho[2], HyoRin Hwang[1], Arang Kwon[3], Hyelim Lee[3], Hyun-Jung Park[1], Abdul Qadir[1], Hyun-Mo Ryoo[4], Kyung Mi Woo[4], Jeong-Hwa Baek[1]. [1]Seoul national university, School of dentistry, South korea, [2]College of Veterinary Medicine, Seoul National University, South korea, [3]Seoul National University, South korea, [4]Seoul National University School of Dentistry, South korea
Disclosures: Kyunghwa Baek, None

SU0102 **NELL-1 Protein as an Anabolic and Anti-resorptive Agent in an Osteoporotic Sheep Model**
T. Mari Kim[1], Aaron James*[2], Raghav Goyal[2], Michael Chiang[2], Greg Asatrian[2], Xinli Zhang[2], Janette Zara[2], Alan Nguyen[2], Anthony Simon Turner[3], Howard Seim III[3], Kang Ting[2], Chia Soo[2]. [1]University of California Los Angeles, USA, [2]University of California, Los Angeles, USA, [3]Colorado State University, USA
Disclosures: Aaron James, None

SU0103 **NO66, a Jumonji Family Histone Demethylase, is a Negative Regulator of Skeletal Growth and Bone Formation**
Qin Chen*, Krishna Sinha, Jenny Deng, Richard R. Behringer, Benoit de Crombrugghe. Department of Genetics, The University of Texas MD Anderson Cancer Center, USA
Disclosures: Qin Chen, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: MATRIX PROTEINS

SU0104 **Collagen Glycosylation and Cross-link Maturation in Bone**
Masahiko Terajima*[1], Irina Perdivara[2], Kei Kaida[3], Kenneth B. Tomer[2], Mitsuo Yamauchi[4]. [1]USA, [2]Laboratory of Structural Biology, NIEHS, National Institutes of Health, USA, [3]Department of Cariology, Nagasaki University Graduate School of Biomedical Sciences, Japan, [4]North Carolina Oral Health Institute, School of Dentistry, University of North Carolina, USA
Disclosures: Masahiko Terajima, None

SU0105 **Further Characterization of Scoliosis-Like Vertebral Defects in Fibronectin Conditional Knockout Mice**
Erica Perryn*[1], Christian Richard[1], Qian Chen[2], Mark Dallas[1], Yixia Xie[1], Hong Zhao[1], Reinhard Faessler[3], Donna Pacicca[4], Sarah Dallas[1]. [1]University of Missouri - Kansas City, USA, [2]University of Pittsburgh Medical Center, USA, [3]Max Planck Institute fur Biochemie, Germany, [4]Children's Mercy Hospital, USA
Disclosures: Erica Perryn, None

SU0106 **Osteogenic Effect of the Protein Component Extracted from a Hydroxyapatite-Based Product**
David Musson*[1], Maureen Watson[2], Karen Callon[2], Dorit Naot[2], Craig McIntosh[3], Jillian Cornish[2]. [1]University of Auckland, New Zealand, New zealand, [2]University of Auckland, New zealand, [3]Waitaki Biosciences, New zealand
Disclosures: David Musson, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: MECHANICAL STRESS

SU0107 **In Vitro Microdistraction of Nager syndrome Dental Pulp Stem Cells: Comparison with Pre-osteoblasts and Adipose-derived Stem Cells**
Joyce Yuan*[1], Kenneth Fan[2], Daniela Bueno[3], Christina Tabit[1], James Bradley[1]. [1]UCLA, USA, [2]University of Miami, Miller School of Medicine, USA, [3]São Paulo University, Brazil, Brazil
Disclosures: Joyce Yuan, None

SU0108 **Measuring the Elastic Properties of Perlecan/HSPG2 Using Atomic Force Microscopy**
Mary Farach-Carson, Jerahme R. Martinez*, Kai Lou, Sitara S. Wijeratne, Ching-Hwa Kiang. Rice University, USA
Disclosures: Jerahme R. Martinez, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: PROTEINASES

SU0109 **Selective Ablation of MT-MMP Activity in Vascular-associated Multipotent Progenitor Cells Leads to Defective Bone Formation and Disrupted Skeletal Homeostasis**
Joanne Shi*[1], Susan S Yamada[2], Emily Purcell[1], Pamela G. Robey[2], Kenn Holmbeck[2]. [1]National Institute of Dental & Craniofacial Research, USA, [2]NIDCR, USA
Disclosures: Joanne Shi, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: FGF23 AND OTHER PHOSPHATONINS

SU0110 **Dietary Phosphorus Restriction Up-regulates the Ileal Fibroblast Growth Factor 15 Gene Expression through the Vitamin D Receptor Activation**
Otoki Nakahashi*[1], Hironori Yamamoto[1], Sarasa Tanaka[1], Mina Kozai[2], Yutaka Taketani[1], Ken-Ichi Miyamoto[3], Shigeaki Kato[4], Eiji Takeda[5]. [1]University of Tokushima, Japan, [2]Univercity of Tokushima, Japan, [3]Tokushima University School of Medicine, Japan, [4]The University of Tokyo, Japan, [5]University of Tokushima School of Medicine, Japan
Disclosures: Otoki Nakahashi, None

SU0111 **Effects of Hexa-D-Arginine on Regulations of Fibroblast Growth Factor 23 and Parathyroid Hormone of Dietary Phosphate Depleted Mice**
Masanori Takaiwa*[1], Kunihiko Aya[2], Kosei Hasegawa[2], Tsuneo Morishima[2], Youichi Kondo[1], Nobuyuki Kodani[1]. [1]Dept. of Pediatrics, Matsuyama Red Cross Hosp., Japan, [2]Department of Pediatrics, Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan
Disclosures: Masanori Takaiwa, None

SU0112 **Genetic Determinants of Phosphate Response in *Drosophila***
Clemens Bergwitz*[1], Mark Wee[2], Sumi Sinha[2], Joanne Huang[2], Charles DeRobertis[2], Hway Chen[2], Lawrence Mensah[2], Adam Friedman[3], Meghana Kulkarni[3], Yanhui Yu[3], Arunachalam Vinayagam[3], Michael Schnall-Levin[4], Harald Jueppner[2], Bonnie Berger[4], Liz Perkins[3], Stephanie Mohr[3], Norbert Perrimon[5]. [1]Massachusetts General Hospital & Harvard Medical School, USA, [2]Massachusetts General Hospital, USA, [3]Harvard Medical School/Howard Hughes Medical Institute, USA, [4]Massachusetts Institute of Technology, USA, [5]3Harvard Medical School/Howard Hughes Medical Institute, USA
Disclosures: Clemens Bergwitz, None

SU0113 **Metabolic Acidosis Increases Fibroblast Growth Factor 23 in Neonatal Mouse Bone**
Nancy Krieger*[1], Christopher Culbertson[2], Kelly Kyker-Snowman[2], David Bushinsky[1]. [1]University of Rochester, USA, [2]University of Rochester School of Medicine, USA
Disclosures: Nancy Krieger, None

SU0114 **Renal and Extra Renal Regulation of the Vitamin D 1α-hydroxylase Gene, CYP27B1, by FGF-23**
Ankanee Chanakul[1], Martin Zhang[1], Harvey Armbrecht[2], Walter Miller[1], Anthony Portale[1], Farzana Perwad*[3]. [1]University of California San Francisco, USA, [2]St. Louis Veterans Affairs Medical Center, USA, [3]University of California, San Francisco, USA
Disclosures: Farzana Perwad, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: PARATHYROID AND PARATHYROID HORMONE-RELATED PEPTIDE

SU0115 **Age Differences in the Relationship between Vitamin D and Parathyroid Hormone: KNHANES IV**
Kyoung Min Kim*[1], Se Hwa Kim[2], Yumie Rhee[3], Chang Oh Kim[4], Sung-Kil Lim[4]. [1]Yonsei University, South korea, [2]Kwandong University College of Medicine, Myongji Hospital, South korea, [3]Department of Internal Medicine, College of Medicine, Yonsei University, South korea, [4]Yonsei University College of Medicine, South korea
Disclosures: Kyoung Min Kim, None

SU0116 **Bone Marrow Macrophage Cells Secrete a Factor that Inhibits PTH-Stimulated Osteoblastic Differentiation *In Vitro***
Shilpa Choudhary*, Abhijit Deb Roy, Joseph Lorenzo, Carol Pilbeam. University of Connecticut Health Center, USA
Disclosures: Shilpa Choudhary, None

SU0117 **Gender Differences in the Role of IGF-1 Signaling in Mediating the Effects of Continuous PTH on Bone**
Muriel Babey*[1], Chak Fong[2], Yongmei Wang[3], Takuo Kubota[4], Elalieh Hashem[2], Daniel Bikle[5]. [1]Endocrine Research Unit, USA, [2]UCSF, USA, [3]Endocrine Unit, University of California, San Francisco/VA Medical Center, USA, [4]Osaka University Graduate School of Medicine & Dentistry, Japan, [5]Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA
Disclosures: Muriel Babey, None

SU0118 **PTHrP Regulates Cancer microRNA Expression**
Leonard Deftos*[1], Douglas Burton[2], Jessica Wang-Rodriguez[3], Cheryl Chalberg[2], Su Tu[2], Kathy Smith[2], Rutherford Ongkeko[2]. [1]VA San Diego Healthcare System / University of California, San Diego, USA, [2]VA San Diego Healthcare System / University of California San Diego, USA, [3]Veterans Administration San Diego Healthcare System, USA
Disclosures: Leonard Deftos, None

SU0119 **Skeletal Response to Mechanical Loading and Unloading in Mice Lacking the PTH1 Receptor Expression in Osteocytes**
Yili Qu[1], Yi Man[2], Kevin Barry[1], Jordan Spatz[3], Brandon Ausk[4], Keertik Fulzele[5], Sutada Lotinun[6], Roland Baron[7], Ted Gross[4], Paola Divieti Pajevic*[8]. [1]Endocrine Unit, Massachusetts General Hospital, Harvard Medical School, USA, [2]Endocrine Unit, Massachusetts General Hospital & Tuft School of Dental Medicine, USA, [3]Harvard-MIT Division of Health Sciences & Technology (HST), USA, [4]University of Washington, USA, [5]Massachusetts General Hospital; Harvard Medical School, USA, [6]Harvard School of Dental Medicine, USA, [7]Harvard School of Medicine & of Dental Medicine, USA, [8]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Paola Divieti Pajevic, None

SU0120 **The Effects of Storage Temperature and Repeat Freeze-Thaw Cycles on Stability of PTH (1-34) as Determined by the IDS-iSYS Automated Analyser**
Christopher Washbourne*[1], Jonathan Tang[2], William Fraser[3]. [1]Mr., United Kingdom, [2]University of East Anglia, Norwich, UK, United Kingdom, [3]University of East Anglia, United Kingdom
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DISORDERS OF MINERAL METABOLISM: CHRONIC KIDNEY DISEASE AND METABOLIC BONE DISEASE

SU0121 **Changes in Bone Mass Predict Progression of Coronary Artery Calcification in Patients with Chronic Kidney Disease**
Hartmut Malluche*[1], Gustav Blomquist[2], Kimberly McLaughlin[2], Daniel Davenport[2], Marie-Claude Faugere[1]. [1]University of Kentucky Medical Center, USA, [2]University of Kentucky, USA
Disclosures: Hartmut Malluche, None

SU0122 **Characterization of Bone Quality in Rat Model with Chronic Kidney Disease**
Hiromi Kimura-Suda*[1], Kousuke Hidaka[1], Mieko Kuwahara[2], Kyousuke Kanazawa[1], Hidetoshi Ueno[1], Kyouji Honma[1], Makoto Kajiwara[3], Kenji Bannai[2], Hideyuki Yamato[2]. [1]Chitose Institute of Science & Technology, Japan, [2]Kureha Corporation, Japan, [3]Kureha Special Laboratory, Japan
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SU0123 **Withdrawn**

SU0124 **Mineral Characteristics of Bone Tissue in Patients With Chronic Kidney Disease**
ANNE-SOPHIE BRAVO MARTIN*[1], Delphine Farlay[2], Georges Boivin[3]. [1]INSERM, UMR 1033 ; Université de Lyon, France, [2]INSERM, UMR1033; Université De Lyon, France, [3]INSERM, UMR1033 ; Universite De Lyon, France
Disclosures: ANNE-SOPHIE BRAVO MARTIN, None

SU0125 **Retrospective Review of Bone Density Scans in Different Stages of Chronic Kidney Disease**
Bhanu Prasad*[1], Siva Karunakaran[1], Mohammed Abdulhadi[2], Cathy Nadiger[3], Cam Wilson[1]. [1]University Of Saskatchewan, Canada, [2]University of Sasktachewan, Canada, [3]Regina Qu apelle Health region, Canada
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DISORDERS OF MINERAL METABOLISM: CONGENITAL AND GENETIC BONE DISEASES

SU0126 **Osteoclast-poor Osteopetrosis in a Toddler without Mutation of the Genes TNFSF11 and TNFSFR11A that Encode RANKL and RANK, Respectively**
Gary Gottesman*[1], Loren D. Pena[2], Chang Yang[3], Steven Mumm[4], Katherine Madson[5], Deborah Novack[6], William H. McAlister[7], Michael Whyte[5]. [1]Shriners Hospital for Children, Saint Louis, MO, USA, [2]University of Illinois at Chicago College of Medicine, USA, [3]Washington University in St Louis School of Medicine, USA, [4]Washington University School of Medicine, USA, [5]Shriners Hospital for Children-Saint Louis, USA, [6]Washington University in St. Louis School of Medicine, USA, [7]Mallinckrodt Institute of Radiology at St. Louis Children's Hospital, Washington University School of Medicine, USA
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DISORDERS OF MINERAL METABOLISM: HYPERCALCEMIA OF MALIGNANCY

SU0127 **Molecular Analyses of Malignant Hypercalcemia Caused by Genuine PTH, but not PTHrP, Produced in Retroperitoneal Fibrous Histiocytoma**
Kosuke Uchida*[1], Hiroko Fujii[1], Mimi Tamamori-Adachi[2], Koji Morita[1], Tomoki Okazaki[2], Yuji Tanaka[1]. [1]National Defense Medical College, Japan, [2]Teikyo University School of Medicine, Japan
Disclosures: Kosuke Uchida, None

DISORDERS OF MINERAL METABOLISM: IDIOPATHIC HYPERCALCIURIA, NEPHROLITHIASIS

SU0128 **Renal Phosphate Leak And FGF23 Variants In Patients With Recurrent Nephrolithiasis And/or Idiopathic Osteoporosis**
Ranuccio Nuti*[1], Daniela Merlotti[1], Teresa Esposito[2], Domenico Rendina[3], Sara Magliocca[2], Riccardo Muscariello[4], Giovanna Morello[2], Gianpaolo De Filippo[4], Francesca De Pascale[5], Fernando Gianfrancesco[6], Luigi Gennari[1]. [1]University of Siena, Italy, [2]Genetic & Biophysics Institute, CNR, Italy, [3]Dept.of Clinical & Experimental Medicine, University of Naples Federico II, Italy, [4]Dept.of Clinical & Experimental Medicine, University of Naples Federico II, Naples, Italy, [5]Dept. Clinical & Experimental Medicine, University of Naples, Italy, [6]Institute of Genetics & Biophysics - National Research Council of Italy, Italy
Disclosures: Ranuccio Nuti, None

DISORDERS OF MINERAL METABOLISM: OSTEOMALACIA/RICKETS

SU0129 **Acute Hypophosphatasemia; Morbidity and Mortality**
Less Shrestha[1], Jay Fuehrer[2], Richard Berg[2], Fergus McKiernan*[1]. [1]Marshfield Clinic, USA, [2]Biomedical Informatics Research Center, Marshfield Clinic Research Foundation, USA
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SU0130 **Bone Softening in Medieval Population: Histological Findings for Ostemalacia Diagnosis**
Belén López[1], Carlos Gómez*[2], Pablo Manrique[1], Primitiva Menéndez[3], Eva Pascual[4], Jorge Cannata Andia[5]. [1]Physical Anthropology, Systems & Organisms Biology Department, University of Oviedo, Spain, [2]Hospital Universitario Central de Asturias, Spain, [3]Department of Pathology, HUCA, Spain, [4]Preclinic Image Laboratory, University of Oviedo, Spain, [5]Bone & Mineral Research Unit. Hospital Universitario Central de Asturias, Spain
Disclosures: Carlos Gómez, None

SU0131 **Occult Hyperosteoidosis in Rotator Cuff Arthropathy**
Julie Glowacki*, Sherwin Erfani, Shuanhu Zhou, Laurence Higgins, Thomas Thornhill, Meryl Leboff. Brigham & Women's Hospital, USA
Disclosures: Julie Glowacki, None

SU0132 **The Expression of CD73 and Osteoblast/osteocyte Specific Genes in Causative Tumors of Oncogenic Osteomalacia**
Yuki Nagata*[1], Yasuo Imanishi[1], Jun Hashimoto[2], Akimitsu Miyauchi[3], Hiroshi Kaji[4], Katsuhito Mori[1], Keisuke Kobayashi[1], Masaaki Inaba[1]. [1]Osaka City University Graduate School of Medicine, Japan, [2]National Hospital Organization, Osaka Minami Medical Center, Japan, [3]Miyauchi Medical Center, Japan, [4]Kinki University Faculty of Medicine, Japan
Disclosures: Yuki Nagata, None

DISORDERS OF MINERAL METABOLISM: PARATHYROID DISEASES

SU0133 **Acute and Chronic Effects of PTH (1-84) on Circulating Sclerostin Levels in Hypoparathyroidism**
Aline Costa*[1], Serge Cremers[1], Mishaela Rubin[1], Zachary Lenane[1], Elzbieta Dworakowski[1], Chiyuan Zhang[1], Donald McMahon[2], Jim Sliney Jr[3], Marise Lazaretti Castro[4], John Bilezikian[2]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University Medical Center, USA, [4]Escola Paulista de Medicina, Brazil
Disclosures: Aline Costa, None

SU0134 **Bioquemical Reponse to Cinacalcet Treatment in Patients with Prymary Hyperparathyroidism**
Araceli Munoz-Garach*[1], Diego Fernandez-Garcia[2], Maria Dolores Martinez del Valle-Torres[3], Ana Maria Gómez-Perez[2], Pedro Moya-Espinosa[2], Arantzazu Sebastian-Ochoa[2], García José Manuel Jiménez-Hoyuela [4], Francisco Tinahones-Madueño[2]. [1]Spain, [2]Endocrinologist, Spain, [3]Nucler Medicine, Spain, [4]Endocrinologst, Spain
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SU0135 **Chronic Kidney Disease in Primary Hyperparathyroidism**
Marcella Walker*[1], Polly Chen[2], Nicole Weber[2], Anna Kepley[2], Chiyuan Zhang[1], Donald McMahon[2], Shonni Silverberg[1]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA
Disclosures: Marcella Walker, None

SU0136 **Four-Year Effects of PTH(1-84) on Cortical Bone in Hypoparathyroidism**
Stephanie Boutroy*[1], Mishaela Rubin[2], Natalie Cusano[3], Aline Costa[2], Zachary Lenane[2], Jim Sliney Jr[1], John Bilezikian[3]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Stephanie Boutroy, None

SU0137 **Hyperparathyroidism-Jaw Tumor Syndrome: A Novel Mutation in *HRPT2***
Alison Matthews*[1], Michaela Koontz[1], Laura Konczal[2], Mark Weidenbecher[3], James Arnold[3], Teresa Zimmerman[1]. [1]Department of Pediatrics, Rainbow Babies & Children's Hospital, Case Western Reserve University, USA, [2]Center for Human Genetics, University Hospitals Case Medical Center & the Department of Pediatrics, Rainbow Babies & Children's Hospital, USA, [3]Department of Otolaryngology-Head & Neck Surgery, Case Western Reserve University School of Medicine, University Hospitals Case Medical Center, USA
Disclosures: Alison Matthews, None

SU0138 **PTH(1-84) in Hypoparathyroidism: Course as Determined By Changes in Bone Turnover Markers After 4 Continuous Years of Treatment**
Natalie Cusano*[1], Mishaela Rubin[2], Donald McMahon[1], Elzbieta Dworakowski[2], Serge Cremers[1], Amanda Tulley[1], Jim Sliney Jr[3], John Bilezikian[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA, [3]Columbia University Medical Center, USA
Disclosures: Natalie Cusano, None

SU0139 **Skeletal Microstructural Abnormalities in Primary Hyperparathyroidism by High Resolution Peripheral Quantitative Computed Tomography**
Stephanie Boutroy*[1], Barbara Silva[1], Natalie Cusano[2], Donald McMahon[2], Chiyuan Zhang[3], Julia Udesky[4], John Bilezikian[2]. [1]Columbia University Medical Center, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University, USA, [4]College of Physicians & Surgeons, Columbia University Medical Center, USA
Disclosures: Stephanie Boutroy, None

SU0140 **Suboptimal Vitamin D Levels Affect Both Cortical and Trabecular Bone in Primary Hyperparathyroidism**
Marcella Walker*[1], Polly Chen[2], Nicole Weber[2], Anna Kepley[2], Chiyuan Zhang[1], Donald McMahon[2], Shonni Silverberg[1]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA
Disclosures: Marcella Walker, None

SU0141 **Usefulness of Ultrasound Elastosonography in Primary Hyperparathyroidism**
Federica Saponaro*[1], Valeria Loiacono[2], Gabriele Di Rosa[1], Maria Scutari[2], Luisella Cianferotti[1], Silvia Chiavistelli[1], Paolo Vitti[2], Teresa Rago[2], Claudio Marcocci[1], Filomena Cetani[1]. [1]Department of Endocrinology & Metabolism - Section of Endocrinology & Bone Metabolism, University of Pisa, Pisa, Italy, [2]Department of Endocrinology & Metabolism, University of Pisa, Pisa, Italy
Disclosures: Federica Saponaro, None

DISORDERS OF MINERAL METABOLISM: RHEUMATOLOGIC AND OTHER SYSTEMIC ILLNESSES

SU0142 **Effect of Higher Strontium Consumption on the Bone Mineral Density, Content and Strength in Goats**

Changrong Ge[1], Zhiqiang Xu[2], Yueyuan Fan[3], Zhenhui Cao[3], Dahai Gu*[3], Hua Rong[3], Guozhou Liao[3], Weizhong Wang[4], Linli Tao[3], Xi Zhang[5], Shizheng Gao[3], Queye Lin[3], Junjing Jia[3], Wei Yao[6]. [1]Yunnan Agricultural University, P.R.China, Peoples republic of china, [2]Yunnan Agricultural University, China, Peoples republic of china, [3]Yunnan Provincial Key Laboratory of Animal Nutrition & Feed, Yunnan Agricultural University, China, [4]Yunnan Provincial Key Laboratory of Animal Nutrition & Feed, China, [5]Yunnan Agricultural University, Peoples republic of china, [6]University of California, Davis Medical Center, USA

Disclosures: Dahai Gu, None

SU0143 **Increased Bone Loss with Sustained Disease Duration in HLA-B27 Transgenic Rats Is Associated with Altered Osteoblast Function**

Martina Rauner*[1], Sylvia Thiele[2], Peggy Benad[3], Christine Hamann[4], Ricardo Bernhardt[5], Ingrid Fert[6], Luiza Krause[6], Maxime Breban[6], Lorenz Hofbauer[7]. [1]Medical Faculty of the TU Dresden, Germany, [2]Dresden University Medical Center, Germany, [3]Department of Medicine III, TU Dresden, Germany, [4]Dresden Technical University Medical Center, Germany, [5]Technische Universität Dresden, Germany, [6]Institut Cochin, France, [7]Dresden University Medical Center, Germany

Disclosures: Martina Rauner, None

DISORDERS OF MINERAL METABOLISM: VASCULAR AND ECTOPIC CALCIFICATION

SU0144 **KLF10 is a Critical Mediator of Wnt Signaling in Valve Interstitial Cells.**

Muzaffer Cicek[1], Malayannan Subramaniam[1], John Hawse[2], Thomas Spelsberg[1], Nalini Rajamannan*[3]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA, [3]Northwestern University Medical School, USA

Disclosures: Nalini Rajamannan, None

SU0145 **Lineage Switching by Mouse and Human Smooth Muscle Cells *In Vitro* Results in Phenotypic Osteoblast-like Cells That Are Responsive to 1,25-Dihydroxyvitamin D_3**

Sohel Shamsuzzaman*, J. Pike. University of Wisconsin-Madison, USA

Disclosures: Sohel Shamsuzzaman, None

SU0146 **Serum 25-hydroxy-vitamin D is an Independent Risk Factor for Abdominal Aortic Calcification**

Lisa Langsetmo*[1], Brian Lentle[2], Sophie Jamal[3], Christopher Kovacs[4], David Hanley[5], Susan Whiting[6], Claudie Berger[7], Stephanie Kaiser[8], Robert Josse[9], Jerilynn Prior[2], Jonathan Adachi[10], Anthony Hodsman[11], K. Shawn Davison[12], Suzanne Morin[7], Jacques Genest[7], Nancy Kreiger[13], David Goltzman[7]. [1]Canandian Multicenter Osteoporosis Study, Canada, [2]University of British Columbia, Canada, [3]The University of Toronto, Canada, [4]Memorial University of Newfoundland, Canada, [5]University of Calgary, Canada, [6]University of Saskatchewan, Canada, [7]McGill University, Canada, [8]Dalhousie University, Canada, [9]St. Michael's Hospital, University of Toronto, Canada, [10]St. Joseph's Hospital, Canada, [11]Western University, Canada, [12]Laval University, Canada, [13]University of Toronto, Canada

Disclosures: Lisa Langsetmo, None

SU0147 **Serum Osteocalcin is Associated with Severe Abdominal Aortic Calcifications Progression in Older Men: the MINOS Study**

Cyrille Confavreux*[1], Pawel Szulc[2], Stephanie Boutroy[3], Annie Varennes[4], Nicolas Vilayphiou[5], Joelle Goudable[6], Roland Chapurlat[7]. [1]INSERM U1033 - Universite de Lyon, France, [2]INSERM UMR 1033, University of Lyon, Hopital E. Herriot, Pavillon F, France, [3]Columbia University Medical Center, USA, [4]Hospices Civils de Lyon, France, [5]INSERM UMR1033, Université de Lyon & Hospices Civils de Lyon, France, [6]Université de Lyon - INSERM U1060, France, [7]E. Herriot Hospital, France

Disclosures: Cyrille Confavreux, None

SU0148 **The Presence and Severity of VFA detected Aortic Calcification is Strongly Associated with Cardiovascular Disease in Rheumatoid Arthritis.**
Ausaf Mohammad*[1], Diane Bergin[2], Derek Lohan[2], Sarah Mooney[2], John Newell[3], Martin O'Donnell[3], Robert J Coughlan[4], John J Carey[4]. [1]Rheumatology Unit1 Merlin Park University Hospital, Ireland, [2]Radiology, Galway University Hospitals, Ireland, [3]HRB Clinical Research Facility, NUI Galway, Ireland, [4]Rheumatology, Galway University Hospitals, Ireland
Disclosures: Ausaf Mohammad, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: GENERAL STUDIES

SU0149 **An Inheritable, Direct Replica of Human Fibrous Dysplasia (FD) of Bone Generated through Constitutive Expression of GsαR201C in the Mouse**
Isabella Saggio*[1], Cristina Remoli[1], Stefania Cersosimo[1], Stefania Piersanti[1], Stefano Michienzi[1], Manuela Spica[1], Pamela G. Robey[2], Kenn Holmbeck[3], Ana Cumano[4], Alan Boyde[5], Mara Riminucci[6], Paolo Bianco[7]. [1]Sapienza University of Rome, Italy, [2]NIDCR, NIH, USA, [3]NIH/NIDCR, USA, [4]Pasteur Institute, France, [5]Queen Mary University of London, United Kingdom, [6]University La Sapienza, Italy, [7]Universita La Sapienza, Italy
Disclosures: Isabella Saggio, None

SU0150 **Bone Marrow Transplantation Reduces Inflammation and Inflammation-Induced Bone Loss in Cherubism Mice**
Teruhito Yoshitaka*[1], Shu Ishida[2], Tomoyuki Mukai[3], Yasuyoshi Ueki[4]. [1]University Missouri-Kansas City, School of Dentistry, USA, [2]University Missouri-Kansas City School of Dentistry, USA, [3]University of Missouri - Kansas City, USA, [4]University of Missouri-Kansas City, School of Dentistry, USA
Disclosures: Teruhito Yoshitaka, None

SU0151 **C-mpl is Expressed on Osteoblasts and Osteoclasts and is Important in Regulation of Skeletal Homeostasis**
Tomas Meijome*[1], Jenna Baughman[1], Adam Hooker[2], Yinghua Cheng[2], Brahmananda Chitteti[2], Pierre Eleniste[3], Edward Srour[2], Robyn Fuchs[4], Angela Bruzzaniti[3], Melissa Kacena[2]. [1]Indiana University-Purdue University Indianapolis, USA, [2]Indiana University School of Medicine, USA, [3]Indiana University School of Dentistry, USA, [4]Indiana University, USA
Disclosures: Tomas Meijome, None

SU0152 **Identification of the PolyA Mutation (c.*231A>G) in the PHEX 3'UTR in Five Boys with X-linked Hypophosphatemia (XLH)**
Steven Mumm*[1], Margaret Huskey[1], Valerie Wollberg[1], Katherine Madson[2], Deborah Wenkert[2], Gary Gottesman[2], William McAlister[1], Michael Whyte[3]. [1]Washington University School of Medicine, USA, [2]Shriners Hospital for Children-Saint Louis, USA, [3]Shriners Hospital for Children, USA
Disclosures: Steven Mumm, None

SU0153 **Mineralizing Enthesopathy is a Common Feature of Renal Phosphate Wasting Disorders Attributed to FGF23 and is Exacerbated by Standard Therapy in Hyp Mice**
Carolyn Macica*[1], Xiuying Bai[2], Jean-Pierre Falet[3], Emily Walters[4], Andrew Karaplis[3]. [1]Yale University School of Medicine, USA, [2]Lady Davis Institute, Canada, [3]McGill University, Canada, [4]Yale University, USA
Disclosures: Carolyn Macica, None

SU0154 **Osteopetrosis, Osteopetrorickets and Hypophosphatemic Rickets Differentially Affect Dentin and Enamel Mineralization**
Thorsten Schinke[1], Till Koehne*[2]. [1]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppe, Germany, [2]Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Germany
Disclosures: Till Koehne, None

SU0155 **Withdrawn**

SU0156 **Serum Serotonin is Elevated in Osteoporosis Pseudoglioma Syndrome (OPPG) and Inversely Related to Muscle Mass and Bone Quality**

Elizabeth Streeten*[1], D Holmes Morton[2], Erik Puffenberger[2], Sheila Ramirez[3], Sruti Chandresakaran[1], Kathleen Ryan[1], Rita Herskovitz[4], Mary Leonard[5]. [1]University of Maryland School of Medicine, USA, [2]The Clinic for Special Children, USA, [3]University of Maryland, USA, [4]Childrens Hospital of Philadelphia, USA, [5]Children's Hospital of Philadelphia, USA

Disclosures: Elizabeth Streeten, None

SU0157 **Skeletal Analysis of the Tc1 Mouse Model of Down Syndrome Suggests a Limited Region of Human Chromosome 21 is Involved in Low Bone Mass**

Tristan Fowler*[1], Nisreen Akel[1], Jaclyn Vander Schilden[2], Robert Skinner[2], Frances Swain[2], Shane Shelton[2], William Hogue[2], Kent McKelvey[3], Dana Gaddy[1], Larry Suva[1]. [1]University of Arkansas for Medical Sciences, USA, [2]Department of Orthopaedic Surgery, Center for Orthopaedic Research, USA, [3]Department of Genetics, University of Arkansas for Medical Sciences, USA

Disclosures: Tristan Fowler, None

SU0158 **Targeted Sequencing of Previously Identified Loci Associated with BMD**

Douglas Kiel[1], Yi-Hsiang Hsu*[2], Ching-Ti Liu[3], John Robbins[4], L Adrienne Cupples[3], Serkalem Demissie[3], David Karasik[1], Jennifer Brody[5], Guo Li[5], Yanhua Zhou[6], Bruce Psaty[5], Tamara Harris[7]. [1]Hebrew SeniorLife, USA, [2]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [3]Boston University School of Public Health, USA, [4]University of California, Davis Medical Center, USA, [5]University of Washington, USA, [6]Boston University, USA, [7]Intramural Research Program, National Institute on Aging, USA

Disclosures: Yi-Hsiang Hsu, None

SU0159 **Teriparatide Improves BMD and Bone Strength in Adults with Osteogenesis Imperfecta: A Randomized, Blinded, Placebo Controlled Trial**

Eric Orwoll*[1], Sandra Veith[1], Ying Wang[1], Jodi Lapidus[1], Tony Keaveny[2], David Lee[3], Sandesh Sreenath-Nagamani[4], Jay Shapiro[5], Brendan Lee[6]. [1]Oregon Health & Science University, USA, [2]University of California, Berkeley, USA, [3]O.N. Diagnostics, USA, [4]Baylor College of Medicine, USA, [5]Kennedy Krieger Institute, Johns Hopkins, USA, [6]Baylor College of Medicine & Howard Hughes Medical Institute, USA

Disclosures: Eric Orwoll, Merck, Lilly, Amgen, 2; Merck, Wright, 5

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: LINKAGE STUDIES AND POLYMORPHISMS

SU0160 **Genetic Determinants of Trabecular and Cortical Volumetric Bone Mineral Densities and Bone Microstructure**

Claes Ohlsson*[1], Lavinia Paternoster[2], Terho Lehtimäki[3], Joel Eriksson[4], Mika Kähönen[5], Olli Raitakari[6], Marika Laaksonen[7], Vera Mikkilä[7], Jorma Viikari[8], Leo-Pekka Lyytikäinen[3], John P Kemp[2], Adrian Sayers[9], Maria Nethander[10], Liesbeth Vandenput[11], David M Evans[2], Mattias Lorentzon[1], J.H. Tobias[12]. [1]Center for Bone Research At the Sahlgrenska Academy, Sweden, [2]MRC Centre for Causal Analyses in Translational Epidemiology, University of Bristol, BS8 2BN, UK, United Kingdom, [3]Department of Clinical Chemistry, University of Tampere & Tampere University Hospital, Tampere, Finland, 33521, Finland, [4]Center for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, Sweden, [5]4Department of Clinical Physiology, University of Tampere & Tampere University Hospital, Tampere, Finland, 33521, Finland, [6]Research Centre of Applied & Preventive Cardiovascular Medicine, University of Turku & the Department of Clinical Physiology, Turku University Hospital, Turku, Finland, 20521, Finland, [7]Department of Food & Environmental Sciences, University of Helsinki, Helsinki, Finland, Finland, [8]Department of Medicine, University of Turku & Turku University Hospital, Turku, Finland, 20521, Finland, [9]School of Social & Community Medicine, University of Bristol, Bristol BS8 2PS, UK, United Kingdom, [10]Genomics Core Facility, University of Gothenburg, Gothenburg, Sweden, Sweden, [11]Sahlgrenska University Hospital, Sweden, [12]Avon Orthopaedic Centre, United Kingdom

Disclosures: Claes Ohlsson, None

SU0161 **Identification of Sex-specific Genetic Loci for Bone Fragility Phenotypes in Heterogeneous Stock Rats.**
Imranul Alam*[1], Daniel Koller[1], Qiwei Sun[2], Toni Cañete[3], Gloria Blázquez[3], Regina López-Aumatell [4], Esther Martínez-Membrives [3], Elia Vicens-Costa [3], Carme Mont[3], Sira Díaz[3], Adolf Tobeña[3], Alberto Fernández-Teruel [3], Adam Whitley[4], Pernilla Stridh[5], Margarita Diez[5], Martina Johannesson[4], Amelie Baud[4], Jonathan Flint[4], Michael Econs[1], Charles Turner[2], Tatiana Foroud[2]. [1]Indiana University School of Medicine, USA, [2]IUPUI, USA, [3]Autonomous University of Barcelona, Spain, [4]Wellcome Trust Center for Human Genetics, United Kingdom, [5]Karolinska Institutet, Sweden
Disclosures: Imranul Alam, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: BONE MORPHOGENETIC PROTEINS

SU0162 **Adverse Effects of BMP2 on Bone Formation and Osseointegration**
Sharon Hyzy*[1], Rene Olivares-Navarrete[2], Barbara Boyan[2], Zvi Schwartz[2]. [1]Georgia Tech, USA, [2]Georgia Institute of Technology, USA
Disclosures: Sharon Hyzy, None

SU0163 **BMP-2 Synergizes the Bone Healing Effect of Low Molecular Weight FGF-2 on Calvarial Defects in Mice**
Liping Xiao*[1], Sylvain Catros[2], Daisuke Ueno[3], Lyndon Charles[1], Liisa Kuhn[1], Marja Marie Hurley[4]. [1]University of Connecticut Health Center, USA, [2]University of Bordeaux Segalen, France, [3]Tsurumi University, Japan, [4]University of Connecticut Health Center School of Medicine, USA
Disclosures: Liping Xiao, None

SU0164 **Endogenous BMP7 Activity is Prerequisite for Postnatal Joint Homeostasis**
Kahaer Abula*[1], Takeshi Muneta[1], Kazumasa Miyatake[1], Jun Yamada[1], Yu Matsukura[1], Mika Yamaga[1], Ichiro Sekiya[1], Aris Economides[2], Vicki Rosen[3], Kunikazu Tsuji[1]. [1]Tokyo Medical & Dental University, Japan, [2]Regeneron Pharmaceuticals, Inc., USA, [3]Harvard School of Dental Medicine, USA
Disclosures: Kahaer Abula, None

SU0165 **Loss of BMPR2 Leads to High Bone Mass Due to Increased Osteoblast Activity**
Jonathan Lowery*[1], Giuseppe Intini[1], Karen Cox[2], Laura Gamer[1], Sutada Lotinun[1], Kunikazu Tsuji[3], Roland Baron[4], Vicki Rosen[1]. [1]Harvard School of Dental Medicine, USA, [2]Department of Developmental Biology, Harvard School of Dental Medicine, USA, [3]Tokyo Medical & Dental University, Japan, [4]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Jonathan Lowery, None

SU0166 **Recombinant Human BMP-2 Induces a Transient Dose Response for Bone Repair in Critical Sized Long Bone Defects**
Kenneth Kozloff*[1], Joseph S. Tramer[1], Ed Berryman[2], Joseph E. Perosky[1], Eric Vanderploeg[2], Steven A. Goldstein[1], Cedo M. Bagi[2]. [1]University of Michigan Department of Orthopaedic Surgery, USA, [2]Pfizer, Inc., USA
Disclosures: Kenneth Kozloff, Pfizer, Inc., 2

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: FIBROBLAST GROWTH FACTORS

SU0167 **Fgf-23: The Untold Regulator of Hematopoiesis**
Lindsay Coe*[1], Sangeetha V.M.[2], Despina Sitara[1]. [1]New York University College of Dentistry, USA, [2]New York University, USA
Disclosures: Lindsay Coe, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: GENERAL

SU0168 **A Case Report of the Percutaneously Injection of Platelet-rich Plasma (PRP) to Accelerate Fracture Healing in an Athlete**
YOHEI KOBAYASHI*[1], Yoshitomo Saita[1], Masashi Nagao[2], Hiroki Nakajima[1], Hiroshi Ikeda[1], Kazuo Kaneko[1]. [1]Department of Orthopaedics, Juntendo University School of Medicine, Japan, [2]Juntendo University Nerima Hospital, Japan
Disclosures: YOHEI KOBAYASHI, None

SU0169 **Angiogenesis with Bone Malignant Melanoma Induces Production of Prostaglandin E2 in Host Stromal Cells**
Kenta Watanabe, Statoshi Yokoyama, Chiho Matsumoto, Michiko Hirata, Chisato Miyaura, Masaki Inada*. Tokyo University of Agriculture & Technology, Japan
Disclosures: Masaki Inada, None

SU0170 **Chondrogenic and Osteogenic Effects of Wnt Proteins on Human Chondrocytes, Osteoblasts and Mesenchymal Stem Cells**
Rene Olivares-Navarrete*[1], Sharon Hyzy[2], Christine Wasilewski[1], Caitlin Cundiff[1], Zvi Schwartz[1], Barbara Boyan[1]. [1]Georgia Institute of Technology, USA, [2]Georgia Tech, USA
Disclosures: Rene Olivares-Navarrete, None

SU0171 **Dual Effects of Adiponectin During Osteoblast Differentiation Through pSmad1/5/8 Signaling Pathway**
Liming Yu*, Qisheng Tu, Jake Jinkun Chen. Tufts University School of Dental Medicine, USA
Disclosures: Liming Yu, None

SU0172 **Immunological Phenotype in a Mouse Model of Osteogenesis Imperfecta**
Thomas Lisse*[1], Svetoslav Kalaydjiev [2], Dirk Busch[2], Martin Hrabé de Angelis[2]. [1]Mount Desert Island Biological Laboratory, USA, [2]Helmholtz Zentrum Munich, Germany
Disclosures: Thomas Lisse, None

SU0173 **Intermittent in vivo Parathyroid Hormone (PTH) Treatment Decreases Apoptotic Rates of Hematopoietic Stem Cells (HSCs) Prior to Expanding Their Numbers**
Ismat Shafiq[1], Benjamin Frisch*[2], Rebecca Porter[1], Julianne Smith[1], Olga Bromberg[1], Miles Basil[1], Robinder Dhillon[3], Edward Schwarz[3], Laura Calvi[2]. [1]University of Rochester School of Medicine & Dentistry, USA, [2]University of Rochester School of Medicine, USA, [3]University of Rochester, USA
Disclosures: Benjamin Frisch, None

SU0174 **Non-canonical Wnt5a and Secreted Frizzled Related Protein-1 (sFRP1) Stimulate Expression of CXCL5 and CXCL8 Chemokines in Part via Bone Morphogenetic Protein (BMP) and Mitogen-activated Protein Kinase (MAPK) Signaling in Human Mesenchymal Stem Cells (hMSCs)**
David Bischoff*, Jian-hua Zhu, Weibiao Huang, Nalini Makhijani, Dean Yamaguchi. VA Greater Los Angeles Healthcare System, USA
Disclosures: David Bischoff, None

SU0175 **Role of Nod Signaling on Bone Resorption in Experimental Periodontal Disease**
Joao A C de Souza[1], Marcell C Medeiros[1], Sabrina C T Frasnelli[1], Fernanda R G Rocha[2], Mario J Avila-Campos[3], Dario S Zamboni[4], Carlos Rossa*[5]. [1]Sch of Dentistry at Araraquara-Univ Estadual Paulista (UNESP), Brazil, [2]School of Dentistry at Araraquara-Univ Estadual Paulista (UNESP), Brazil, [3]Biological Sciences Institute-Univ de Sao Paulo (USP), Brazil, [4]Sch of Medicine of Ribeirao Preto-Univ de Sao Paulo (USP), Brazil, [5]School of Dentistry at Araraquara, Sao Paulo State University (UNESP), Brazil
Disclosures: Carlos Rossa, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: INSULIN-LIKE GROWTH FACTORS AND BINDING PROTEINS

SU0176 **Estrogen by Genotype Interactions Define Bone Mass and Body Composition in Female *Igfbp2-/-* Mice**
Victoria Demambro*[1], Casey Doucette[1], Phuong Le[1], David Clemmons[2], Clifford Rosen[3]. [1]Maine Medical Center Research Institute, USA, [2]University of North Carolina, USA, [3]Maine Medical Center, USA
Disclosures: Victoria Demambro, None

SU0177 **Matrix IGF-1 Regulates Bone Mass by Activation of mTOR in Mesenchymal Stem Cells.**
Lingling Xian*[1], Xiangwei Wu[1], LIJUAN PANG[1], Michael Lou[1], Clifford Rosen[2], Tao Qiu[1], Janet Crane[3], Frank Frassica[1], Liming Zhang[1], Juan Pablo Rodriguez[4], Xiaofeng Jia[5], Shoshana Yakar[6], Argiris Efstratiadis[7], Shouhong Xuan[8], Mei Wan[1], Xu Cao[3]. [1]Johns Hopkins University School of Medicine, USA, [2]Maine Medical Center, USA, [3]Johns Hopkins University, USA, [4]The University of Chile, Chile, [5]5Department of Biomedical Engineering, Johns Hopkins University School of Medicine, USA, [6]New York University COLLEGE OF DENTISTRY, David B. Kriser Dental Center, USA, [7]7Department of Genetics & Development, Columbia University, USA, [8]Columbia Univ. Medical Center, USA
Disclosures: Lingling Xian, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: REPRODUCTIVE HORMONES OTHER THAN ESTROGEN

SU0178 **FSH Limits Osteon Size and Regulates Development of Osteoblasts in a Process that also Responds to High Levels of HCG**
Harry Blair*[1], Irina Tourkova[1], Li Liu[1], Li Sun[2], Lisa Robinson[1], Mone Zaidi[3]. [1]University of Pittsburgh, USA, [2]Mount Sinai School of Medicine, USA, [3]Mount Sinai Medical Center, USA
Disclosures: Harry Blair, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: TRANSFORMING GROWTH FACTOR

SU0179 **Effects of Activin A and Follistatin on the Differentiation of Aged Primary Bone Marrow Stromal Cells (BMSCs) and Primary Myoblasts in vitro**
Xingming Shi*[1], Matthew Bowser[2], Nianlan Yang[1], Linlin He[1], Samuel Herberg[1], Sadanand Fulzele[1], William Hill[3], Carlos Isales[4], Mark Hamrick[1]. [1]Georgia Health Sciences University, USA, [2]Georgia Health Science University, USA, [3]Georgia Health Sciences University & Charlie Norwood VAMC, USA, [4]Medical College of Georgia, USA
Disclosures: Xingming Shi, None

MUSCLE AND BONE INTERACTIONS (BASIC): GENERAL

SU0180 **Adult Patients With Cerebral Palsy Show Negative Bone Balance Specifically More In Spastic Type**
Won Jin Kim*[1], Sung-Rae Cho[2], Yumie Rhee[1]. [1]Department of Internal Medicine, College of Medicine, Yonsei University, South korea, [2]Department of Rehabilitation Medicine, Yonsei University, College of Medicine, South korea
Disclosures: Won Jin Kim, None

SU0181 **Withdrawn**

SU0182 **Evaluation of αSMA Expressing Cell Contribution To Muscle Heterotopic Ossification**
Elena Torreggiani*[1], Danka Grcevic[2], Brya Matthews[1], Ivo Kalajzic[1]. [1]University of Connecticut Health Center, USA, [2]University of Zagreb, USA
Disclosures: Elena Torreggiani, None

SU0183 **Glucocorticoids Induce Atrophy of Bone and Muscle by FoxO- and ATF4-dependent Mechanisms**
Nicoletta Bivi*[1], Naomie Olivos[2], Amy Sato[1], David Southern[1], Teresita Bellido[1]. [1]Indiana University School of Medicine, USA, [2]IUPUI, USA
Disclosures: Nicoletta Bivi, None

SU0184 **Improved Osteochondral Allograft Preservation using Serum-free Chemically-defined Media**
Joseph Garrity*, James Cook, Aaron Stoker. University of Missouri, USA
Disclosures: Joseph Garrity, None

SU0185 **Influence of Different Exercise Loading Histories on Bone Marrow Adiposity and Its Relationship to Bone Structure and Strength in Young Female Athletes**
Timo Rantalainen*[1], Riku Nikander[2], Ari Heinonen[3], Tomas Cervinka[4], Harri Sievanen[5], Robin Daly[6]. [1]Lappeenranta University of Technology, Finland, [2]Metropolia University of Applied Sciences, Helsinki, Finland, Finland, [3]Department of Health Sciences, University of Jyväskylä, Finland, [4]Department of Biomedical Engineering, Tampere University of Technology, Tampere, Finland, Finland, [5]UKK Institute, Finland, [6]Centre for Physical Activity & Nutrition Research, Deakin University, Australia
Disclosures: Timo Rantalainen, None

SU0186 **Withdrawn**

SU0187 **Muscle-myopathy & X-linked Hypophosphatemic rickets (HYP)**
Lesya Zelenchuk[1], Anne-Marie Hedge[1], Peter Rowe*[2]. [1]KUMC, USA, [2]University of Kansas Medical Center, USA
Disclosures: Peter Rowe, None

SU0188 **Risk Factors, Frequency and Treatment of Bone Mineral Loss in Survivors of Childhood Allogeneic Bone Marrow Transplantation: A Single Institution Review**
Carla Mccrave*, Celia Gonzales, Nancy Shreve, Rukhsana Rahmetulla. Children's Mercy Hospital, USA
Disclosures: Carla Mccrave, None

SU0189 **The Direct and Indirect Costs of Long Bone Fractures in a Working Age US Population**
Machaon Bonafede[1], Derek Espindle[1], Anthony Bower*[2]. [1]Thomson Reuters Healthcare, USA, [2]Amgen, USA
Disclosures: Anthony Bower, None

SU0190 **The Effect of Sex, Age, and Race on Body Composition**
Lan-Juan Zhao*, Ming-Yi Wei, Yumei Tian, Hong-Wen Deng. Tulane University, USA
Disclosures: Lan-Juan Zhao, None

SU0191 **Withdrawn**

SU0192 **The Role of the Proteins of the Nuclear Envelope in the Pathophysiology of Osteosarcopenia**
Sandra Bermeo*[1], Christopher Vidal[2], Wei Li[3], Diane Fatkin[4], Gustavo Duque[5]. [1]PhD Student, Australia, [2]University of Sydney, Australia, [3]Ageing Bone Research Program, Sydney Medical School Nepean, The University of Sydney, Australia, [4]Victor Chang Institute, Australia, [5]Ageing Bone Research Program, University of Sydney, Australia
Disclosures: Sandra Bermeo, None

SU0193 **Wnt Canonical and Non-canonical Signaling Pathways are Involved in Muscle-Bone Crosstalk**
Sandra Romero-Suarez*[1], Mark L Johnson[2], Lynda Bonewald[3], Marco Brotto[3]. [1]University of Missouri, Kansas City, USA, [2]University of missouri- Oral Biology, USA, [3]University of Missouri - Kansas City, USA
Disclosures: Sandra Romero-Suarez, None

OSTEOBLASTS: APOPTOSIS AND CELL CYCLE

SU0194 **A Mechanistic Approach to Prevent Palmitate-Induced Lipoapoptosis in Human Osteoblasts**
Krishanthi Gunaratnam*[1], Christopher Vidal[2], Gustavo Duque[3]. [1]Sydney Medical School-Nepean, Level 5 South Block, Australia, [2]University of Sydney, Australia, [3]Ageing Bone Research Program, University of Sydney, Australia
Disclosures: Krishanthi Gunaratnam, None

SU0195 **The Effects of Extracellular pH on Proliferation and Differentiation of hBMSCs**
Yea Leem*[1], Jae-Suk Chang[2], Dong Yeon Lee[3], Kang-Sik Lee[4]. [1]Seoul Asan Hospital, South korea, [2]Ulsan University, Asan Medical Center, South korea, [3]Kangwon National University Hospital, South korea, [4]
Disclosures: Yea Leem, None

SU0196 **Adherent Bacterial Lipopolysaccharide Inhibits the Osseointegration of Orthopaedic Implants**
Lindsay Bonsignore*, Joscelyn Tatro, Goldberg Victor, Edward Greenfield. Case Western Reserve University, USA
Disclosures: Lindsay Bonsignore, None

SU0197 **Arl6ip5 Controls Rankl Intracellular Trafficking in Osteoblasts and Thereby Suppresses Osteoclast Formation**
Yu Wu*[1], Jun Fan[1], Ying Peng[1], Yuedi Ding[1], Runlin Yang[1], Lili Deng[1], Jianwei Zhou[2], Dengshun Miao[3], Qiang Fu[4]. [1]Jiangsu Institute of Nuclear Medicine, China, [2]NanJing Medical University, China, [3]Nunjing Medical University, Peoples republic of china, [4]Institute of Nuclear Medicine, Peoples republic of china
Disclosures: Yu Wu, None

SU0198 **Deletion of the Rho-GEF Kalirin decreases bone formation, bone length and trabecular bone mass in female mice**
Su Huang[1], Pierre Eleniste[2], Neelam Shah[1], Matthew Allen[3], Angela Bruzzaniti*[1]. [1]Indiana University School of Dentistry, USA, [2]Indiana University-Purdue University Indianapolis, USA, [3]Indiana University School of Medicine, USA
Disclosures: Angela Bruzzaniti, None

SU0199 **Development and Characterization of a Total Osteocalcin ELISA that Detects the Intact and N-Mid Carboxylated, Undercarboxylated, and Uncarboxylated Forms**
Russell Jarres, Elizabeth Weiss, Bethany Salerni*, Peter Wunderli. ALPCO Diagnostics, USA
Disclosures: Bethany Salerni, ALPCO Diagnostics, 3

SU0200 **Establishment and Maintenance of Human Osteoblasts in 2D and 3D *in vitro* Without the Use of Animal-derived Materials**
Carole Elford, Deborah Mason, Jim Ralphs, John Gregory, Alastair Sloan, Bronwen Evans*. Cardiff University, United Kingdom
Disclosures: Bronwen Evans, None

SU0201 **Increased total vBMD at the hypoxia prone site of the juxta-articular metacarpal bone**
Valeria Heise[1], Jolanda Widmer[2], Prisca Eser[2], Peter M Villiger[2], Daniel Aeberli*[3]. [1]Medical faculty of the University of Bern, Switzerland, [2]Department of Rheumatology & Clinical Immunology/Allergology University Hospital Berne, Freiburgstrasse 18, 3010 Bern Switzerland, Switzerland, [3]Dept. of Rheumatology & Clinical Immunology/Allergology University Hospital, Switzerland
Disclosures: Daniel Aeberli, None

SU0202 **Inner Ear Vestibular Signals May Contribute to Bone Loss in Microgravity Conditions**
Guillaume Vignaux*[1], Stéphane Besnard[2], Pierre Denise[2], Florent Elefteriou[1]. [1]Vanderbilt University, USA, [2]Université de Caen, France
Disclosures: Guillaume Vignaux, None

SU0203 **Loss of Sc65 and its Consequences on Osteoblast Secreted Proteins and Bone Homeostasis**
Roy Morello*[1], Larry Suva[1], Dana Gaddy[1], Patrizio Castagnola[2], Katrin Gruenwald[1], Brittany Hendrix[1]. [1]University of Arkansas for Medical Sciences, USA, [2]IRCCS Azienda Ospedaliera Universitaria San Martino - IST - Istituto Nazionale per la Ricerca sul Cancro, Italy
Disclosures: Roy Morello, None

SU0204 **Mechanism Analysis of a Novel Bone Anabolic Peptide**
YURIKO FURUYA*[1], Yutaka Yoshihara[1], Kahn Masud[2], Atsushi Inagaki[1], Kaoru Mori[1], Kazuhiro Aoki[3], Keiichi Ohya[2], Kohji Uchida[1], Hisataka Yasuda[4]. [1]ORIENTAL YEAST CO.,LTD, Japan, [2]Pharmacology Department of Hard Tissue Engineering Division of Bio-Matrix, Japan, [3]Tokyo Medical & Dental University, Japan, [4]Oriental Yeast Company, Limited, Japan
Disclosures: YURIKO FURUYA, Oriental Yeast.Co.,Ltd, 3

SU0205 **Monoosteophil Derived from LL-37 Treated Monocytes and Their Role in Accelerated Bone Repair**
Zhifang Zhang*, John E. Shively. City of hope, USA
Disclosures: Zhifang Zhang, None

SU0206 **Osteoclasts Exert Anabolic Stimuli on Osteoblasts Independent of their Resorption Capability, while Increasing Cartilage Turnover**
Karoline Natasja Stæhr Gudmann*[1], Kim V. Andreassen[2], Christian Thudium[3], Anne-Christine Bay-Jensen[1], Morten Karsdal[3], Kim Henriksen[3]. [1]Nordic Bioscience, Denmark, [2]Nordic Bioscience.com, Denmark, [3]Nordic Bioscience A/S, Denmark
Disclosures: Karoline Natasja Stæhr Gudmann, None

SU0207 **Over-expression of Connective Tissue Growth Factor Enhances Bone Formation**
Christina Mundy*, Alex Lambi, Robin A. Pixley, Roshanak N. Razmpour, Mary Barbe, Steven Popoff. Temple University School of Medicine, USA
Disclosures: Christina Mundy, None

SU0208 **Oxy133 Promotes Osteogenic Differentiation In Vitro and Spine Fusion In Vivo: A Potential Therapeutic Molecule for Stimulation of Bone Formation**
Scott Montgomery*[1], Vicente Meliton[2], Taya Nargizyan[2], Frank Stappenbeck[2], Michael Jung[2], Kamran Movassaghi[2], Jared Johnson[1], Bayan Aghdasi[2], Haijun Tian[2], Yanlin Tan[2], Hirokazu Inoue[2], Elisa Atti[2], Sotirios Tetradis[2], Renata Pereira[2], Jeffrey Wang[2], Farhad Parhami[2]. [1]UCLA, USA, [2]University of California, Los Angeles, USA
Disclosures: Scott Montgomery, None

SU0209 **Study on the Mchanism of Ation of Aendronate in Oteoblast Differentiation**
Hoon Choi[1], Ari Kim*[2]. [1]Inje University Sanggyepaik Hospital, South korea, [2]Sanbon Hospital, College of Medicine, Wonkwang University, South korea
Disclosures: Ari Kim, None

SU0210 **Withdrawn**

OSTEOBLASTS: GENE EXPRESSION AND TRANSCRIPTION FACTORS

SU0211 **Comparative Osteogenic Capacities of MSCs Isolated from Equine Bone Marrow, Synovium and Adipose Tissue**
Antonella Andrietti, Yuwen Chen, Sushmitha Durgam, Matthew Stewart*. University of Illinois, USA
Disclosures: Matthew Stewart, None

SU0212 **Dynamin GTPase Activity is critically required for Osteoblast Migration and Differentiation**
Pierre Eleniste*[1], Su Huang[2], Angela Bruzzaniti[3]. [1]Indiana University-Purdue University Indianapolis, USA, [2]Indiana university, USA, [3]Indiana University School of Dentistry, USA
Disclosures: Pierre Eleniste, None

SU0213 **Effect of Adiponectin on the Expression of its Specific Receptor 1/2 in Osteoblasts and Osteoclasts Under Inflammatory Conditions**
Lan Zhang*, Qisheng Tu, Shu Meng, Jake Jinkun Chen. Tufts University School of Dental Medicine, USA
Disclosures: Lan Zhang, None

SU0214 **Epigenetic Regulation of Osteogenic Transcription Factor SATB2 by PHF8, a Jumonji Family Histone Demethylase**
Qisheng Tu*[1], Yuwei Wu[2], Shu Meng[1], Liming Yu[1], Dana Murray[1], Jake Jinkun Chen[1]. [1]Tufts University School of Dental Medicine, USA, [2]Tufts University, USA
Disclosures: Qisheng Tu, None

SU0215 **Genetic Evidence for a PTH-PKA-αNAC Signalling Cascade in Bone**
Martin Pellicelli*[1], Alice Arabian[2], Joy Wu[3], Henry Kronenberg[3], Rene St-Arnaud[4]. [1]Shriners Hospital for Children - Canada, Canada, [2]Shriners Hospital for Children, Canada, [3]Massachusetts General Hospital, USA, [4]Shriners Hospital for Children & McGill University, Canada
Disclosures: Martin Pellicelli, None

SU0216 **Odd-skipped Related2 Regulates Wnt Signaling Pathway**
Shinji Kawai*[1], Atsuo Amano[2]. [1]Osaka University Graduate School of Dentistry, Japan, [2]Osaka University, Japan
Disclosures: Shinji Kawai, None

SU0217 **Osteoblast-specific Transcription Factor Osx Controls VEGF Expression in Osteoblasts**
Chi Zhang*[1], Wanjin Tang[2], Fan Yang[2], Yang Li[2], Benoit de Crombrugghe[3], Hongli Jiao[4], Guozhi Xiao[5]. [1]Bone Research Laboratory, Texas Scottish Rite Hospital, USA, [2]Texas Scottish Rite Hospital for Children, USA, [3]University of Texas M.D. Anderson Cancer Center, USA, [4]University of Pittsburgh, USA, [5]University of Pittsburgh School of Medicine, USA
Disclosures: Chi Zhang, None

SU0218 **Role of Brd2 Gene in the Regulation of Sex Linked Bone Loss and its Association with Adipocyte Differentiation**
Beth Bragdon[1], Robert Burns[2], Amelia Baker[2], Anna Belkina[3], Gerald Denis[2], Elise Morgan[4], Louis Gerstenfeld[2], Jennifer Schlezinger*[5]. [1]Boston University School of Medicine Department of Orthopaedics, USA, [2]Boston University School of Medicine, USA, [3]Bston University School of Medicine, USA, [4]Boston University, USA, [5]Boston University, School of Public Health, USA
Disclosures: Jennifer Schlezinger, None

SU0219 **The Transcription Factors, Mef2c and Zfp521, Participate in PTH Stimulated MMP-13 Gene Expression in Osteoblastic Cells**
Teruyo Nakatani*[1], Emi Shimizu[2], Nicola Partridge[2]. [1]New York University College of Dentistry, USA, USA, [2]New York University College of Dentistry, USA
Disclosures: Teruyo Nakatani, None

SU0220 **Transactivation of BMP2 Expression by the Wnt Pathway in Osteoblasts**
Ming Zhao*[1], Rongrong Zhang[1], Shuai Liu[1], Babatunde Oyajobi[2], Di Chen[3], Hong-Wen Deng[1]. [1]Tulane University, USA, [2]University of Texas Health Science Center at San Antonio, USA, [3]Rush University Medical Center, USA
Disclosures: Ming Zhao, None

OSTEOBLASTS: HORMONAL REGULATION AND SIGNAL TRANSDUCTION

SU0221 **Circulating Sclerostin Levels Are Reduced During Gestation And Differ Between Women With Gestational Diabetes And Controls In The 3rd Trimester**
Luigi Gennari*[1], Elisa Guarino[2], Daniela Merlotti[1], Elena Ceccarelli[2], Dorica Cataldo[2], Konstantinos Stolakis[3], Stella Campagna[2], Beatrice Franci[2], Barbara Lucani[2], Ranuccio Nuti[1], Francesco Dotta[2]. [1]University of Siena, Italy, [2]Dept. Internal Medicine Endocrine Metabolic Sciences & Biochemistry University of Siena, Italy, [3]Dept. Internal Medicine Endocrine Metabolic Sciences & Biochemistry University of Siena, Italy
Disclosures: Luigi Gennari, None

SU0222 **Protein Kinase C α Deletion Age-dependently Alters Bone Architecture in Female Mice, Impairs Osteoblast Responsiveness to Estrogen and Strain and Replicates Features of Gaucher Disease**
Gabriel Galea*[1], Toshihiro Sugiyama[2], Lee Meakin[1], Christopher M Williams[1], Sarah Curtis[1], Lance Lanyon[3], Alastair W Poole[1], Joanna Price[1]. [1]University of Bristol, United Kingdom, [2]Yamaguchi University School of Medicine, Japan, [3]Royal Veterinary College, United Kingdom
Disclosures: Gabriel Galea, None

SU0223 **PTH Targets MKP-1 and pp38-MAPK Pathway in The Regulation of Osteoblast Mineral Homeostasis**
Chandrika Mahalingam[1], Bharat Sampathi[1], Rashmi Patil[1], Abdul Abou-Samra[2], Nabanita Datta*[3]. [1]Endocrinology, Wayne State University School of Medicine, USA, [2]Endocrinology, Wayne State Unversity School of Medicine, USA, [3]Endocrinology, Cardiovascular Research Institute, Karmanos Cancer Institute, Wayne State University School of Medicine, USA
Disclosures: Nabanita Datta, None

SU0224 **Sphingosine-1-phosphate Regulates Osteoblast Maturation and Mediates Some Estrogen Effects on Bone**
Duangrat Songsawad[1], Pawinee Piyachaturawat[1], Harry Blair[2], Lisa Robinson*[2]. [1]Mahidol University, Thailand, [2]University of Pittsburgh, USA
Disclosures: Lisa Robinson, None

SU0225 **Withdrawn**

OSTEOBLASTS: PROGENITOR AND STROMAL CELLS, PROLIFERATION AND DIFFERENTIATION

SU0226 **Blockade of Endogenous Gi Signaling in Ostoblasts Accelerates Bone Fracture Healing**
Liping Wang*[1], Dylan O'Carroll[2], Richard Kao[3], Lalita Wattanachanya[4], Robert Nissenson[4]. [1]VA Medical Center, San Francisco, USA, [2]SF VAMC, USA, [3]UCSF/VAMC, USA, [4]VA Medical Center & University of California, San Francisco, USA
Disclosures: Liping Wang, None

SU0227 **Bone Sialoprotein Is Essential for Osteoblastic Differentiation and Maturation of Osteoprogenitor Cells**
Jinxi Wang*, Qinghua Lu, M. Kareem Shaath, James Bernard. University of Kansas Medical Center, USA
Disclosures: Jinxi Wang, None

SU0228 **Characterization of a Periosteal Mesenchymal Progenitor Cell Population Involved in Fracture Healing**
Brya Matthews*[1], Danka Grcevic[2], Liping Wang[1], David Rowe[1], Douglas Adams[1], Ivo Kalajzic[1]. [1]University of Connecticut Health Center, USA, [2]University of Zagreb School of medicine, Croatia
Disclosures: Brya Matthews, None

SU0229 **Effects of Auraptene on Osteoblast Differentiation**
Takayuki Yonezawa*[1], Ayaka Hibino[2], Toshiaki Teruya[2], Byung-Yoon Cha[2], Kazuo Nagai[2], Ung-Il Chung[3], Je-Tae Woo[2]. [1]The University of Tokyo, Japan, [2]Chubu University, Japan, [3]University of Tokyo Schools of Engineering & Medicine, Japan
Disclosures: Takayuki Yonezawa, None

SU0230 **Effects of Quercetin on the Differentiation of Mesenchymal Stem Cells to Osteoblasts and Adipocytes**
Antonio Casado-Diaz*[1], Raquel Santiago-Mora[2], Jaouad Anter[1], Jose Manuel Quesada Gomez[3]. [1]IMIBIC Hospital Universitario Reina Sofía, Spain, [2]Universidad De Córdoba, Spain, [3]Quesper R&D, Spain
Disclosures: Antonio Casado-Diaz, None

SU0231 **Histone Deacetylation Mediates the Rejuvenation of Osteoblastogenesis by the Combination of PTH and 25(OH)D in hMSCs from Elders**
Shuanhu Zhou*, Shuo Geng, Julie Glowacki. Brigham & Women's Hospital, USA
Disclosures: Shuanhu Zhou, None

SU0232 **Identification of Novel Runx2 Target Genes in Osteoblastic Differentiation**
Jianning Tao*[1], Yangjin Bae[1], Alison Roos[1], Terry Bertin[1], Jason Yustein[1], Lawrence Donehower[1], Brendan Lee[2]. [1]Baylor College of Medicine, USA, [2]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Jianning Tao, None

SU0233 **Inhibition of SATB2 Expression by Tumor Necrosis Factor through NF-κB and Mitogen-Activated Protein Kinase Pathways**
Xiaoling Zhang*[1], Chijian Zuo[2], Yu Shi[2], Xiaoying Zhao[2], Ning Zhang[2], Kerong Dai[2], Jiake Xu[3]. [1], [2]Institute of Health Sciences, Shanghai Jiao Tong University School of Medicine (SJTUSM) & Shanghai Institutes for Biological Sciences (SIBS), Chinese Academy of Sciences (CAS), Shanghai 200025, China, [3]University of Western Australia, Australia
Disclosures: Xiaoling Zhang, None

SU0234 **LMP-1 Regulates Osteoblast/Adipocyte Lineage Commitment of Mesenchymal Stem Cells (MSCs)**
Manjula Viggeswarapu[1], Maggie Bargouti[2], Mesfin Teklemariam[3], Scott Boden[4], F. Louisa Titus*[5]. [1]Emory University School of Medicine, USA, [2]AREF/ VAMC, USA, [3]Emory University, USA, [4]Emory Spine Center, USA, [5]VA Medical Center, Decatur, USA
Disclosures: F. Louisa Titus, None

SU0235 **Released Proteins from Demineralized Bone Enhance the Osteogenic and Angiogenic Potential of Primary Progenitor Cells**
Peter Supronowicz*, Scott Tran, Mick Popp. RTI Biologics, Inc, USA
Disclosures: Peter Supronowicz, RTI Biologics, 3

SU0236 **Short (15 Minutes) BMP-2 Treatment Stimulates Osteogenic Differentiation of Human Adipose Stem Cells Seeded on Calcium Phosphate Scaffolds**
Janice R. Overman[1], Elisabet Farre-Guasch[2], Marco N. Helder[3], Christiaan M. ten Bruggenkate[4], Engelbert A.J.M. Schulten[5], Jenneke Klein-Nulend*[6]. [1]ACTA-University of Amsterdam & VU University Amsterdam, Dept Oral Cell Biology, Research Institute MOVE, Netherlands, [2]International University of Catalunya, Dept Basic Sciences, Faculty of Medicine & Health Sciences, Spain, [3]VU University Medical Center, Dept Orthopaedic Surgery, Research Institute MOVE, Netherlands, [4]VU University Medical Center/ACTA, Dept Oral & Maxillofacial Surgery, Research Institute MOVE, Netherlands, [5]VU University Medical Center/ACTA, Dept Oral & Maxillofacial Surgery, Research Institute Amsterdam, Netherlands, [6]ACTA-VU University Amsterdam, Dept Oral Cell Biology (Rm # 11N-63), The netherlands
Disclosures: Jenneke Klein-Nulend, None

SU0237 **TLE3 Switches Cell Fate between Osteoblast and Adipocyte in Bone Marrow Stromal Cells**
Shoichiro Kokabu*[1], Takenobu Katagiri[2], Vicki Rosen[1]. [1]Harvard School of Dental Medicine, USA, [2]Saitama Medical University Research Center for Genomic Medicine, Japan
Disclosures: Shoichiro Kokabu, None

SU0238 **Total-Body Irradiation promotes Engraftment and New Bone Formation upon Local Injection of Mesenchymal Stem Cells in a Murine Tibial Transplant Model**
Samuel Herberg[1], Galina Kondrikova[1], Khaled Hussein[1], Mohammed Elsalanty[2], Xing-Ming Shi[1], Mark Hamrick[1], Carlos Isales[3], William Hill*[4]. [1]Georgia Health Sciences University, USA, [2]Georgia Health Science University, USA, [3]Medical College of Georgia, USA, [4]Georgia Health Sciences University & Charlie Norwood VAMC, USA
Disclosures: William Hill, None

SU0239 **Wnt Signaling Regulates Glucose Metabolism During Osteoblast Differentiation**
Emel Esen*[1], Courtney Karner[2], Fanxin Long[2], Adewole Okunade[3], Bruce Patterson[4]. [1]Washington University in St. Louis, USA, [2]Washington University School Of Medicine, USA, [3]department of internal medicine, USA, [4]internal medicine, USA
Disclosures: Emel Esen, None

OSTEOBLASTS: STEROID/SERM EFFECTS

SU0240 **Transgenic Disruption of Glucocorticoid Signaling in Osteoblasts Attenuates Inflammation and Bone Loss in Collagen Antibody-Induced Arthritis**
Jinwen Tu[1], Yaqing Zhang[1], Julian Kelly[1], Cornelia Spies[1], Frank Buttgereit[2], Colin Dunstan[3], Markus Seibel[1], Hong Zhou*[1]. [1]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [2]Department of Rheumatology & Clinical Immunology, Charité University Medicine, Germany, [3]University of Sydney, Australia
Disclosures: Hong Zhou, None

OSTEOCLASTS: CATHEPSINS AND OTHER PROTEINASES

SU0241 **Distinct Roles of Cathepsin K and MMPs in Osteoclastic Bone Resorption**
Ditte Marie Merrild*[1], Kent Soe[2], Jean-Marie Delaisse[3]. [1]Vejle Hospital, Denmark, [2]Vejle Hospital, University of Southern Denmark, Denmark, [3]Vejle Hospital, IRS, University of Southern Denmark, Denmark
Disclosures: Ditte Marie Merrild, None

OSTEOCLASTS: CELL ADHESION

SU0242 **Tks5-Dependent Formation of Circumferential Podosomes/Invadopodia Mediates Cell-Cell Fusion**

Tsukasa Oikawa*[1], Masaaki Oyama[2], Hiroko Kozuka-Hata[2], Shunsuke Uehara[3], Nobuyuki Udagawa[4], Hideyuki Saya[5], Koichi Matsuo[6]. [1]School of Medicine, Keio University, Japan, [2]Medical Proteomics Laboratory, Institute of Medical Science, University of Tokyo, Japan, [3]Department of Biochemistry, Matsumoto Dental University, Japan, [4]Matsumoto Dental University, Japan, [5]Division of Gene Regulation, Institute for Advanced Medical Research, School of Medicine, Keio University, Japan, [6]School of Medicine, Keio University, Laboratory of Cell & Tissue Biology, Japan

Disclosures: Tsukasa Oikawa, None

OSTEOCLASTS: CYTOKINES AND GROWTH FACTORS

SU0243 **Characterization of the Formation and Progression of Periapical Lesions induced in Teeth of TLR-2 Knockout Mice**

Raquel Silva*[1], Andiara De Rossi[2], Léa Silva[3], Paula Ferreira[3], Paulo Nelson-Filho[3]. [1]School of Dentistry of Ribeirao Preto - University of Sao Paulo, Brazil, [2]Faculty of Dentistry of Ribeirão Preto, University of São Paulo, Brazil, [3]School of Dentistry of Ribeirão Preto - University of São Paulo, Brazil

Disclosures: Raquel Silva, None

SU0244 **Gain or Loss of FoxO Function in Osteoclasts alter Bone Mass in Mice**

Shoshana Bartell*, Elena Ambrogini, Li Han, Aaron Warren, Julie Crawford, Srividhya Iyer, Joseph Goellner, Haibo Zhao, Charles O'Brien, Stavros Manolagas, Maria Jose Almeida. Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA

Disclosures: Shoshana Bartell, None

SU0245 **Identification and Analysis of a Novel Splicing Variant of Mouse Receptor Activator of NF-kB**

Riko Kitazawa*[1], Satomi Mukai[2], Junko Ishii[2], Kiyoshi Mori[3], Takeshi Kondo[3], Ryuma Haraguchi[1], Sohei Kitazawa[1]. [1]Ehime University, Japan, [2]kobe University, Japan, [3]Kobe University Graduate School of Medicine, Japan

Disclosures: Riko Kitazawa, None

SU0246 **IL-4 Inhibits TNF-α-mediated Osteoclast Formation by Inhibition of RANKL Expression in TNF-α-activated Stromal Cells and Direct Inhibition of TNF-α-activated Osteoclast Precursors**

Hideki Kitaura*[1], Toshiya Fujii[2], KEISUKE KIMURA[3], Masahiko Ishida[2], Zaki Hakami[2], Teruko Takano-Yamamoto[1]. [1]Tohoku University, Japan, [2]Division of Orthodontics & Dentofacial Orthopedics, Department of Translational Medicine, Tohoku University Graduate School of Dentistry, Japan, [3]Japan

Disclosures: Hideki Kitaura, None

OSTEOCLASTS: DIFFERENTIATION

SU0247 **Ameloblastin Modulates Osteoclastogenesis through Calcium-NFAT Pathway**

Xuanyu Lu*, Yoshihiro Ito, Xianghong Luan. University of Illinois at Chicago, USA

Disclosures: Xuanyu Lu, None

SU0248 **Cnot3 (Ccr4-not complex subunit3), a Regulator of mRNA Stability, Regulates Bone Mass and Gene Expression Related to Osteoclast Formation**

Chiho Watanabe*[1], Masahiro Morita[2], Yoichi Ezura[3], Tetsuya Nakamoto[1], Tadayoshi Hayata[4], Takuya Notomi[5], Keiji Moriyama[1], Tadashi Yamamoto[2], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]Division of Oncology, Institute of Medical Science, University of Tokyo, Japan, [3]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [4]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [5]GCOE, Tokyo Medical & Dental University, Japan

Disclosures: Chiho Watanabe, None

SU0249 **Cot Kinase Promotes Ca^{2+} Oscillation/Calcineurin-independent Osteoclastogenesis by Stabilizing NFATc1 Protein**
Yukiko Kuroda*[1], Chihiro Hisatsune[2], Akihiro Mizutani[3], Katsuhiko Mikoshiba[2], Koichi Matsuo[4]. [1]Laboratory of Cell & Tissue Biology, Japan, [2]Laboratory for Developmental Neurobiology, Japan, [3]Department of Pharmacotherapeutics, Japan, [4]School of Medicine, Keio University, Laboratory of Cell & Tissue Biology, Japan
Disclosures: Yukiko Kuroda, None

SU0250 **Different Influences of Hypoxia between Osteoclastogenesis and Osteoclastic Bone Resorption**
SEONG SIK KIM*[1], Yong-Deok Kim[2], Lexie Holliday[3]. [1]Pusan National University, USA, [2]Pusan National University, South korea, [3]University of Florida College of Dentistry, USA
Disclosures: SEONG SIK KIM, None

SU0251 **Glyceollin, a Selective Estrogen Receptor Modulator, Preserves Bone Mass by Inhibition of Osteoclast Differentiation**
Min-Su Han*[1], Gyoung-Ho Cho[1], Kyung Eun Lim[1], Na-Rae Park[1], Xiangguo Che[1], Jae-Hwan Jeong[1], In-Kyu Lee[2], Hyun-Ju Kim[3], Shin-Yoon Kim[3], Je-Yong Choi[4]. [1]1,2,3, South korea, [2]3, South korea, [3]2, South korea, [4]1Dept. of Biochemistry & Cell Biology, School of Medicine, 2Skeletal Diseases Genome Research Center, 3World Class University Program, Kyungpook National University, South korea
Disclosures: Min-Su Han, None

SU0252 **HDAC7 Regulates Osteoclastogenesis by Repressing MITF Activity**
Eric Jensen*[1], Lan Pham[1], Ann Emery[1], Melissa Stemig[2], Raj Gopalakrishnan[1], Kim Mansky[1]. [1]University of Minnesota, USA, [2]University of Minnesota School of Dentistry, USA
Disclosures: Eric Jensen, None

SU0253 **Lysosomal Calcium Channel, TPC2, Regulates Osteoclastogenesis via Generation of Intracellular Ca^{2+} Response and Subsequent NFATc1 Localization: A Novel Mechanism of Osteoclastic Ca^{2+} Signaling**
Takuya Notomi*[1], Yoichi Ezura[2], Masaki Noda[3]. [1]GCOE, Tokyo Medical & Dental University, Japan, [2]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [3]Tokyo Medical & Dental University, Japan
Disclosures: Takuya Notomi, None

SU0254 **MIF Down-regulates the RANKL-RANK Signaling Pathway by Activating Lyn Tyrosine Kinase**
Se Hwan MUN*[1], Sun-Kyeong Lee[2]. [1]Department of Medicine, University of Connecticut Health Center, USA, [2]University of Connecticut Health Center, USA
Disclosures: Se Hwan MUN, None

SU0255 **miR-29 Regulates Osteoclastogenesis**
Tiziana Franceschetti*[1], Catherine Kessler[2], Sun-Kyeong Lee[2], Anne Delany[2]. [1]UCHC, USA, [2]University of Connecticut Health Center, USA
Disclosures: Tiziana Franceschetti, None

SU0256 **Mutation in OA/GPNMB Inhibits Bone Resorption *in vivo* and Osteoclast Differentiation *in vitro***
Samir Abdelmagid*[1], Joyce Y Belcher[2], Carlynn A Fulp[1], Fouad M Moussa[1], Roshanak Razmpour[3], Fabiola Del-Carpio Cano[3], Steven Popoff[4], Fayez Safadi[1]. [1]Northeast Ohio Medical University, USA, [2]University of Pennsylvania, USA, [3]Temple University, USA, [4]Temple University School of Medicine, USA
Disclosures: Samir Abdelmagid, None

SU0257 **Suppressive Effects of BRD4 Inhibitor on Inflammatory Cytokine Expression and RANKL-Induced Osteoclastogenesis**
Shu Meng*, Lan Zhang, Qisheng Tu, Jake Jinkun Chen. Tufts University School of Dental Medicine, USA
Disclosures: Shu Meng, None

SU0258 **Tetracyclines Inhibit Osteoclast Differentiation by Converting the Differentiation Pathway from Osteoclasts to Dendritic Cells**
Masanori Koide*[1], Saya kinugawa[2], Yasuhiro Kobayashi[2], Toshihide Mizoguchi[2], Akihiro Muto[2], Tadashi Ninomiya[2], Ichiro Kawahara[2], Midori Nakamura[2], Hisataka Yasuda[3], Naoyuki Takahashi[2], Nobuyuki Udagawa[2]. [1]Matumoto Dental University, Japan, [2]Matsumoto Dental University, Japan, [3]Oriental Yeast Company, Limited, Japan
Disclosures: Masanori Koide, None

OSTEOCLASTS: INHIBITION OF RESORPTION

SU0259 **Bisphosphonates Alter the Number and Distribution of Osteoclasts and the RANKL Expression During Tooth Eruption of Rats**
Vivian Bradaschia-Correa[1], Tais Oliveira[2], Lorraine Ferreira[2], Victor Arana-Chavez*[2]. [1]Universidade de São Paulo, Brazil, [2]University of São Paulo, Brazil
Disclosures: Victor Arana-Chavez, None

SU0260 **Calcitonin Inhibits SDCP-induced Osteoclast Apoptosis and Increases its Efficacy in a Rat Model of Osteoporosis**
Jia-Fwu Shyu*[1], Yi-Jie Kuo[2], Chin-Bin Yeh[3], Jui-Lin Chien[1], Chuan-Jen Wang[1], Wen-Hui Chan[1], Ni-Ko Wei[1], Ying-Jui Lu[1], Chi-Hung Lin[4]. [1]National Defense Medical Center, Taiwan, [2]Taipei Medical University Hospital, Taiwan, [3]Tri-Service General Hospital, Taiwan, [4]National Yang Ming University, Taiwan
Disclosures: Jia-Fwu Shyu, None

SU0261 **Deletion of Connexin37, a Connexin Preferentially Expressed in Osteocytes versus Osteoblasts, Increases Bone Mass and Reduces Osteoclasts by Regulating Osteocytic Expression of RANKL and OPG**
Rafael Pacheco-Costa*[1], Nicoletta Bivi[2], Jennifer S. Fang[3], Keith Condon[2], Janis Burt[3], Matthew Allen[2], Teresita Bellido[2], Rejane D. Reginato[4], Lilian Plotkin[2]. [1]Indiana University School of Medicine/Federal University of Sao Paulo, Brazil, USA, [2]Indiana University School of Medicine, USA, [3]University of Arizona, USA, [4]Federal University of São Paulo, Brazil
Disclosures: Rafael Pacheco-Costa, None

SU0262 **Effects of Azithromycin on Osteoclast Formation and Activation**
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Disclosures: Hitoshi Amano, None

SU0263 **Investigation of the in vivo Osteoclast Dependent and Independent Bone Formation**
Christian Thudium*[1], Carmen Flores[2], Ilana Moscatelli[3], Karoline Natasja Stæhr Gudmann[4], Annemarie Brüel[5], Jesper Skovhus Thomsen[6], Morten Karsdal[1], Johan Richter[2], Kim Henriksen[1]. [1]Nordic Bioscience A/S, Denmark, [2]Department of Molecular Medicine & Gene Therapy, Lund Strategic Center for Stem Cell Biology, Sweden, [3]Lund University, Sweden, [4]Nordic Bioscience, Denmark, [5]University of Aarhus, Denmark, [6]Institute of Anatomy, University of Aarhus, Denmark
Disclosures: Christian Thudium, None

SU0264 **The Rac Exchange Factor Dock5 is Necessary for Bone Resoprtion by Osteoclasts: Physiological Implications and Therapeutic Applications**
Anne Blangy*, Gaelle Cres, Virginie Vives. CRBM - CNRS Montpellier University, France
Disclosures: Anne Blangy, None

OSTEOCLASTS: SIGNAL TRANSDUCTION

SU0265 **Adenosine A_{2A} Receptor Stimulation Inhibits Osteoclast Formation by Suppressing NFkB Translocation to the Nucleus by a PKA-mediated Mechanism**
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Disclosures: Aranzazu Mediero, None

SU0266 **c-Src Links a RANK/αvβ3 Integrin Complex to the Osteoclast Cytoskeleton**
Takashi Izawa*[1], Wei Zou[2], Jean Chappel[1], Xu Feng[3], Steven Teitelbaum[2]. [1]Washington University in St. Louis, USA, [2]Washington University in St. Louis School of Medicine, USA, [3]University of Alabama at Birmingham, USA
Disclosures: Takashi Izawa, None

SU0267 **Orai1-Deficient Mice Develop Osteopenia Due to Impaired Functions of Osteoblasts and Osteoclasts**
Sung-Yong Hwang*[1], Julie Foley[2], Wei Zou[3], Steven L. Teitelbaum[3], Gary S. Bird[2], James W. Putney[2]. [1]Washington University in St. Louis, School of Medicine, USA, [2]NIEHS, USA, [3]Washington University in St. Louis, USA
Disclosures: Sung-Yong Hwang, None

SU0268 **Regulation of Bone-resorption and Sealing Zone Formation in Osteoclast through Akt-mediated Microtubule Stabilization**
Sakae Tanaka[1], Naoto Tokuyama*[2], Takumi Matsumoto[1], Yuho Kadono[1]. [1]The University of Tokyo, Japan, [2]University of Tokyo, Japan
Disclosures: Naoto Tokuyama, None

SU0269 **Serum Calcium-decreasing Factor, Caldecrin, Inhibits RANKL-mediated Ca^{2+} Signaling and Actin Ring Formation in Mature Osteoclasts via Suppression of the Src Signaling Pathway**
Akito Tomomura*[1], Hiroya Hasegawa[2], Naoto Suda[3], Hiroshi Sakagami[4], Mineko Tomomura[5]. [1]Meikai University, School of Dentistry, Japan, [2]Div. of Orthodont. Meikai Univ. School of Dentistry, Japan, [3]Div. Orthodont. Meikai Univ. School of Dentistry, Japan, [4]Meikai Pharm.-Med. Lab. Meikai Univ. School of Dentistry, Japan, [5]Div. Biochem. Meikai Univ. School of Dentistry, Japan
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OSTEOCYTES: REGULATION OF BONE FORMATION

SU0270 **Autophagy Protects Osteocytes through Preconditioning Mechanism**
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Disclosures: Rekha Kar, None

SU0271 **Mechanical Vibration Induces Differential Frequency-Dependent Responsiveness in Osteocytes versus Cementoblasts**
Dawei Liu*[1], Chao Liu[2], Lidan You[3]. [1]Marquette University School of Dentistry, USA, [2]University of Toronto, Canada, [3]Mechanical & Industrial Engineering, University of Toronto, Canada
Disclosures: Dawei Liu, None

SU0272 **Novel Osteocytic Cell Lines to study RANKL, FGF23, and SOST/Sclerostin Regulation**
Jordan Spatz*[1], Yili Qu[2], Kevin Barry[2], Chris Adamson[3], Lowell Misener[3], Paola Divieti Pajevic[4]. [1]Harvard-MIT Division of Health Sciences & Technology (HST), USA, [2]Endocrine Unit, Massachusetts General Hospital, USA, [3]Calm Technologies, Canada, [4]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Jordan Spatz, None

SU0273 **THE Role of RPTPç and Sclerostin in Bone Mechanosensing and Regulation of Bone Formation**
Martijn Van Der Velde*[1], Jessica Theeuwsen[2], Marc Jamon[3], Laurence Vico[4], Norbert Laroche[4], Clemens Löwik[5], Karien De Rooij[6]. [1]Leids University Medical Centre(LUMC), Leiden, The Netherlands, The netherlands, [2]Leiden University Medical Centre, Netherlands, [3]Faculté de Médecine de La Timone, France, [4]University of St-Etienne, France, [5]Leiden University Medical Center, Netherlands, [6]Leiden University Medical Center, The netherlands
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SU0274 **Tracking Transcriptomic and Transcription Factor Cistromic Changes During Osteoblast to Osteocyte Differentiation**
Kathleen Bishop*[1], Hillary St. John[2], Nancy Benkusky[1], Mark Meyer[1], Lynda Bonewald[3], J. Pike[1]. [1]University of Wisconsin-Madison, USA, [2]University of Wisconsin - Madison, USA, [3]University of Missouri - Kansas City, USA
Disclosures: Kathleen Bishop, None

OSTEOCYTES: REGULATION OF MINERAL ION HOMEOSTASIS

SU0275 **Osteocytes Dissolve Mineral through Canaliculi via a Diffusion-limited Process**
Nobuhito Nango*[1], Shogo Kubota[1], Wataru Yashiro[2], Atsushi Momose[3], Koichi Matsuo[4]. [1]Ratoc System Engineering Co., Ltd., Japan, [2]Graduate School of Frontier Sciences, The University of Tokyo, Japan, [3]Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan, [4]School of Medicine, Keio University, Laboratory of Cell & Tissue Biology, Japan
Disclosures: Nobuhito Nango, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: BONE MINERAL DENSITY

SU0276 **Bone Loss after Bariatric Surgery: Discordant Results between DXA and QCT Bone Density**
Elaine Yu*[1], Chantel Baldwin[1], Mary Bouxsein[2], Abby Cange[1], Lee Kaplan[1], Joel Finkelstein[1]. [1]Massachusetts General Hospital, USA, [2]Beth Israel Deaconess Medical Center, USA
Disclosures: Elaine Yu, None

SU0277 **Functional Study of BMD-Associated rs9594738 in the *RANKL* gene context**
Guy Yoskovitz*[1], Natalia Garcia-Giralt[2], Maria Rodriguez-Sanz[3], Roser Urreizti[4], Robert Guerri Fernandez[5], Sergi Ariño-Ballester[3], Daniel Prieto-alhambra[6], Leonardo Mellibovsky[7], Daniel Grinberg[8], Susana Balcells[9], Xavier Nogues[10], Adolfo Diez-Perez[11]. [1]IMIM, Parc de salut Mar, RETICEF, Spain, [2]IMIM, Spain, [3]IMIM, Parc de Salut Mar, Barcelona, Spain, Spain, [4]Department of Genetics, University of Barcelona, Spain, [5]Fundacio IMIM, Spain, [6]Institut Municipal D'Investigació Mèdica, United Kingdom, [7]Hospital del Mar, Parc de Salut Mar, Spain, [8]The University of Barcelona, Spain, [9]University of Barcelona, Spain, [10]Institut Municipal D'Investigació Mèdica, Spain, [11]Internal Medicine, Hospital del Mar, Parc de Salut Mar, RETICEF, Spain
Disclosures: Guy Yoskovitz, None

SU0278 **MiR-422a in Human Circulating Monocytes is a Potential MicroRNA Biomarker Underlying Postmenopausal Osteoporosis**
Yang Wang*[1], Benjamin Moore[2], Xian-Hao Peng[2], Xiang Fang[1], Joan Lappe[2], Robert Recker[2], Peng Xiao[2]. [1]Creighton University, USA, [2]Creighton University Osteoporosis Research Center, USA
Disclosures: Yang Wang, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: BONE REMODELING

SU0279 **Bone Turnover Markers and Response to Oral Bisphosphonates in Patients with Type 2 Diabetes**
Dong Jin Chung*, Jin Ook Chung, Dong Hyeok Cho, Min Young Chung. Chonnam National University Medical School, South korea
Disclosures: Dong Jin Chung, None

SU0280 **Increased Bone Mass in Mice Lacking the Adipokine Apelin**
Lalita Wattanachanya*[1], Wei-Dar Lu[2], Liping Wang[2], Dylan O'Carroll[2], Ramendra K. Kundu[3], Thomas Quertermous[3], Robert Nissenson[4]. [1]King Chulalongkorn Memorial Hospital The Thai Red Cross Society, Thailand & VA Medical Center & University of California, San Francisco, USA, [2]VA Medical Center, San Francisco, USA, [3]Stanford University School of Medicine, USA, [4]VA Medical Center & University of California, San Francisco, USA
Disclosures: Lalita Wattanachanya, None

SU0281 **Mice with Brown Fat Dysfunction are Resistant to High Fat Diet Induced Obesity but Susceptible to Impaired Bone Remodeling after Acute Cold Exposure**
Phuong Le*[1], Katherine Motyl[1], Victoria Demambro[1], Leeann Louis[2], Masanobu Kawai[3], Sheila Bornstein[4], Kathleen Bishop[5], Mary Bouxsein[6], Clifford Rosen[4]. [1]Maine Medical Center Research Institute, USA, [2]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, USA, [3]Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [4]Maine Medical Center, USA, [5]University of Wisconsin-Madison, USA, [6]Beth Israel Deaconess Medical Center, USA
Disclosures: Phuong Le, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: BONE STRUCTURE

SU0282 **Analysis of Intracellular Calcium Fluxes in Human Bone Cells from Osteoporotic and Osteoarthritic Patients**
Monica Celi*[1], elena gasbarra[2], Claudio Frank[3], giovanna D'Arcangelo[4], alessandro Cutarelli[5], mario marini[4], virginia tancredi[4], Umberto Tarantino[6]. [1]University of Rome Tor Vergata, Italy, [2] Orthopaedic department,University of Rome "Tor Vergata", Italy, [3]ISS Nationa Center for Rare Disease, Italy, [4]Department of Neuroscience, University of Rome Tor Vergata, Italy, [5]ISS National Center for Rare Disease, Italy, [6]Orthopaedic Department, University of Rome Tot Vergata, Italy
Disclosures: Monica Celi, None

SU0283 **Radiation-Induced Osteoporosis – Dose and Dose Rate Response to Protons**
Laura Bowman*[1], Eric W. Livingston[1], Gregory A. Nelson[2], Ted Bateman[3]. [1]University of North Carolina at Chapel Hill, USA, [2]Loma Linda University, USA, [3]Univesity of North Carolina, USA
Disclosures: Laura Bowman, None

SU0284 **Taller Women Have Thinner and More Porous Cortices to Fall Harder upon and Fracture**
Ashild Bjornerem*[1], Roger Zebaze[2], Ali Ghasem-Zadeh[2], Minh Bui[3], Xiaofang Wang[4], John L Hopper[3], Ego Seeman[2]. [1]University of Tromsø, Norway, [2]Austin Health, University of Melbourne, Australia, [3]Centre for MEGA Epidemiology, University of Melbourne, Australia, [4]Endocrine Centre, Austin Health, University of Melbourne, Australia
Disclosures: Ashild Bjornerem, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: DIETARY FACTORS

SU0285 **A High Calcium Diet Failed to Rescue the Osteopenia Phenotype in Claudin-18 Knockout Mice**
Fatima Alshbool*[1], Catrina Alarcon[1], Jon Wergedal[2], Subburaman Mohan[2]. [1]JL Pettis VA Med Ctr, USA, [2]Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Fatima Alshbool, None

SU0286 **The Effects of Weight Loss and Changes in Fat and Lean Tissue on Bone Mineral Density in Women and Men – Results of a Randomized Controlled Trial**
Amir Tirosh*[1], Russell de Souza[1], Frank Sacks[1], George Bray[2], Steven Smith[2], Meryl Leboff[1]. [1]Brigham & Women's Hospital, USA, [2]Pennington Biomedical Research Center of the Louisiana State University System, USA
Disclosures: Amir Tirosh, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: GLUCOCORTICOIDS

SU0287 **11-ß-hydroxysteroid Dehydrogenase Type 1 Overexpression Increases Adipogenic Differentiation in Mesenchymal Progenitor Cells by Increased Endogenous Cortisol Production**
Johannes Beismann*[1], Regine Koepp[1], Martina Blaschke[2], Nicolai Miosge[3], Vera Ritz[1], Volker Bähr[4], Frank Streit[5], Heide Siggelkow[6]. [1]University Medicine of Goettingen, Department of Gastroenterology & Endocrinology, Germany, [2]UUniversity Medicine of Goettingen, Department of Gastroenterology & Endocrinology, Germany, [3]Tissue Regeneration Group, Medical Faculty, Department of Prosthodontics, University Medicine, Germany, [4]Department of Endocrinology, Diabetes & Nutrition, Charité-University Medicine Berlin, Germany, [5]Department of Clinical Chemistry, Georg-August University, Germany, [6]University of Gottingen Hospital, Germany
Disclosures: Johannes Beismann, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: GONADAL STEROIDS

SU0288 **Disruption of the Claudin-18 Gene Diminishes Ovariectomy-induced Bone Loss in Mice**

Ha Young Kim*[1], Catrina Alarcon [1], Sheila Pourteymoor[1], Subburaman Mohan[2]. [1]Jerry L Pettis VA Med Ctr, USA, [2]Jerry L. Pettis Memorial VA Medical Center, USA

Disclosures: Ha Young Kim, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: MALE OSTEOPOROSIS

SU0289 **Prevalence of Low BMD and Osteoporosis in Male Hypogonadisms**

Mário Rui Mascarenhas*[1], Ana Paula Barbosa[2], Ana Gonçalves[3], Vera Simões[4], António M. Gouveia Oliveira[5], David Santos Pinto[6], Manuel Bicho[7], Isabel do Carmo[8]. [1]Endocrine & Metabolic Diseases, Faculdade de Medicina Lisboa, Osteoporosis Unit - CEDML, Lda, Endocrinology, Diabetes & Metabolism Department - Santa Maria university Hospital, CHLN-EPE, Portugal, [2]Endocrinology, Santa Maria Hospital & Faculty of Medicine, Portugal, [3]Endocrinology, Diabetes & Metabolism Department, Santa Maria Hospital, CHLN-EPE, Portugal, [4]Endocrinology & Metabolism Center - Genetics Lab (Lisbon's Faculty of Medicine), Osteoporosis Unit - CEDML, Lda, Portugal, [5]Biostatistics Department, FCMUNL, Portugal, [6]Oesteoporosis Unit, CEDML, Lda, Portugal, [7]Endocrinology & Metabolism Center - Genetics Lab (Lisbon's Faculty of Medicine), Portugal, [8]Endocrinology, Diabetes & Metabolism Department, Santa Maria University Hospital, CHLN-EPE, Portugal

Disclosures: Mário Rui Mascarenhas, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: MISCELLANEOUS

SU0290 **Bone Marrow Fat Is Metabolically Distinct Fat Depot**

Riku Kiviranta*[1], Tam Pham[2], Jarna Hannukainen[2], Anna Karmi[2], Heidi Immonen[2], Minna Soinio[3], Pauliina Salminen[4], Pirjo Nuutila[2]. [1]Medical Biochemistry & Genetics & Turku PET Centre, University of Turku, Finland, [2]Turku PET Centre, Finland, [3]Department of Medicine, Turku University Hospital, Finland, [4]Department of Surgery, Turku University Hospital, Finland

Disclosures: Riku Kiviranta, None

SU0291 **High Serum Cystatin C Predicts Incident Hip Fracture in Elderly Men. MrOS Sweden**

Ewa Waern*[1], Osten Ljunggren[2], Ulf Lerner[3], Catharina Lewerin[4], Helena Johansson[5], Kristine Ensrud[6], Magnus Karlsson[7], Eric Orwoll[8], Mattias Lorentzon[9], Hans Herlitz[10], Claes Ohlsson[11], Dan Mellstrom[1]. [1]Sahlgrenska University Hospital, Sweden, [2]Uppsala University Hospital, Sweden, [3]University of Umea, Sweden, [4]Västra Götaland, Sweden, [5]Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, [6]Minneapolis VA Medical Center / University of Minnesota, USA, [7]Skåne University Hospital Malmö, Lund University, Sweden, [8]Oregon Health & Science University, USA, [9]Center for Bone Research at the Sahlgrenska Academy, Sweden, [10]Department of Nephrology Institute of Medicine at the Sahlgrenska Academy, University of Gothenburg, Sweden, [11]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden

Disclosures: Ewa Waern, None

SU0292 **Hyperthyroidism Affects the Bone Mineral Density and the Total Lean Body Mass in Young Men**

Ana Paula Barbosa*[1], Mário Rui Mascarenhas[2], António M. Gouveia Oliveira[3], Vera Simões[4], Ana Gonçalves[5], David Santos Pinto[4], Manuel Bicho[6], Isabel Do Carmo[5]. [1]nta Maria, Portugal, [2]Lisbon's Faculty of Medicine, Santa Maria University Hospital, CHLN,EPE, Portugal, [3]Biostatistics Department, FCMUNL, Portugal, [4]CEDML - Endocrinology, Diabetes & Metabolism Clinic, Lda, Portugal, [5]Endocrinology, Diabetes & Metabolism Department, Santa Maria Hospital, CHLN-EPE, Portugal, [6]Metabolism & Endocrinology Center, Genetics Laboratory (FMUL), Portugal

Disclosures: Ana Paula Barbosa, None

SU0293 **The Relationship between Inhibitors of the Wnt-signalling pathway (Dickkopf-1 and Sclerostin), Bone Mineral Density, Vascular Calcification and Arterial Stiffness in Post-Menopausal Women**

Geeta Hampson*[1], Sylvie Edwards[2], Soraya Conroy[3], Glen Blake[4], Ignac Fogelman[5], Michelle Frost[4]. [1]St. Thomas' Hospital, United Kingdom, [2]osteopososis screening unit, Guy's hospital, Kings College London, United Kingdom, [3]department of clinical chemistry, St Thomas' Hospital, kings college london, United Kingdom, [4]King's College London, United Kingdom, [5]Guy's Hospital, United Kingdom

Disclosures: Geeta Hampson, None

OSTEOPOROSIS - ASSESSMENT: BIOCHEMICAL MARKERS

SU0294 **Changes in Bone Turnover Markers by Treatment with Human PTH(1-34) and Zoledronate in Young and Adult Ovariectomized Rats**

Jukka Morko*, ZhiQi Peng, Katja Fagerlund, Mari Suominen, Jukka Rissanen, Jussi Halleen. Pharmatest Services Ltd, Finland

Disclosures: Jukka Morko, Pharmatest Services Ltd, 3

SU0295 **Does Hypocalciuria Diagnose Low Calcium Absorption?**

Karen Hansen*[1], Nelson Watts[2], Nick Keuler[1], Rachael Erin Johnson[1]. [1]University of Wisconsin, USA, [2]Mercy Health Osteoporosis & Bone Health Services, USA

Disclosures: Karen Hansen, None

SU0296 **Nutritional Status of Calcium and Other Bone-related Nutrients in Adult Post-kidney Transplantation Recipients**

Hiroyuki Hirai*[1], Atsushi Suzuki[2], Hitomi Sasaki[3], Midori Hasegawa[4], Yoshiteru Maeda[5], Sahoko Sekiguchi-Ueda[2], Megumi Shibata[6], Yukio Yuzawa[3], Kiyotaka Hoshinaga[7], Kazuhiro Uenishi[8], Mitsuyasu Itoh[6]. [1]Fujita Health University Division of Endocrinology, Japan, Japan, [2]Fujita Health University, Division of Endocrinology, Japan, [3]Department of Urology, Fujita Health University, Japan, [4]Division of Nephrology Fujita Health University, Japan, [5]Fujita Health UniveristyDivision of Endcrinology, Japan, [6]Fujita Health University Division of Endocrinology, Japan, [7]Division of Urology, Fujita Health University, Japan, [8]Kagawa Nutrition University, Japan

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SU0297 **Relationship Between Glucose Metabolism and Undercarboxylated Osteocalcin: Cross-sectional Study in Community-dwelling Population (Shimane Community-based Health Research and Education, COHRE Study)**

Shozo Yano*[1], Toru Nabika[1], Atsushi Nagai[1], Tsuyoshi Hamano[2], Masayuki Yamasaki[1], Minoru Isomura[1], Kuninori Shiwaku[1], Shuhei Yamaguchi[1], Toru Yamaguchi[1], Toshitsugu Sugimoto[3]. [1]Shimane University Faculty of Medicine, Japan, [2]Shimane University, Japan, [3]Shimane University School of Medicine, Japan

Disclosures: Shozo Yano, None

SU0298 **Sclerostin is Associated with Quantitative Bone Ultrasound and Bone Turnover in Female Nursing Home Residents**

Karin Amrein[1], Harald Dobnig[2], Stefan Pilz[1], Andreas Tomaschitz[1], Doris Wagner[1], Karl Heinz Fenzl[3], Thomas R. Pieber[1], Astrid Fahrleitner-Pammer*[4]. [1]Medical University of Graz, Austria, [2]Diagnostikinstitut Univ.Prof.Dr.H.Dobnig GmbH & Medical University Graz, Austria, [3]Roche Austria, Austria, [4]Medical University Graz, Austria

Disclosures: Astrid Fahrleitner-Pammer, None

SU0299 **Unsaturation Level Decreased in Bone Marrow Lipids of Postmenopausal Women with Low Bone Density Using High Resolution HRMAS NMR**

Xiaojuan Li*[1], Keerthi Shet[1], Juan Pablo Rodríguez[2], Ana Marìa Pino[2], John Kurhanewicz[1], Ann Schwartz[1], Clifford Rosen[3]. [1]University of California, San Francisco, USA, [2]The University of Chile, Chile, [3]Maine Medical Center, USA

Disclosures: Xiaojuan Li, None

SU0300 **A Performance Algorithm Improves Appropriate Vertebral Fracture Assessment Use Among Those Referred for DXA and Improves Utilization of Fracture Prevention Medication for those with Prevalent Vertebral Fracture**

John Schousboe*[1], Fergus McKiernan[2], Neil Binkley[3]. [1]Park Nicollet Clinic, University of Minnesota, USA, [2]Marshfield Clinic, USA, [3]University of Wisconsin, Madison, USA

Disclosures: John Schousboe, None

SU0301 **Fat tissue Measurements by Dual-Energy X-Ray Absorptiometry: Cross-Calibration of Three Different Fan-Beam Instruments**

Jorge Malouf*[1], Silvana Di Gregorio[2], Luis Del Rio[2], Ferran Torres[3], Ana Marin[4], Jordi Farrerons[4], Silvia Herrera[4], Pere Domingo[5]. [1]Hospital de la Santa Creu i Sant Pau, Spain, [2]Cetir Centre Medical, Spain, [3]Biostatistics & data management platform, Institut d'investigacions biomèdiques Agust Pi i Sunyer, Universitat de Barcelona., Spain, [4]Mineral Metabolism Unit. Hospital de Sant Pau, Spain, [5]Infectious diseases Unit. Hospital de Sant Pau, Spain

Disclosures: Jorge Malouf, None

SU0302 **High Prevalence of Vertebral Deformities in Patients with a Recent Symptomatic Fracture and Osteopenia**

Etienne Stegeman[1], Irene Bultink[1], Willem Lems*[2]. [1]VU University Medical Center, The netherlands, [2]Vrije Universiteit Medical Centre, The netherlands

Disclosures: Willem Lems, None

SU0303 **How Primary Care Physicians Assess Postmenopausal Women Following Education on the 2010 Osteoporosis Canada Guidelines (OC CPG)**

Alexandra Papaioannou[1], Jonathan Adachi[2], Cheryl Colizza[3], David Hanley*[4], Stephanie Kaiser[5], David Kendler[6], Peter Lin[7], Marla Shapiro[8], Suzanne Morin[9]. [1]Hamilton Health Sciences, Canada, [2]St. Joseph's Hospital, Canada, [3]Amgen, Canada, [4]University of Calgary, Canada, [5]Dalhousie University, Canada, [6]Associate Professor , University of British Columbia, Canada, [7]Canadian Heart Research Centre, Canada, [8]University of Toronto, Department of Family & Community Medicine, Canada, [9]McGill University, Canada

Disclosures: David Hanley, Amgen, Novartis, 8; Amgen, Novartis, Eli Lily, Warner-Chilcott,5; Amgen, 2

SU0304 **Osteoporosis-Related Knowledge among Older Patients Undergoing DXA and its Association to Bone Density**

Stephanie Edmonds*[1], Xin Lu[2], Peter Cram[1], Kenneth Saag[3], Douglas Roblin[4], Fredric Wolinksy[5]. [1]University of Iowa, USA, [2]University of Iowa, Department of Internal Medicine, Division of General Medicine, USA, [3]University of Alabama at Birmingham, USA, [4]Kaiser Permanente of Atlanta, USA, [5]University of Iowa, College of Public Health, Department of Health Management & Policy, USA

Disclosures: Stephanie Edmonds, None

SU0305 **Preliminary Investigation of Quantitative CT (QCT) Bone Densitometry using Asynchronous Calibration**

Keenan Brown*[1], Gabriel Bodeen[1], Alan Brett[2]. [1]Mindways Software, USA, [2]Mindways Software, Inc., USA

Disclosures: Keenan Brown, Mindways Software, 3; Mindways Software, 4

SU0306 **Risk of Fracture in Sarcoidosis Is High Despite not Low BMD, Implication of Serum 25(OH) Vitamin D Level**

Nathalie Saidenberg-kermanac'h*[1], Hilario Nunes[2], Luca Semerano[3], Danielle Sadoun[2], Xavier Guillot[4], Marouane Boubaya[4], Nicolas Naggara[5], Dominique Valeyre[2], Marie-Christophe Boissier[6]. [1]avicenne hospital (AP-HP), France, [2]Department of pneumology, Avicenne Hospital (APHP), France, [3]Department of rheumatology, Avicenne Hospital (APHP) & EA4222 Paris13 University, France, [4]Department of rheumatology, Avicenne Hospital (APHP), France, [5]Department of radiology, France, [6]Department of Rheumatology, Avicenne Hospital (APHP) & EA4222 Paris 13 University2, France

Disclosures: Nathalie Saidenberg-kermanac'h, None

SU0307 **The Effect of IV Contrast on Apparent Vertebral Bone Mineral Density Measured with Multi-detector Computed Tomography can be Reliably Determined Regardless of Phase of Enhancement**

Kevin Hoover*[1], Susan J. Back[1], Qin Wang[1], Curtis Hayes[2]. [1]Virginia Commonwealth University, USA, [2]Virginia Commonwealth University School of Medicine, USA

Disclosures: Kevin Hoover, Bioclinica, 5

SU0308 **The Relationship between Pulmonary Function and Bone Mineral Density in Health Subjects in Korea**

Yun Kyung Jeon*[1], Min Jung Bae[2], WON JIN Kim[2], YANG SEON Yi[2], Bo Hyun Kim[1], Sang Soo Kim[1], Soo Huoung Lee[3], Yong Ki Kim[3], In Joo Kim[1]. [1]Pusan National University Hospital, South korea, [2]Pusan National Univeristy Hospital, South korea, [3]Kim Yong Ki clinic, South korea

Disclosures: Yun Kyung Jeon, None

OSTEOPOROSIS - ASSESSMENT: BONE STRUCTURE

SU0309 **Bone Mineral Density (BMD) Combined with the Trabecular Bone Score (TBS) Significantly Improves the Identification of Women at High Risk of Fracture: The SEMOF Cohort Study**

Albrecht Popp*[1], Salome Meer[1], Marc-Antoine Krieg[2], Romain Perrelet[1], Didier Hans[3], Kurt Lippuner[1]. [1]Osteoporosis Policlinic, University of Bern, Switzerland, [2]University Hospital, Switzerland, [3]Lausanne University Hospital, Switzerland

Disclosures: Albrecht Popp, None

SU0310 **Comparison of Bone Quality on 1T pMRI, pQCT and hr-pQCT: Precision, Least Significant Change & Cross-Calibration**

Andy Kin On Wong*[1], Karen Beattie[1], Aakash Bhargava[1], Colin Webber[2], Dean Inglis[1], Laura Pickard[1], Angela Cheung[3], Alexandra Papaioannou[2], Jonathan Adachi[4], The CaMos Research Group[5]. [1]McMaster University, Canada, [2]Hamilton Health Sciences, Canada, [3]University Health Network, Canada, [4]St. Joseph's Hospital, Canada, [5]McGill University, Canada

Disclosures: Andy Kin On Wong, None

SU0311 **Cortical Porosity in Humans with Type 1 Diabetes Mellitus and Fractures: A Preliminary Study**

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Disclosures: Laura Armas, None

SU0312 **Efficacy of Osteoporotic Agents in Trabecular Microstructure**

Kenichiro Matsuzaki*[1], Masako Ito[2], Hironori Kaneko[3], Masanori Kato[4], Tomohiro Hikata[4], Nobuhito Nango[5], Morio Matsumoto[4], Yoshiaki Toyama[4]. [1]National Hospital Organization Tokyo Medical Center, Japan, [2]Nagasaki University Hospital, Japan, [3]Keio University, Japan, [4]Keio University School of Medicine, Japan, [5]Ratoc System Engineering Co., Ltd., Japan

Disclosures: Kenichiro Matsuzaki, None

SU0313 **Evaluation of Cortical Porosity from HR-pQCT at the Tibia: Comparison with Synchrotron Radiation Micro-computed Tomograph**

Agnes Ostertag[1], Sylvie Fernandez[2], Francoise Peyrin[3], Marie-Christine De Vernejoul[4], Christine Chappard*[5]. [1]U606 INSERM, France, [2]Rhumatisme et Travail Association, France, [3]CREATIS ID 19 ESRF, France, [4]Fédération De Rhumatologie Et INSERM U606, France, [5]UMR 7052 CNRS, France

Disclosures: Christine Chappard, None

SU0314 **Significance of the Proximal and Distal Parts of the Neck for the Discrimination of Hip Fracture: Results from the Prospective European Femur Fracture Study (EFFECT)**

Oleg Museyko[1], Valérie Bousson[2], Judith Adams[3], Jean-Denis Laredo[4], Klaus Engelke*[1]. [1]University of Erlangen, Germany, [2]Hôpital Lariboisière, France, [3]Manchester Royal Infirmary, United Kingdom, [4]Assistance Publique-Hôpitaux de Paris, Hôpital Lariboisière, France

Disclosures: Klaus Engelke, None

SU0315 **The Suppression Ratio: A MRI Biomarker of Cortical Bone Porosity**
Yusuf Bhagat*[1], Cheng Li[1], Shing Chun Benny Lam[2], Felix Werner Wehrli[3]. [1]University of Pennsylvania, USA, [2]Laboratory for Structural NMR Imaging, University of Pennsylvania, USA, [3]University of Pennsylvania Medical Center, USA
Disclosures: Yusuf Bhagat, None

OSTEOPOROSIS - ASSESSMENT: ULTRASOUND

SU0316 **Clinical Assessment of the 1/3rd Radius Using a New Desktop Ultrasonic Bone Densitometer**
Emily Stein[1], Fernando Rosette[1], Polly Young[2], Mafo Kamanda-Kosseh[2], Donald McMahon[1], Gangming Luo[3], Jonathan Kaufman*[3], Elizabeth Shane[1], Robert Siffert[4]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA, [3]CyberLogic, Inc., USA, [4]The Mount Sinai School of Medicine, USA
Disclosures: Jonathan Kaufman, None

SU0317 **Novel Ultrasound Method for Osteoporosis Screening and Diagnostics**
Janne Karjalainen*[1], Ossi Riekkinen[2], Heikki Kroger[3], Jukka Jurvelin[1]. [1]University of Eastern Finland, Finland, [2]Finland, [3]Kuopio University Hospital, Finland
Disclosures: Janne Karjalainen, Bone Index Finland Ltd., 3

OSTEOPOROSIS - EPIDEMIOLOGY: BONE MINERAL DENSITY

SU0318 ***MEF2C* is associated with Forearm Bone Mineral Density but not Forearm Osteoporotic Fractures**
Hou-Feng Zheng*[1], Laura Yerges-Armstrong[2], Joel Eriksson[3], Paul Leo[4], Ulrica Bergström[5], William Leslie[6], David Goltzman[1], Braxton Mitchell[7], Ulrika Pettersson[8], Emma Duncan[9], Mattias Lorentzon[10], Elizabeth Streeten[11], Claes Ohlsson[12], Brent Richards[1]. [1]McGill University, Canada, [2]University of Maryland, USA, [3]University of Gothenburg, Sweden, [4]University of Queensland Diamantina Institute, Australia, [5]Ortopedkliniken, Sweden, [6]University of Manitoba, Canada, [7]University of Maryland, Baltimore, USA, [8]Clinical Pharmacology, Sweden, [9]Royal Brisbane & Women's Hospital, Australia, [10]Center for Bone Research at the Sahlgrenska Academy, Sweden, [11]University of Maryland School of Medicine, USA, [12]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden
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SU0319 **Bone Mineral Density and Other Factors Associated with Incident Fracture among Afro-Caribbean Men**
Yahtyng Sheu*[1], Jane Cauley[1], Clareann Bunker[1], Alan Patrick[2], Victor Wheeler[2], Joseph Zmuda[1]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]The Tobago Health Studies Office, Trinidad & tobago
Disclosures: Yahtyng Sheu, None

SU0320 **Cortical Bone Changes with Aging among Men of African Descent**
Yahtyng Sheu*[1], Clareann Bunker[1], Christopher Gordon[2], Alan Patrick[3], Victor Wheeler[3], Joseph Zmuda[1]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]McMaster University, Canada, [3]The Tobago Health Studies Office, Trinidad & tobago
Disclosures: Yahtyng Sheu, None

SU0321 **Dental Fators Predicting Systemic Osteoporosis: Alveolar Bone Mineral Density (al-BMD) and Microdamage Compared with Lumbar Bone Mineral Density (LBMD)**
Yoshitomo Takaishi*[1], Takashi Sugishita[1], Aiko Kamada[2], Takashi Ikeo[2], Takami Miki[3], Takuo Fujita[4]. [1]Takaishi Dental Clinic, Japan, [2]Osaka Dental University, Japan, [3]Osaka City University Medical School, Japan, [4]Katsuragi Hospital, Japan
Disclosures: Yoshitomo Takaishi, None

SU0322 **Predicting Onset of Transmenopausal Bone Mineral Density (BMD) Loss in Study of Women's Health Across the Nation (SWAN)**
Gail Greendale[1], Arun Karlamangla[1], Shinya Ishii*[2]. [1]University of California, Los Angeles, USA, [2]Department of Geriatric Medicine, University of Tokyo, Japan
Disclosures: Shinya Ishii, None

SU0323 **Vertebral Bone Marrow Fat Associated with Lower Trabecular BMD and Prevalent Vertebral Fracture in Older Adults**
Ann Schwartz*[1], Trisha Hue[1], Thomas Lang[1], Sigurdur Sigurdsson[2], Tamara Harris[3], Clifford Rosen[4], Vilmundur Gudnason[2], Eric Vittinghoff[1], Kristin Siggeirsdottir[2], Gunnar Sigurdsson[5], Keerthi Shet[1], Lisa Palermo[1], Xiaojuan Li[1]. [1]University of California, San Francisco, USA, [2]Icelandic Heart Association Research Institute, Iceland, [3]Intramural Research Program, National Institute on Aging, USA, [4]Maine Medical Center, USA, [5]Landspitali, Iceland
Disclosures: Ann Schwartz, None

OSTEOPOROSIS - EPIDEMIOLOGY: DIET AND ENVIRONMENTAL FACTORS

SU0324 **Higher Plasma Methylmalonic Acid (MMA) Concentration is associated with Lower Bone Volumetric Density, Size and Strength: The Framingham Osteoporosis Study**
Robert McLean*[1], Paul Jacques[2], Jacob Selhub[2], Kerry Broe[3], Xiaochun Zhang[4], Marian Hannan[5], Mary Bouxsein[6], Douglas Kiel[7]. [1]Hebrew SeniorLife, Harvard Medical School, USA, [2]Jean Mayer US Dept of Agriculture Human Nutrition Research Center on Aging at Tufts University, USA, [3]Institute for Aging Research, Hebrew SeniorLife, USA, [4]Institute for Aging Research Hebrew SeniorLife, USA, [5]HSL Institute for Aging Research & Harvard Medical School, USA, [6]Beth Israel Deaconess Medical Center, USA, [7]Hebrew SeniorLife, USA
Disclosures: Robert McLean, None

SU0325 **Increased Dietary Calcium Intake Is Not Associated With Coronary Artery Calcification**
Jung Hee Kim*[1], Eu Jeong Ku[1], Ah Reum Khang[1], Ji Won Yoon[1], Kyung Won Kim[1], Eun Jung Lee[2], Whal Lee[3], Sang-Heon Cho[1], Chan Soo Shin[4]. [1]Seoul National University College of Medicine, South korea, [2]Seoul National University Healthcare System Gangnam Center, South korea, [3]Department of Radiology, Seoul National University Hospital, South korea, [4]Department of Internal Medicine, Seoul National University College of Medicine, South korea
Disclosures: Jung Hee Kim, None

SU0326 **Nutritional Factors and Osteoporosis at Each Skeletal Site in Korean Adults Aged 50 Years or Older: The Korea National Health and Nutrition Examination Survey 2008-2009**
Yong Jun Choi*[1], Bu Kyung Kim[2], So-Yeon An[2], Yoon-Sok Chung[2]. [1]Ajou University Hospital, South korea, [2]Ajou University School of Medicine, South korea
Disclosures: Yong Jun Choi, None

SU0327 **Social Disadvantage, Bone Mineral Density and Vertebral Wedge Deformities in the Tasmanian Older Adult Cohort**
Sharon Brennan*[1], Tania Winzenberg[2], Julie Pasco[3], Anita Wluka[4], Amelia Dobbins[3], Graeme Jones[5]. [1]The University of Melbourne, Australia, [2]Menzies Research Institute Tasmania, Australia, [3]Deakin University, Australia, [4]Monash University & Alfred Hospital, Australia, [5]Menzies Research Institute, Australia
Disclosures: Sharon Brennan, None

OSTEOPOROSIS - EPIDEMIOLOGY: FRACTURE OUTCOME

SU0328 **Bone Area of the Radius Contributes to Fracture Risk Independently of Bone Mineral Density**
Helena Johansson*[1], Anders Odén[2], Magnus Karlsson[3], Eugene McCloskey[4], John Kanis[5], Dan Mellström[2]. [1]Swe, [2]Centre for Bone & Arthritis Research (CBAR), Sahlgrenska Academy, University of Gothenburg, Sweden, Sweden, [3]Skåne University Hospital Malmö, Lund University, Sweden, [4]University of Sheffield, United Kingdom, [5]University of Sheffield, Belgium
Disclosures: Helena Johansson, None

SU0329 **Characteristics and Medication Use Among Women with Osteoporosis Fracture: Analysis of a United States Managed Care Population**
Ankita Modi*[1], Amber Wilk[2], Shiva Sajjan[3], Panagiotis Mavros[3]. [1]Merck & Company, USA, [2]Virginia Commonwealth Univeristy, USA, [3]Merck & Co., Inc., USA
Disclosures: Ankita Modi, Merck & Co., Inc., 1

SU0330 **Differences in Bone Resorption during Royal Marine Training and in Relation to Stress Fracture**
Trish Davey*[1], Susan Lanham-New[2], Adrian J. Allsopp[1], Mark Hajjawi[3], Timothy Arnett[3], Joanne L. Fallowfield[1]. [1]Institute of Naval Medicine, United Kingdom, [2]University of Surrey, United Kingdom, [3]University College London, United Kingdom
Disclosures: Trish Davey, None

SU0331 **Explaining the Sex Difference in Fracture Risk: The Role of Muscle Quality**
Nguyen Nguyen, Tuan Nguyen*, Dana Bliuc, Jacqueline Center, John Eisman. Garvan Institute of Medical Research, Australia
Disclosures: Tuan Nguyen, None

SU0332 **Incidence and Characterization of Fractures in Men Under 65 Years Old with Osteoporosis**
Angelika Manthripragada*[1], Cynthia D. O'Malley[2], Ugis Gruntmanis[3], Jesse Hall[4], Rachel Wagman[5], Paul Miller[6]. [1]Amgen, USA, [2]Amgen Inc., USA, [3]University of Texas Southwestern Medical Center, Dallas, USA, [4]Amgen, Inc., USA, [5]Amgen, Incorporated, USA, [6]Colorado Center for Bone Research, USA
Disclosures: Angelika Manthripragada, Amgen Inc, 1; Amgen Inc, 3

SU0333 **Osteoporosis Treatment Following Fragility Fracture Remains Unaddressed Despite Available Therapies and Established Recommendations**
Cynthia O'Malley*[1], Akhila Balasubramanian[2], Douglas Dirschl[3], Pei-Ran Ho[4], Joseph Lane[5], Laura Tosi[6]. [1]Amgen Inc, USA, [2]Amgen Inc., USA, [3]The University of North Carolina at Chapel Hill, Department of Orthopaedics, USA, [4]Amgen, Inc, USA, [5]Hospital for Special Surgery, USA, [6]Children's National Medical Center, USA
Disclosures: Cynthia O'Malley, Amgen Inc, 1; Amgen Inc, 3

SU0334 **Steeply Increase of Hip Fracture Incidence Rate in Jeju Island, South Korea: A Prospective Cohort Study(2002-2011)**
Yong-Taik Lim*[1], Yong-Chan Ha[2], Young-Kyun Lee[3], Jae-Suk Chang[4], Deog-Yoon Kim[5]. [1]Department of Obstetrics & Gynecology, College of Medicine, the Catholic University, South korea, [2]Chung-Ang University College of Medicine, South korea, [3]Seoul National University Bundang Hospital, South korea, [4]Ulsan University, Asan Medical Center, South korea, [5]Kyung Hee University Hospital, South korea
Disclosures: Yong-Taik Lim, None

SU0335 **The Association between Fracture Site and Obesity in Men: a Population-based Study**
Melissa Premaor*[1], Juliet Compston[2], Daniel Martinez-Laguna[3], Xavier Nogues[4], Adolfo Diez-Perez[5], Daniel Prieto-alhambra[6]. [1]Federal University of Santa Maria, Brazil, [2]University of Cambridge School of Clinical Medicine, United Kingdom, [3]Primary Care Department, Institut Català de la Salut, Spain, [4]Institut Municipal D'Investigació Mèdica, Spain, [5]Parc De Salut Mar, Spain, [6]Institut Municipal D'Investigació Mèdica, United Kingdom
Disclosures: Melissa Premaor, None

SU0336 **Use of Administrative Data for National Surveillance of Osteoporosis and Related Fractures in Canada: Results from a Feasibility Study**
William Leslie*[1], CCDSS Canadian Chronic Disease Surveillance System Osteoporosis Working Group[2]. [1]University of Manitoba, Canada, [2]Public Health Agency of Canada, Canada
Disclosures: William Leslie, None

OSTEOPOROSIS - EPIDEMIOLOGY: GENETIC STUDIES

SU0337 **Genetic Influence of Age-Specific Factors on Bone Traits: Results From a Linkage Analysis of an Australian Cohort**
Sing Nguyen*, Jacqueline Center, John Eisman, Tuan Nguyen. Garvan Institute of Medical Research, Australia
Disclosures: Sing Nguyen, None

SU0338 **Genome-Wide Mapping of Promoter Methylation in Osteoporotic Bone Tissue**
Jesus Delgado-Calle[1], Agustín F. Fernández[2], María Teresa Zarrabeitia[3], Carolina Sañudo[4], María Isabel Pérez-Nuñez[5], Manueal Sumillera[5], Jesús Sainz[6], Mario F. Fraga[2], Jose Riancho*[7]. [1]IFIMAV-H.U. Marqués de Valdecilla-University of Cantaria, Spain, [2]Cancer Epigenetics Laboratory. Instituto Universitario de Oncología del Principado de Asturias (IUOPA), HUCA, University of Oviedo., Spain, [3]Unit of Legal Medicine, University of Cantabria, Spain, [4]IFIMAV-H.U. Marqués de Valdecilla-University of Cantabria, Spain, [5]Department of Orthopaedic surgery & Traumatology. Hospital U.M. Valdecilla, Spain, [6]IBBTEC, University of Cantabria, Spain, [7]University of Cantabria, Spain
Disclosures: Jose Riancho, None

SU0339 **Population Differences in Rates of Change for pQCT Measures at the Radius in Adult Males**
Howard Wey*[1], Teresa Binkley[1], Maggie Eilers[2], Lee Weidauer[1], Bonny Specker[1]. [1]South Dakota State University, USA, [2]Creighton University, USA
Disclosures: Howard Wey, None

OSTEOPOROSIS - EPIDEMIOLOGY: LIFESTYLE AND BONE (ALCOHOL, TOBACCO)

SU0340 **The Impact of Educational Interventions for Osteoporosis on Calcium and Vitamin D Supplementations After a Fragility Fracture**
Louis Bessette*[1], Claudia Beaudoin[2], Sonia Jean[3], Louis-Georges Ste-Marie[4], Jacques Brown[5]. [1]Centre Hospitalier De L'Universite Laval, Canada, [2]Crchuq Research Centre-chul, Canada, [3]INSTITUT NATIONAL DE SANTÉ PUBLIQUE DU QUÉBEC, Canada, [4]CHUM, Canada, [5]CHUQ Research Centre, Laval University, Canada
Disclosures: Louis Bessette, Amgen, 2; Amgen, 5

SU0341 **Total Energy Expediture (EE) by Accelerometry: Relationship to Macrostructural and Mechanical Properties of Bone**
Jane Cauley*[1], Kathy Wilt Peters[2], Yahtyng Sheu[1], Peggy Cawthon[3], Stephanie Harrison[4], Kristine Ensrud[5], Andy Kin On Wong[6], Dawn Mackey[7]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]California Pacific Medical Centre, San Francisco, USA, [3]California Pacific Medical Center Research Institute, USA, [4]San Francisco Coordinating Center, USA, [5]Minneapolis VA Medical Center / University of Minnesota, USA, [6]McMaster University, Canada, [7]CPMC Research Institute, USA
Disclosures: Jane Cauley, None

OSTEOPOROSIS - EPIDEMIOLOGY: RISK FACTORS

SU0342 **Effects of Calcium and Vitamin D Supplementation on Bone Health Status in Patients with Chronic Obstructive Airway Diseases**
Yi-Chin Lin*[1], Y-T Lai[2], T-C Wu[3], S-L Yeh[2]. [1]Chung Shan Medical University, Taiwan, [2]Chung Shan Medical Univ., Taiwan, [3]Chung Shan Medical Univ. Hospital, Taiwan
Disclosures: Yi-Chin Lin, None

SU0343 **Fracture Risk According to the FRAX Algorithm in Postmenopausal Women with a Recent Clinical Fracture**
Piet Geusens*[1], Tineke Van Geel[2], Sandrine Bours[3], John Eisman[4], Jacqueline Center[4], Joop Van Den Bergh[5]. [1]Maastricht UMC & UHasselt, Netherlands, [2]Maastricht University, The netherlands, [3]Maastricht University Medical Centre, The netherlands, [4]Garvan Institute of Medical Research, Australia, [5]VieCuri MC Noord-Limburg & Maastricht UMC, The netherlands
Disclosures: Piet Geusens, None

SU0344 **Fracture Risk Is Increased by the Complication of Hypertension and Treatments with Calcium Channel Blockers in Postmenopausal Women with Type 2 Diabetes**
Toru Yamaguchi*[1], Shin Takaoka[2], Ken-ichiro Tanaka[3], Miwa Morita[2], Masahiro Yamamoto[1], Mika Yamauchi[1], Shozo Yano[1], Toshitsugu Sugimoto[3]. [1]Shimane University Faculty of Medicine, Japan, [2]Internal Medicine 1, Shimane University Faculty of Medicine, Japan, [3]Shimane University School of Medicine, Japan
Disclosures: Toru Yamaguchi, None

SU0345 **High Serum Total Bilirubin as a Protective Factor against Hip Bone Loss in Healthy Middle-aged Men: A Three-year Retrospective Longitudinal Study**
Seong Hee Ahn*[1], Jung-Min Koh[1], Beom-Jun Kim[1], Seung Hun Lee[2], Sung Jin Bae[1], Ghi Su Kim[2]. [1]Asan Medical Center, South korea, [2]Asan Medical Center, University of Ulsan College of Medicine, South korea
Disclosures: Seong Hee Ahn, None

SU0346 **HIV Infection Is Strongly Associated with Increased Risk of Hip Fracture: a Population-based Study**
Daniel Prieto-alhambra*[1], Cristina Carbonell[2], Francesc Fina-Aviles[3], Alberto Soria-Castro[3], Robert Güerri[4], Xavier Nogues[5], Adolfo Diez-Perez[6]. [1]Institut Municipal D'Investigació Mèdica, United Kingdom, [2]Facultat de Medicina Universitat de Barcelona, Spain, [3]Institut Català de la Salut, Spain, [4]Hospital Universitario Del Mar.Institut Municipal D'Investigació Mèdica, Spain, [5]Institut Municipal D'Investigació Mèdica, Spain, [6]Parc De Salut Mar, Spain
Disclosures: Daniel Prieto-alhambra, None

SU0347 **Rheumatoid Arthritis Patients Have Equivalent Fall Risk but Higher Vertebral Fracture Risk Compared to Healthy People -TOMORROW Study-**
Tatsuya Koike*[1], Yuko Sugioka[2], Tadashi Okano[1], Kenji Mamoto[1], Masahiro Tada[1]. [1]Osaka City University Medical School, Japan, [2]Oasaka city University Medical school, Japan
Disclosures: Tatsuya Koike, Abbott Japan, 8; Takeda Pharmaceutical, 2; Ono Pharmaceutical, 8; Chugai Pharmaceutica, 8; Mitsubishi Tanabe Pharma Corporation, 8; Teijin Pharma, 2; Bristol Myers Squibb, 8; Janssen Pharma, 8; Mitsubishi Tanabe Pharma Corporation, 2

SU0348 **The Association of Fasting Urinary Calcium Excretion with Bone Mineral Density and Fracture Risk in Older Men: the Osteoporotic Fractures in Men Study**
Jian Shen*[1], Carrie Nielson[1], Lynn Marshall[1], Areef Ishani [2], Douglas Bauer[3], Jane Cauley[4], Elizabeth Barrett-Connor[5], Eric Orwoll[1]. [1]Oregon Health & Science University, USA, [2]Veterans Affairs Medical Center, USA, [3]University of California, San Francisco, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]University of California, San Diego, USA
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SU0349 **The Relationship between Functional Capacity of Muscle and Fracture Risk Determined by Korean FRAX model: The Chungju Metabolic Disease Cohort (CMC) Study**
Kyunghee Kim*[1], Moo-Il Kang[2], Sun Hee Ko[3], Eun Hee Jang[4], Ki-Hyun Baek[5]. [1]The Catholic University of Korea, Seoul, Korea, South korea, [2]Seoul St. Mary's Hospital, South korea, [3]The Catholic University of Korea, South korea, [4]St. Mary's Hospital, South korea, [5]department of internal medicine, the Catholic University of Korea., South korea
Disclosures: Kyunghee Kim, None

SU0350 **Vertebral Body Morphology is Associated with Incident Lumbar Vertebral Fracture in Postmenopausal Women. The OFELY Study**
Jean-Paul Roux*[1], Safaa Belghali[1], Elisabeth Sornay-Rendu[2], Roland Chapurlat[3]. [1]INSERM, UMR 1033, Université de Lyon, France, [2]INSERM UMR1033, Université de Lyon, France, [3]E. Herriot Hospital, France
Disclosures: Jean-Paul Roux, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: ANOREXIA NERVOSA, ETC.

SU0351 **The History of Fractures in 186 Swiss Women with Anorexia Nervosa**
Sigrid Jehle-Kunz*[1], Markus Wegmüller[2], Romain Perrelet[2], Kurt Lippuner[2]. [1]Osteoporosis Policlinic, University of Bern, Switzerland, Switzerland, [2]Osteoporosis Policlinic, University of Bern, Switzerland
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OSTEOPOROSIS IN SPECIAL POPULATIONS: MISCELLANEOUS

SU0352 **Hip Fracture Incidence Is Much Higher in Hong Kong Chinese Women than Beijing Chinese Women Despite Higher Bone Density in Hong Kong Women : Major Implications for Hip Fracture Prevention**

Rick Chung*[1], HAI TANG[2], PengCheng Ha[3], Pansy Tse[4], Yan Lam[4], George Qin[3], Carol Chan[4], Edith Lau[1]. [1]Center for Clinical & Basic Research (CCBR) (Hong Kong), Hong kong, [2]BEIJING FRIENDSHIP HOSPITAL, China, [3]CCBR(Beijing), China, [4]CCBR(Hong Kong), Hong kong

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SU0353 **Is There an Increased Risk of Hip Fracture in Multiple Sclerosis (MS)? Analysis of the Nationwide Inpatient Sample (NIS)**

Rajib Bhattacharya*[1], Richard Dubinsky[2]. [1]KU Medical Center, USA, [2]University of Kansas, USA

Disclosures: Rajib Bhattacharya, None

SU0354 **Role of TLR 4 in the Dysregulation of Skeletal Metabolism Associated with Type 2 Diabetes**

Elizabeth Rendina*[1], Yan Wang[2], Kelsey Hembree[3], McKale Davis[3], Jennifer Graef[3], Sandra Peterson[3], Katie Clark[3], Stephen Clarke[1], Edralin Lucas[1], Brenda Smith[1]. [1]Oklahoma State University, USA, [2]Department of Plant & Soil Sciences, Oklahoma State UniversityOklahoma State University, USA, [3]Department of Nutritional Sciences, Oklahoma State University, USA

Disclosures: Elizabeth Rendina, None

SU0355 **Serum 25-Hydroxyvitamin D Level and Incident Type 2 Diabetes in older men, the Osteoporotic Fractures in Men Study (MrOS)**

Nicola Napoli*[1], Anne Schafer[2], Christine Lee[3], Jane Cauley[4], Elsa Strotmeyer[5], Andrew Hoffman[6], Erin Le Blanc[7], Ann Schwartz[8], Dennis Black[8]. [1]University Campus Biomedico, Italy, [2]University of California, San Francisco & the San Francisco VA Medical Center, USA, [3]Oregon Health & Science University, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]University of Pittsburgh, USA, [6]Stanford University, USA, [7]Center for health research, Kaiser permanente, USA, [8]University of California, San Francisco, USA

Disclosures: Nicola Napoli, None

SU0356 **Trabecular Bone Score in Rheumatoid Arthritis and Ankylosing Spondylitis and Changes during Long Term Treatment with TNFa Blocking Agents**

Eric Toussirot*[1], Laurent Mourot[2], Daniel Wendling[1], Gilles Dumoulin[3], Clinical Investigation Center Biotherapy[4]. [1]University Hospital Minjoz, France, [2]University of Franche Comté, France, [3]Physiology, France, [4]University Hospital, France

Disclosures: Eric Toussirot, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: MOBILITY DISORDERS

SU0357 **Differential Diagnosis Marfan Syndrome, Ehlers-Danlos Syndrome and Osteogenesis Imperfecta**

Vaclav Vyskocil*[1], Tomas Pavelka[2]. [1]Center for Metabolic Bone Diseases, Czech republic, [2]Department of Orthopaedic Surgerz, Czech republic

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SU0358 **Low Bone Density of Spine in Patients with Lumbar Spinal Stenosis**

Reza S Roghani*[1], Mansoor Rayegani[2], Ahmad Delbari[3], Shahab Tabatabaei[4], Mehrsheed Sinaki[5]. [1]Iran, [2]Shahid Beheshti University, Iran, [3]Sabzevar University, Iran, [4]university of welfare & rehabilitation, Iran, [5]Mayo Clinic, USA

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OSTEOPOROSIS IN SPECIAL POPULATIONS: TRANSPLANTATION

SU0359 **Early Corticosteroid Withdrawal after Kidney Transplantation: Paradoxical Effects on the Central and Peripheral Skeleton**

Sapna Iyer*[1], Lucas Nikkel[2], Chiyuan Zhang[3], Donald McMahon[4], Stephanie Boutroy[2], Xiaowei Liu[5], X Guo[3], Sharmila Majumdar[6], David Wojciechowski[7], Elizabeth Shane[4], Thomas Nickolas[2]. [1]University of California San Diego, USA, [2]Columbia University Medical Center, USA, [3]Columbia University, USA, [4]Columbia University College of Physicians & Surgeons, USA, [5]University of Pennsylvania, USA, [6]University of California, San Francisco, USA, [7]University of California San Francisco, USA

Disclosures: Sapna Iyer, None

OSTEOPOROSIS - TREATMENT (CLINICAL): ANABOLIC AGENTS

SU0360 **Acute Effect of Anti-Osteoporotic Therapies on Bone Turnover Markers in Recent Vertebral Compression Fractures**

Costantino Corradini*[1], Alessio Maione[2], Calogero Crapanzano[3], Fabrizio Ferrara[2], Wilfried Stuflesser[2], Cesare Verdoia[2]. [1]State University of Milan, Italy, [2]Orthopaedic Clinic, State University of Milan, Italy, [3]Clinical Pathology Unit, AO Orthopaedic Institute G.Pini, Italy

Disclosures: Costantino Corradini, None

SU0361 **Comparative Effects of Teriparatide and Ibandronate on Spine Bone Mineral Density (BMD) and Microarchitecture (TBS) in Postmenopausal Women with Osteoporosis.**

Christoph Senn*[1], Sabina Guler[1], Albrecht Popp[1], Delphine Stoll[2], Berengère Aubry-Rozier[2], Romain Perrelet[1], Didier Hans[3], Kurt Lippuner[1]. [1]Osteoporosis Policlinic, University of Bern, Switzerland, [2]Center of Bone Disease, Lausanne University Hospital, Switzerland, [3]Lausanne University Hospital, Switzerland

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SU0362 **Effect of Teriparatide on Fracture Healing in Patients with Non-Displaced Incomplete Atypical Femur Fractures**

Angela Cheung*[1], LIANNE TILE[2], R Bleakney[3], Aliya Khan[4], Savannah Cardew[2], Rowena Ridout[5], Heather McDonald-Blumer[2], Khalid Syed[1], Jessica Chang[1], Hanxian Hu[1], Suzanne Morin[6], Alexandra Papaioannou[7], Robert Josse[8], Earl Bogoch[9], Jonathan Adachi[10]. [1]University Health Network, Canada, [2]University of Toronto, Canada, [3]Mount Sinai Hospital, Canada, [4]McMaster University, Canada, [5]Toronto Western Hospital, Canada, [6]McGill University, Canada, [7]Hamilton Health Sciences, Canada, [8]St. Michael's Hospital, University of Toronto, Canada, [9]St. Michael's Hospital, Canada, [10]St. Joseph's Hospital, Canada

Disclosures: Angela Cheung, Eli Lilly, 5

SU0363 **Qualification of a Physiologically-Based Model for Predicted Bone Marker and Bone Mineral Density Changes Associated with Denosumab Treatment**

Matthew Riggs, Kyle Baron*, Elodie Plan, Marc Gastonguay. Metrum Research Group LLC, USA

Disclosures: Kyle Baron, Amgen, Inc, 5

SU0364 **Sex-specific Effects of DHEA Supplementation on Bone Mineral Density and Body Composition: A Pooled Analysis of Four Randomized Controlled Trials**

Vanessa Sherk*[1], Catherine Jankowski[2], Sundeep Khosla[3], Donna Kritz-Silverstein[4], Gail Laughlin[4], K. Sreekumaran Nair[5], Krupa Shah[6], Dennis Villareal[7], Denise Von Muhlen[8], Edward Weiss[9], Pamela Wolfe[2], Wendy Kohrt[2]. [1]University of Colorado - Denver, USA, [2]University of Colorado Denver, USA, [3]College of Medicine, Mayo Clinic, USA, [4]University of California, San Diego, USA, [5]Mayo Clinic, USA, [6]University of Rochester School of Medicine, USA, [7]University of New Mexico School of Medicine, USA, [8]Unoversity of California San Diego, USA, [9]Saint Louis University, USA

Disclosures: Vanessa Sherk, None

SU0365 **Vasodilation of the Bone Resistance Vasculature in Rats Is More Robust to PTHrP than to PTH 1-84 and PTH 1-34**

Rhonda Prisby[1], Tyler Benson*[1], Thomas Menezes[1], Jeremiah Campbell[2], Enoch Samraj[1]. [1]University of Texas at Arlington, USA, [2]University of Texas at Arlinton, USA

Disclosures: Tyler Benson, None

SU0366 **Characteristics of Initiators of Different Osteoporosis (OP) Medications among Women with Postmenopausal Osteoporosis (PMO) in The Health Improvement Network (THIN) in the UK**
Fei Xue*[1], Chuck Wentworth[2], Victor Gastanaga[1], Cathy Critchlow[1]. [1]Amgen Inc., USA, [2]Analytic Consulting Solutions, Inc, USA
Disclosures: Fei Xue, Amgen, Inc. , 1

SU0367 **Clinical Results of Nonunion after Atypical Femoral Fracture**
Kyu Hyun Yang*[1], Chang-Wug Oh[2]. [1]Gangnam Severance Hospital, South korea, [2]Kyungpook National Univeristy, South korea
Disclosures: Kyu Hyun Yang, None

SU0368 **Comparative Effectiveness of Oral Bisphosphonates in Reducing Hip Fracture Risk**
Suzanne Cadarette*[1], Linda Levesque[2], Muhammad Mamdani[1], Sylvie Perreault[3], David Juurlink[1], J Michael Paterson[4], Greg Carney[5], Nadia Gunraj[4], Milica Nikitovic[6], Gillian Hawker[1], Colin Dormuth[5]. [1]University of Toronto, Canada, [2]Queen's University, Canada, [3]University of Montreal, Canada, [4]Institute for Clinical Evaluative Sciences, Canada, [5]University of British Columbia, Canada, [6]University of Toronto, Canada
Disclosures: Suzanne Cadarette, None

SU0369 **Correlations Between 25(OH)D and BMD Change in Postmenopausal Osteoporotic Women and other Secondary Analyses of a 1-year Trial of Weekly Alendronate (ALN) Plus Vitamin D_3 5600 IU vs. Standard Care**
Neil Binkley*[1], Steven Boonen[2], Douglas Kiel[3], Stuart Ralston[4], Jean-Yves Regnister[5], Christian Roux[6], Annpey Pong[7], Elizabeth Rosenberg[8], Arthur Santora[9]. [1]University of Wisconsin, Madison, USA, [2]Katholieke Universiteit Leuven, Belgium, [3]Hebrew SeniorLife, USA, [4]University of Edinburgh, United Kingdom, [5]University of Liege, Belgium, [6]Hospital Cochin, France, [7]Merck Sharp & Dohme, USA, [8]Merck & Co., Inc., USA, [9]Merck Research Laboratories, USA
Disclosures: Neil Binkley, Merck Sharp and Dohme, 2; Merck Sharp and Dohme, 5

SU0370 **Evaluation of 42 Cases of Subtrochanteric Fractures using the ASBMR Taskforce Criteria for Atypical Femoral Fractures**
Angela Juby*, Sean Crowther. University of Alberta, Canada
Disclosures: Angela Juby, None

SU0371 **Is Bisphosphonate Use Associated with Atypical Humeral Diaphyseal Fractures?**
Debra Sietsema[1], Clifford Jones*[1], Martin Hoffmann[2]. [1]Orthopaedic Associates of Michigan; Michigan State University, USA, [2]Grand Rapids Medical Education Partners, USA
Disclosures: Clifford Jones, Eli Lilly, 5; Eli Lilly, 8

SU0372 **Is Zoledronic Acid Retention onto Bone Different in Multiple Myeloma and Breast Cancer Patients with Bone Metastasis?**
Kent Soe*[1], Torben Plesner[2], Erik H. Jakobsen[3], Charlotte T. Hansen[4], Henrik B. Jorgensen[5], Jean-Marie Delaisse[6]. [1]Vejle Hospital, University of Southern Denmark, Denmark, [2]Vejle Hospital, Medical Department, Denmark, [3]Vejle Hospital, Department of Oncology, Denmark, [4]Odense University Hospital, Dept. of Hematology, Denmark, [5]Vejle Hospital, Dept. of Nuclear Medicine, Denmark, [6]Vejle Hospital, IRS, University of Southern Denmark, Denmark
Disclosures: Kent Soe, Novartis, 2

SU0373 **Ocular Inflammatory Reactions in Patients treated with Osteoporosis Medications – Cohort Analysis using a National Prescreption Database**
Michael Pazianas[1], Kim Brixen[2], Pia Eiken[3], Emma Clark[4], Bo Abrahamsen*[5]. [1]University of Oxford, United Kingdom, [2]Institute for Clinical Research, Denmark, [3]Hilleroed Hospital, Denmark, [4]University of Bristol, United Kingdom, [5]Copenhagen University Hospital Gentofte, Denmark
Disclosures: Bo Abrahamsen, Warner-Chilcott, 5

SU0374 **Osteonecrosis around Dental Implants in Patients with Bisphosphonate Treatment**
Tae-Geon Kwon*[1], Je-Yong Choi[2], Hong-In Shin[3]. [1]Kyungpook National University, School of Dentistry, South korea, [2]Kyungpook National University, School of Medicine, South korea, [3]Dept. of Oral Pathology, School of Dentistry, Kyungpook National University, Samduck 2 Ga, Jung Gu, South korea
Disclosures: Tae-Geon Kwon, None

SU0375 **Rapid Resolution with Teriparatide in Delayed Healing of Atypical Fracture Associated to Long- Term Bisphosphonate Use**
Silvina Mastaglia*[1], Gabriel Aguilar [2], Beatriz Oliveri[3]. [1]SECCIÓN OSTEOPATÍAS MÉDICAS, HOSPITAL DE CLÍNICAS, Argentina, [2]Centro de Diagnóstico Dr. Enrique Rossi, Argentina, [3]Centro De Osteopatías Médicas, Argentina
Disclosures: Silvina Mastaglia, None

SU0376 **Use of Bisphosphonates and Risk of Atypical Femur Fracture: a Systematic Review and Meta-analysis**
Seoyoung Kim[1], Lydia Gedmintas*[1], Daniel Solomon[2]. [1]Brigham & Women's Hospital, USA, [2]Harvard Medical School, USA
Disclosures: Lydia Gedmintas, Pfizer, 2; Takeda Pharmaceuticals North America, 2

SU0377 **What Predicts Osteoporosis Treatment in Nursing Home Residents: Baseline Data from the ViD*OS* Cluster Randomized Controlled Trial**
Courtney Kennedy*[1], Alexandra Papaioannou[2], George Ioannidis[1], Lora Giangregorio[3], Lehana Thabane[4], Ireena Soleas[1], Suzanne Morin[5], Richard Crilly[6], Susanne King[1], Mary-Lou van der Horst[1], Lisa Dolovich[7], Ravi Jain[8], Jonathan Adachi[9]. [1]McMaster University, Canada, [2]Hamilton Health Sciences, Canada, [3]University of Waterloo, Canada, [4]McMaster University, Dept. Clinical Epidemiology & Biostatistics, Canada, [5]McGill University, Canada, [6]University of Western Ontario, Canada, [7]Dept Family Medicine, McMaster University, Canada, [8]Osteoporosis Canada, Canada, [9]St. Joseph's Hospital, Canada
Disclosures: Courtney Kennedy, None

OSTEOPOROSIS - TREATMENT (CLINICAL): COMPLIANCE AND PERSISTENCE

SU0378 **Are there Racial and Ethnic Differences in Weighting of Patient Preferences about Osteoporosis Medication Attributes?**
Stuart Silverman*[1], Andrew Calderon[2], Deborah Gold[3]. [1]Cedars-Sinai/UCLA, USA, [2]OMC Clinical Research Center, USA, [3]Duke University Medical Center, USA
Disclosures: Stuart Silverman, None

SU0379 **Association of Gastrointestinal events and Osteoporosis Treatment Persistency in a Managed Care Setting**
Ethel Siris*[1], Tao Fan[2], Chun-Po Steve Fan[3], Shiva Sajjan[4], Shuvayu Sen[5], Ankita Modi[4]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Merck, USA, [3]AsclepiusJT LLC, USA, [4]Merck & Company, USA, [5]Merck & Co., Inc., USA
Disclosures: Ethel Siris, Amgen, Lilly, 8; Amgen, Lilly, Merck, 5

SU0380 **National Bone Health Alliance: A Multi-Sector Public-Private Partnership Working Together to Improve America's Bone Health**
David Lee*. National Bone Health Alliance, USA
Disclosures: David Lee, None

SU0381 **Predictors of Non-adherence to Bisphosphonates for Male Veterans with Osteoporosis and/or Osteoporotic Fracture: Importance of Mental Health Conditions**
Lewis Kazis*[1], Austin Lee[2], Mingfei Li[3], Joanne LaFleur[4], Steven C. Vlad[5], Kathleen Carey[6], Priscilla Chew[7], David Chandler[8], Nicole Yurgin[9], Robert Adler[10]. [1]Boston University School of Public Health, Boston, MA, USA, [2]Boston University, USA, [3]Bentley University, USA, [4]University of Utah, USA, [5]Boston University School of Medicine, USA, [6]Boston University School of Public Health, USA, [7]Edith Nourse Rogers VA Medical Center, USA, [8]Amgen Inc, USA, [9]Amgen Inc., USA, [10]McGuire VA Medical Center, USA
Disclosures: Lewis Kazis, Amgen Inc., 2

SU0382 **Variation in the Days Supply Field for Osteoporosis Medications in Ontario**
Andrea Burden*[1], Angie Huang[2], Mina Tadrous[1], Suzanne Cadarette[1]. [1]University of Toronto, Canada, [2]Institute for Clinical Evaluative Sciences, Canada
Disclosures: Andrea Burden, None

OSTEOPOROSIS - TREATMENT (CLINICAL): GONADAL STEROIDS AND SERMS

SU0383 **Effects of Bazedoxifene on Intervertebral Disc Height and Association With Incident Vertebral Fractures in Postmenopausal Women**
Nancy Lane*[1], Thomas Fuerst[2], Amy B. Levine[3], Teresa Hines[3], Robert Williams[3], Santosh Sutradhar[3], Arkadi Chines[4]. [1]University of California at Davis, USA, [2]Synarc Inc, USA, [3]Pfizer Inc, USA, [4]Amgen Inc., USA
Disclosures: Nancy Lane, Pfizer Inc/Wyeth, 5

SU0384 **Variation in Vitamin D-Related Genes and Reduction of Hip Fractures with Postmenopausal Hormone Therapy: The Women's Health Initiative**
Rebecca Jackson*[1], Andrea Lacroix[2], Aaron Aragaki[3], David Duggan[4], Chris Carlson[2], Charles Kooperberg[2]. [1]The Ohio State University, USA, [2]Fred Hutchinson Cancer Research Center, USA, [3]Fred Hutchinson Cancer Reserach Center, USA, [4]Translational Genomics, USA
Disclosures: Rebecca Jackson, None

OSTEOPOROSIS - TREATMENT (CLINICAL): HEALTH ECONOMICS

SU0385 **Cost-Effectiveness of Denosumab versus Zoledronic Acid in a Population 75 years or Older in the US**
Anju Parthan*[1], Morgan Deflin[1], Nicole Yurgin[2], Joice Huang[3], Pei-Ran Ho[4], Andrea Wang[3], Douglas Taylor[1]. [1]OptumInsight, USA, [2]Amgen Inc., USA, [3]Amgen Inc, USA, [4]Amgen, Inc, USA
Disclosures: Anju Parthan, Amgen Inc, 5

SU0386 **Individual Derived Quality of Life Changes Over 12-months following Fracture**
Kerrie Sanders*[1], Geoffrey Nicholson[2], Sandra Iuliano-Burns[3], Ego Seeman[3], Richard Prince[4], Gustavo Duque[5], Tania Winzenberg[6], Marita Cross[7], Lyn March[7], Peter Ebeling[8], Fredrik Borgstrom[9]. [1]NorthWest Academic Centre, The University of Melbourne, Western Health, Australia, [2]The University of Queensland, Australia, [3]Austin Health, University of Melbourne, Australia, [4]Sir Charles Gairdner Hospital, Australia, [5]Ageing Bone Research Program, University of Sydney, Australia, [6]Menzies Research Institute Tasmania, Australia, [7]Royal North Shore hospital, Australia, [8]The University of Melbourne, Australia, [9]LIME/MMC Karolinska Institute, Sweden
Disclosures: Kerrie Sanders, None

SU0387 **Yield of Electronic Medical Records Screening in Identifying Patients Eligible for Osteoporosis Treatment after Recent Fracture**
Cathleen Colon-Emeric*[1], Richard Lee[2], Karen Barnard[3], Megan Pearson[4], Kenneth Lyles[1]. [1]Duke University Medical Center, USA, [2]Duke University, USA, [3]Duke University Medical Center, Durham VAMC, USA, [4]Durham VA Medical Center, USA
Disclosures: Cathleen Colon-Emeric, None

OSTEOPOROSIS - TREATMENT (CLINICAL): OTHER AGENTS

SU0388 **Change in ucOC/OC Ratio with use of Teriparatide in Treatment of Vertebral Compression Fracture**
Yoichi Kishikawa*. Kishikawa Orthopedics, Japan
Disclosures: Yoichi Kishikawa, None

SU0389 **Effects of Combination Treatment with Raloxifene and Alfacalcidol in Postmenopausal Women**
Noriaki Yamamoto*[1], Naoto Endo[2], Hideaki Takahashi[1]. [1]Niigata rehabilitation hospital, Japan, [2]Niigata University, Japan
Disclosures: Noriaki Yamamoto, None

SU0390 **Morning Administration of the New Cathepsin K Inhibitor, ONO-5334, Causes Greater Suppression of Bone Resorption Markers Compared with Evening Administration**
Richard Eastell*[1], Derk-Jan Dijk[2], Maria Small[3], Aldona Greenwood[2], John Sharpe[4], Mikihiro Yuba[4], Stephen Deacon[3]. [1]University of Sheffield, United Kingdom, [2]Surrey Clinical Research Centre, United Kingdom, [3]Ono Pharma UK Ltd, United Kingdom, [4]ONO Pharma UK, United Kingdom
Disclosures: Richard Eastell, ONO PHARMA UK LTD, 5

SU0391 **Positive Effects of Dried Plum on Bone may be due in part to Suppression of Sclerostin Levels**
Shirin Hooshmand*[1], Marcus Elam[2], Sheau Ching Chai[3], Raz Saadat[2], Bahram Arjmandi[3]. [1]San Diego State University, USA, [2]Florida State Univeristy, USA, [3]Florida State University, USA
Disclosures: Shirin Hooshmand, None

SU0392 **Sclerostin and DKK1 in Postmenopausal Osteoporosis treated with Denosumab**
Luca Idolazzi*[1], Helal Mahamid[1], Maria Rosaria Povino[1], Carmela Dartizio[1], Elisabetta Vantaggiato[1], Alessandro Giollo[1], Gaia Tripi[1], Davide Gatti[1], Maurizio Rossini[2], Silvano Adami[3]. [1]Rheumatology Section, Department of Medicine, University of Verona, Italy, [2]Verona University, Italy, [3]University of Verona, Italy
Disclosures: Luca Idolazzi, None

SU0393 **The Dynamic Profile of CTX Observed With Denosumab Is Maintained Over 6 Years of Treatment: Results From the First 3 Years of the Pivotal Phase 3 Fracture Trial (FREEDOM) Extension**
Christian Roux*[1], Michael R. McClung[2], Nathalie Franchimont[3], Silvano Adami[4], Peter R. Ebeling[5], Ian R. Reid[6], Heinrich Resch[7], Georges Weryha[8], Nadia Daizadeh[3], Andrea Wang[3], Rachel B. Wagman[3], Richard Eastell[9]. [1]Paris Descartes University, France, [2]Oregon Osteoporosis Center, USA, [3]Amgen Inc., USA, [4]University of Verona, Italy, [5]University of Melbourne, Australia, [6]University of Auckland, New zealand, [7]St Vincent Hospital, University of Vienna, Austria, [8]Hôpitaux de Brabois, CHU de Nancy, France, [9]University of Sheffield, United Kingdom
Disclosures: Christian Roux, Amgen Inc., Lilly, MSD, Novartis, Roche,5; Amgen Inc., MSD, Bongrain, 2

SU0394 **The Results of a Double-blind, Randomized, Phase 2 Dose-finding Study of Odanacatib, a Potent Cathepsin-K Inhibitor, in Japanese Patients with Osteoporosis with a Model-based Pharmacokinetic (PK) Analysis**
Shinji Uchida*[1], Masataka Shiraki[2], Masao Fukunaga[3], Tatsushi Tomomitsu[3], Go Fujimoto[4], Mariko Nakagomi[4], Albert Leung[5], Stefan Zajic[5], Arthur Santora[5], Julie Stone[6], Julie Passarell[7], Toshitaka Nakamura[8]. [1]MSD K.K., Japan, [2]Research Institute & Practice for Involutional Diseases, Japan, [3]Kawasaki Medical School, Japan, [4]MSD KK, Japan, [5]Merck Research Laboratories, USA, [6]Merck Sharp & Dohme Corp., USA, [7]Cognigen Corp, USA, [8]University of Occupational & Environmental Health, Japan
Disclosures: Shinji Uchida, Merck Sharp & Dohme Corp., 3

OSTEOPOROSIS - TREATMENT (CLINICAL): QUALITY OF LIFE

SU0395 **CT-assisted Balloon Sacroplasty for the Treatment of Insufficiency Fractures Considering Individual Approaches Adapted to the Course of the Fracture Type Denis I, II and III**
Reimer Andresen*[1], Sebastian Radmer[2], Peter Kamusella[3], Christian Wissgott[4], Jan Banzer[5], Hans-Christof Schober[6]. [1]Westküstenklinikum Heide, Germany, [2]Center of Orthopedics, Germany, [3]Institute of Diagnostic & Interventional Radiology/ Neuroradiology, Westküstenklinikum Heide, Germany, [4]Insitute of Diagnostic & Interventional Radiology/Neuroradiology, Westküstenklinikum Heide, Germany, [5]Charité Universitätsmedizin Berlin, Germany, [6]Klinikum Südstadt RostockKlinik Für Innere Medizin I, Germany
Disclosures: Reimer Andresen, None

SU0396 **Mechanical Vibration Improves Neuromuscular Parameters and Preserve Bone Mass in Postmenopausal Osteopenic Women**
Mônica Oliveira[1], Hellen Rodrigues[2], Rosangela Marin[2], orivaldo Silva[3], Marise Lazaretti Castro*[4]. [1]University Federal of São Paulo Brazil, Brazil, [2]Unifesp, Brazil, [3]USP, Brazil, [4]Escola Paulista de Medicina, Brazil
Disclosures: Marise Lazaretti Castro, None

SU0397 **Treatment of Osteoporotic Vertebral Body Fractures by Means of Percutaneous Balloon Kyphoplasty. Long Term Results of a Prospective, Clinical Trial**
Thomas Blattert*. Orthopaedische Fachklinik Schwarzach, Germany
Disclosures: Thomas Blattert, AOSpine, Biomet, Medtronic, Spontech, Synthes, 5

OSTEOPOROSIS - TREATMENT (CLINICAL): VITAMIN D AND METABOLITES

SU0398 **Withdrawn**

SU0399 **Intermittent Megadose Treatment with Vitamin D_3 is not Optimal to Keep Serum 25OHD Levels at or over the Target of 75 nmol/l - Placebo-Controlled, One-Year Study with 100 000 and 200 000 IU Three Monthly**
Ville-Valtteri Välimäki*[1], Tuula Pekkarinen[2], Eliisa Löyttyniemi[3], Matti J. Välimäki[4]. [1]Department of Orthopaedics & Traumatology, University of Helsinki & Helsinki University Central Hospital, Finland, [2]Department of Internal Medicine, Helsinki University Central Hospital, Finland, [3]Department of Statistics, University of Turku, Finland, [4]Division of Endocrinology, Department of Medicine, Helsinki University Central Hospital, Finland
Disclosures: Ville-Valtteri Välimäki, None

SU0400 **The Influence of Vitamin D Supplementation on Mean Changes in Serum 25(OH)D: a Meta-analysis**
Sakineh Shab Bidar[1], Sandrine Bours*[2], Piet Geusens[3], Joop Van Den Bergh[4]. [1]Maastricht University, Netherlands, [2]Maastricht University Medical Centre, The netherlands, [3]University Hasselt, Belgium, [4]VieCuri MC Noord-Limburg & Maastricht UMC, The netherlands
Disclosures: Sandrine Bours, None

SU0401 **The Vitamin D Dose Response in Obesity**
Mageda Mikhail*, John Aloia, Ruban Dhaliwal, Martin Feuerman. Winthrop University Hospital, USA
Disclosures: Mageda Mikhail, None

SU0402 **Vitamin D Status and Response to Additional Vitamin D in Korean Women with Osteoporosis**
Sung Soo Kim*[1], Seok Joon Yoon[2]. [1]School of Medicine, Chungnam National University, South korea, [2]Chungnam National University Hospital, South korea
Disclosures: Sung Soo Kim, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): ANABOLIC AGENTS

SU0403 **3D Architectural Developmental Patterns of Primary and Secondary Spongiosa at the Proximal Tibia of Young Rats in Response to Daily Parathyroid Hormone (PTH) Administration**
Shenghui Lan, Abhishek Chandra, Ling Qin, Xiaowei Liu*. University of Pennsylvania, USA
Disclosures: Xiaowei Liu, None

SU0404 **A Novel Macromolecular Prodrug of Simvastatin Promotes Bone Fracture Repair in Mice**
Yijia Zhang*[1], Zhenshan Jia[1], Anand Dusad[1], Aaron Daluiski[2], Edward Fehringer[1], Steven Goldring[2], Dong Wang[1]. [1]University of Nebraska Medical Center, USA, [2]Hospital for Special Surgery, USA
Disclosures: Yijia Zhang, None

SU0405 **Inhibition of BMP-2 Signaling Using a Soluble Form of BMPR1A Increases Bone Mass in Aged Mice**
Aaron Mulivor*, Denise Barbosa, Ravi Kumar, R. Scott Pearsall. Acceleron Pharma, USA
Disclosures: Aaron Mulivor, Acceleron Pharma, 3

SU0406 **Short- and Long-term Effects of Sclerostin Antibody in an Ovariectomized Rat Model**
Xiaodong Li*, Qing-Tian Niu, Kelly S. Warmington, Frank J. Asuncion, Denise Dwyer, Mario Grisanti, Chun-Ya Han, Marina Stolina, Paul J. Kostenuik, W. Scott Simonet, Michael S. Ominsky, Hua Zhu Ke. Amgen Inc., USA
Disclosures: Xiaodong Li, Amgen Inc., 3; Amgen Inc., 1

SU0407 **The Effects Of Parathyroid Hormone And Bisphosphonate Treatment On The Local Mechanical Control Of Bone Formation And Resorption**
Friederike Schulte*[1], Claudia Weigt[1], Davide Ruffoni[2], Floor Lambers[3], Alina Levchuk[1], Duncan Webster[1], Gisela Kuhn[1], Ralph Müller[1]. [1]ETH Zurich, Switzerland, [2]ETH Zürich, Switzerland, [3]Cornell University, USA
Disclosures: Friederike Schulte, None

SU0408 **Validation of Urinary ^{45}Ca Excretion from Deep-Labeled Bone for Screening Anabolic Osteoporosis Therapies in Rats**
Emily Hohman*, George McCabe, Connie Weaver. Purdue University, USA
Disclosures: Emily Hohman, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): BISPHOSPHONATES

SU0409 **Analgesic Effects of Minodronate on Formalin-induced Acute Inflammatory Pain in Rats**
Naohisa Miyakoshi*, Toyohito Segawa, Yuji Kasukawa, Hiroshi Aonuma, Hiroyuki Tsuchie, Yoichi Shimada. Akita University Graduate School of Medicine, Japan
Disclosures: Naohisa Miyakoshi, None

SU0410 **Effects of Zoledronic Acid and Fracture on the ex vivo Proliferation and Osteoblastic Differentiation of Rat Mesenchymal Stem Cells**
Terhi Heino*[1], Heikki Halkosaari[1], Jessica Alm[2], Ville-Valtteri Valimaki[3]. [1]Department of Cell Biology & Anatomy, University of Turku, Finland, [2]Orthopaedic Research Unit, Finland, [3]Helsinki University Central Hospital, Finland
Disclosures: Terhi Heino, None

SU0411 **Induction of Antral Ulcers by Alendronate, A Nitrogen-Containing Bisphosponate, in Rat Stomachs**
Koji Takeuchi*, Daisuke Hara, Ayano Imasato, Misato Oka, Kikuko Amagase. Kyoto Pharmaceutical University, Japan
Disclosures: Koji Takeuchi, This study received funding from: Ajinomoto Pharma, 2

OSTEOPOROSIS - TREATMENT (PRECLINICAL): CALCIUM AND DIETARY FACTORS

SU0412 **Preservation of the Bone Structure and Function in Mice on a Western-Style Diet by Mineralized Red Algae.**
Muhammad Aslam*, James Varani. University of Michigan, USA
Disclosures: Muhammad Aslam, None

SU0413 **Withdrawn**

OSTEOPOROSIS - TREATMENT (PRECLINICAL): GONADAL STEROIDS AND SERMS

SU0414 **Endoxifen Differs From Other Selective Estrogen Receptor Modulators *in vitro* and Enhances Bone Mass In Ovariectomized Mice**
Anne Gingery*[1], Malayannan Subramaniam[2], Muzaffer Cicek[2], Kevin Pitel[2], Urszula Iwaniec[3], Russell Turner[3], James Ingle[2], Matthew Goetz[2], Thomas Spelsberg[2], John Hawse[4]. [1]Mayo Clinic School of Medicine, USA, [2]Mayo Clinic, USA, [3]Oregon State University, USA, [4]Mayo Clinic College of Medicine, USA
Disclosures: Anne Gingery, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): OTHER AGENTS

SU0415 **Effects of Ethanol and Water Extracts of *Fructus ligustri Lucidi* on Vitamin D Metabolism and Intestinal Calcium Absorption in Mature Ovariectomized Rats**
Xiaoli Dong*[1], Sasa Gu[1], Quangui Gao[1], Ming Xian Ho[1], Haotian Feng[2], Man Sau Wong[1], Liya Denney[3]. [1]Department of Applied Biology & Chemical Technology, The Hong Kong Polytechnic University, China, [2]Nestlé Research Centre Beijing, China, [3]Nestle Research Centre, Switzerland
Disclosures: Xiaoli Dong, None

SU0416 **Efficacy of Switching Alendronate and Odanacatib Treatments on Bone Mass, Mechanical Properties and Bone Remodeling in the Lumbar Spine of Ovariectomized Rabbits**
Kevin Scott*[1], Michael Gentile[2], Carlyle Horrell[3], Christopher Winkelmann[3], Randolf Crawford[3], John Szumiloski[3], Rana Samadfam[4], Susan Y. Smith[4], Le Thi Duong[5]. [1]Merck & Company, USA, [2]Merck & Co., Inc., USA, [3]Merck, USA, [4]Charles River Laboratories, Canada, [5]Merck Research Laboratories, USA
Disclosures: Kevin Scott, Merck, 3

SU0417 **Green Tea Polyphenols Improve Bone Microarchitecture and Quality in Obese Female Rats Fed with High-fat and Restricted Diets**
Chwan-Li Shen*[1], Jay Cao[2], James Yeh[3], Ming-Chien Chyu[4]. [1]Texas Tech University Health Sciences Center, USA, [2]USDA ARS, USA, [3]Winthrop University Hospital, USA, [4]Texas Tech University, USA
Disclosures: Chwan-Li Shen, None

SU0418 **Halofuginone Protects from Ovariectomy-Induced Bone Loss**
Carl DeSelm*, Steven Teitelbaum. Washington University in St. Louis School of Medicine, USA
Disclosures: Carl DeSelm, None

SU0419 **The Influence of Therapeutic Radiation on the Patterns of Bone marrow in Ovary-Intact and Ovariectomized Mice**
Susanta Hui*[1], Leslie Sharkey[2], Louis Kidder[3], Yan Zhang[3], Gregory Fairchild[1], Kayti Coghill[4], Cory Xian[5], Douglas Yee[6]. [1]University of Minnesota, USA, [2]Department of Veterinary Clinical Sciences, College of Veterinary Medicine, University of Minnesota, USA, [3]Masonic Cancer Center, University of Minnesota, USA, [4]Department of Therapeutic Radiology, University of Minnesota, USA, [5]University of South Australia, Australia, [6]Department of Medicine, Medical School, University of Minnesota, USA
Disclosures: Susanta Hui, None

SU0420 **The Reversibility of the Cathepsin K Inhibition in Osteoclastic Bone Resorption in vitro**
Ya Zhuo*[1], Le Thi Duong[2]. [1]Merck & Co., Inc., USA, [2]Merck Research Laboratories, USA
Disclosures: Ya Zhuo, Merck, 1; Merck, 3

PAGET'S DISEASE: GENERAL

SU0421 **Increased Expression of IL-6 and the p62 P392L Mutation are Sufficient to Induce Pagetic OCL in Mice**
Noriyoshi Kurihara[1], Jumpei Teramachi*[1], Jolene Windle[2], G. David Roodman[1]. [1]Indiana University, USA, [2]Virginia Commonwealth University, USA
Disclosures: Jumpei Teramachi, None

SU0422 **Study of the *Sequestosome 1* Gene Copy Number in Paget's Disease of Bone**
Sabrina Guay-Bélanger*[1], Edith Gagnon[2], Jean Morissette[2], Jacques Brown[3], Laetitia Michou[4]. [1]Centre de recherche du CHUQ-CHUL, Canada, [2]CHUQ (CHUL) Research Centre, Canada, [3]CHUQ Research Centre, Laval University, Canada, [4]Centre De Recherche Du CHUQ - CHUL, Canada
Disclosures: Sabrina Guay-Bélanger, None

STEROID HORMONES AND RECEPTORS: GLUCOCORTICOIDS

SU0423 **Withdrawn**

SU0424 **Osteoblasts Mediate Glucocorticoid-Induced Metabolic Dysfunction**
Holger Henneicke*[1], Tara Brennan-Speranza[2], Frank Buttgereit[3], Colin Dunstan[4], Hong Zhou[2], Markus Seibel[2]. [1]ANZAC Research Institute, Australia, [2]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [3]Department of Rheumatology & Clinical Immunology, Charité University Medicine, & Deutsches Rheumaforschungszentrum, Germany, [4]University of Sydney, Australia
Disclosures: Holger Henneicke, None

SU0425 **Serum Sclerostin Level in Patients with Endogenous Cushing's Syndrome**
Zhanna Belaya*[1], Liudmila Rozhinskaya[2], Ntalia Dragunova[1], Alexander Iljin[1], Galina Melnichenko[1]. [1]The National Research Center for Endocrinology, Russia, [2]The National Research Centre for Endocrinology, Russia
Disclosures: Zhanna Belaya, None

STEROID HORMONES AND RECEPTORS: SEX STEROIDS

SU0426 **ERα36 is Expressed in Estrogen Receptor Negative and Triple Negative Breast Tumors and Mediates Anti-apoptosis, Angiogenesis, and Metastasis**
Reyhaan Chaudhri*[1], Agreen Hadadi[1], Natalia Cuenca[1], Ruth O'Regan[2], Zvi Schwartz[1], Barbara Boyan[1]. [1]Georgia Institute of Technology, USA, [2]Winship Cancer Institute of Emory University, USA
Disclosures: Reyhaan Chaudhri, None

SU0427 **Examination of ERα Signaling Pathways in Cortical Bone of Mutant Mouse Models Reveals the Importance of ERE-dependent Signaling**
Kumar Chokalingam*[1], Matthew Roforth[1], Kristy Nicks[1], Ulrike Moedder (McGregor)[2], Sundeep Khosla[3], David Monroe[4]. [1]Mayo Clinic, USA, [2]King's College, London UK, United Kingdom, [3]College of Medicine, Mayo Clinic, USA, [4]Mayo Foundation, USA
Disclosures: Kumar Chokalingam, None

SU0428 **TGF-β Inducible Early Gene-1 Mediates both Estrogen and Canonical Wnt Signaling Pathways in Bone**
John Hawse*[1], Muzaffer Cicek[2], Anne Gingery[3], Kevin Pitel[2], Sarah Grygo[2], Urszula Iwaniec[4], Russell Turner[4], Malayannan Subramaniam[2], Thomas Spelsberg[2]. [1]Mayo Clinic College of Medicine, USA, [2]Mayo Clinic, USA, [3]Mayo Clinic School of Medicine, USA, [4]Oregon State University, USA
Disclosures: John Hawse, None

STEROID HORMONES AND RECEPTORS: VITAMIN D AND ITS ANALOGS

SU0429 **1α,25-Dihydroxyvitamin D_3 Regulates Multiple Novel Metabolic Pathways in Developing Zebrafish**
THEODORE CRAIG*[1], Yuji Zhang[1], Melissa McNulty[1], Sumit Middha[1], Andrew Magis[2], Cory Funk[3], Nathan Price[3], Stephen Ekker[1], Rajiv Kumar[4]. [1]Mayo Clinic, USA, [2]University of Illinois, USA, [3]Institute for Systems Biology, USA, [4]Mayo Clinic College of Medicine, USA
Disclosures: THEODORE CRAIG, None

SU0430 **Comparison of Two Oral Vitamin D_2 Supplementation Doses in Maintaining Optimal Vitamin D Level in Children and Adolescents with Inflammatory Bowel Disease**
Helen Pappa*[1], Paul Mitchell[2], Hongyu Jiang[3], Rajna Filip-Dhima[3], Sivan Kassiff[4], Catherine Gordon[5]. [1]Children's Hospital Boston, USA, [2]Clinical Research Program, Children's Hospital Boston, USA, [3]Clinical Research Program, Childrens Hospital Boston, USA, [4]Division of GI & Nutrition, Children's Hospital boston, USA, [5]Children's Hospital Boston & Harvard Medical School, USA
Disclosures: Helen Pappa, None

SU0431 **Deletion of VDR in Mature Osteoblasts results in Increased Cancellous Bone Volume**
Paul Anderson*[1], Gerald Atkins[2], Howard Morris[3], Rachel Davey[4]. [1]Musculoskeletal Biology Research, University of South Australia, Australia, [2]University of Adelaide, Australia, [3]SA Pathology, Australia, [4]University of Melbourne, Australia
Disclosures: Paul Anderson, None

SU0432 **Differential Effects of 1,25-dihydroxyvitamin D_3 and 25-hydroxyvitamin D_3 on Protein Expression in Primary Human Muscle Cells versus Mesenchymal Stem Cells from Bone Marrow (MSCBM). A Quantitative Proteomics Analysis**
Astrid Stunes[1], Milajm Pepaj[2], Unni Syversen[3], Erik Fink Eriksen*[4]. [1]Norwegian University of Science & Technology, Norway, [2]Department of Endocrinology, Section Hormone Laboratory, Oslo University Hospital, Aker, Norway, [3]University Hospital, Trondheim, Norway, [4]Oslo University Hospital, Norway
Disclosures: Erik Fink Eriksen, None

SU0433 **Phospholipids Cause Significant Matrix Suppression and Loss of Assay Sensitivity when Measuring 25 Hydroxyvitamin D by Isotope-dilution, Liquid Chromatography-tandem Mass Spectrometry**
Paul Glendenning*[1], Brian Cooke[2], Carla D'Orazio[1]. [1]Royal Perth Hospital, Australia, [2]PathWest Royal Perth Hospital, Australia
Disclosures: Paul Glendenning, None

SU0434 **Polymorphisms in the *CYP2R1* Gene Present in the General Population Affect 25-hydroxlase Activity**
Jeff Roizen*[1], Jingman Zhou[2], Michael Levine[3]. [1]The Childrens Hospital of Philadelphia, USA, [2]Intrexon, USA, [3]Children's Hospital of Philadelphia, USA
Disclosures: Jeff Roizen, None

SU0435 **The Association of Vitamin D Status and Fasting Plasma Glucose according to Body Fat Mass inThai Adults**
Hataikarn Nimitphong*[1], La-or Chailurkit[1], Suwannee Chanprasertyothin[2], Piyamitr Sritara[1], Boonsong Ongphiphadhanakul[1]. [1]Department of medicine, Ramathibodi Hospital, Mahidol University, Thailand, [2]Ramathibodi Hospital, Mahidol University, Thailand
Disclosures: Hataikarn Nimitphong, None

SU0436 **The Homeobox Proteins PBX1 and MEIS2 Participate in Enhancer Function at Vitamin D Target Genes and Highlight a New Regulatory Region Downstream of *Cyp24a1***
Paul Goetsch*[1], Nancy Benkusky[2], Erin Riley[2], Seong Min Lee[2], Mark Meyer[2], J. Pike[2]. [1]University of Wisconsin - Madison, USA, [2]University of Wisconsin-Madison, USA
Disclosures: Paul Goetsch, None

SU0437 **Validation of an Analytical Method for the Quantification of Vitamin D and 25-Hydroxyvitamin D in Soft Tissues**
Tristan Lipkie*, Amber Jannasch, Bruce Cooper, Emily Hohman, Connie Weaver, Mario Ferruzzi. Purdue University, USA
Disclosures: Tristan Lipkie, None

TUMORS AND BONE AND PAGET'S DISEASE (BASIC, TRANS. AND CLINICAL): BREAST AND PROSTATE

SU0438 **Bone Biomarkers Associate with Osteolysis in a Bisphosphonate-Treated Model of Prostate Cancer Metastasis**
Marta Martin-Fernandez*[1], Karmele Valencia[2], Carolina Zandueta[2], Susana Martinez-Canarias[2], Cristina Quicios[3], Carmen Gonzalez-Enguita[3], Fernando Lecanda[4], Concepcion De La Piedra Gordo[5]. [1]Spain, [2]Fima University of Navarra, Spain, [3]Urology, Fundacion Jimenez Diaz, Spain, [4]Foundation for Applied Medical Research, Spain, [5]Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Spain
Disclosures: Marta Martin-Fernandez, None

SU0439 **Breast Cancer and Bone Quality Issues: Effects of Exemestane and Tamoxifen Treatments**
Peyman Hadji*[1], M kalder[2], Annette Kauka[2], M Bauer[2], M Ziller[2], Didier Hans[3]. [1]Philipps-University of Marburg, Germany, [2]Department of Gynaecological Endocrinology, Reproductive Medicine & Osteoporosis, Philipps-University of Marburg, Germany, [3]Lausanne University Hospital, Switzerland
Disclosures: Peyman Hadji, None

SU0440 **Interleukin (IL)-11 Promotes Osteoclastogenesis by Stimulating Differentiation and Survival of Osteoclast Progenitor Cells**
Erin McCoy*[1], HUIXIAN HONG[2], Xu Feng[1]. [1]University of Alabama at Birmingham, USA, [2]UAB, USA
Disclosures: Erin McCoy, None

SU0441 **Osseous Metaplasia in Breast Tumors: Rare but Deadly**
Janine Danks[1], Kristi Milley*[2], Samantha Richardson[1], John Slavin[3], Judith Nimmo[4]. [1]School of Medical Sciences, RMIT University, Australia, [2]Rmit University, Australia, [3]Anatomical Pathology, St Vincent's Hospital, Australia, [4]Australian Specialist Animal Pathology, Australia
Disclosures: Kristi Milley, None

SU0442 **Osteocytic Connexin 43 Hemichannels in Prevention of Bone Metastasis**
Jade Zhou*[1], Jean Jiang[2]. [1]The University of Texas Health, USA, [2]University of Texas Health Science Center at San Antonio, USA
Disclosures: Jade Zhou, None

SU0443 **TGFß-Mediated Alteration in Sphingolipid Metabolism as a Potential Determinant in Osteolytic Bone Metastasis**
Keith Stayrook*[1], Yong Wei[2], Donna Cerabona[3], Pierrick Fournier[3], Daniel Edwards[3], Maryla Niewolna[3], Khalid Mohammad[3], Yibin Kang[2], Theresa Guise[3]. [1]Indiana University School of Medicine, USA, [2]Princeton University, USA, [3]Indiana University, USA
Disclosures: Keith Stayrook, Eli Lilly & Company, 3

SU0444 **The miR-218-Wnt Axis Promotes Osteomimicry of Osteolytic Breast Cancer Cells that Home to Bone**
Hanna Taipaleenmaki*[1], Mohammad Hassan[2], Yukiko Maeda[3], Carlo Croce[4], Janet L. Stein[3], Andre Van Wijnen[3], Jane Lian[3], Gary Stein[3]. [1]University of Turku, USA, [2]University of Alabama, USA, [3]University of Massachusetts Medical School, USA, [4]The Ohio State University, USA
Disclosures: Hanna Taipaleenmaki, None

TUMORS AND BONE AND PAGET'S DISEASE (BASIC, TRANS. AND CLINICAL): GENERAL

SU0445 **Axl is a Novel Therapeutic Target for Osteosarcoma**
Ashley Rettew*[1], Eric Young[2], Dina Lev[2], Patrick Getty[1], Edward Greenfield[1]. [1]Case Western Reserve University, USA, [2]The University of Texas MD Anderson Cancer Center, USA
Disclosures: Ashley Rettew, None

SU0446 **CCL3/MIP-1α Overexpression Induces Diffuse Bone Loss in a Mouse Model of Human Multiple Myeloma**
Wei Zhang*[1], David Dingli[1], Stephen Russell[1], Matthew Drake[2]. [1]Mayo Clinic, USA, [2]College of Medicine, Mayo Clinic, USA
Disclosures: Wei Zhang, None

SU0447 **ErbB3 Silencing Inhibits Osteosarcoma Cell Proliferation and Tumor Growth In Vivo.**
François-Xavier Dieudonné*, Nicolas Jullien, Nadia Habel, Caroline Marty, Dominique Modrowski, Nicolas Sévère, Olivia Fromigué, Pierre J. Marie. Inserm UMR-606 & University paris Diderot, France
Disclosures: François-Xavier Dieudonné, None

SU0448 **Factors Driving Osteolytic and Osteoblastic Lesions in Murine Models of Medulloblastoma Skeletal Metastasis**
Jessica Grunda*, James Mobley, Gregory Clines. University of Alabama at Birmingham, USA
Disclosures: Jessica Grunda, None

SU0449 **Giant Cell Tumour Successfully Treated by Denosumab**
Berengere Aubry-rozier*, Stephane Cherix, Hannes Rudiger. Lausanne University Hospital, Switzerland
Disclosures: Berengere Aubry-rozier, None

SU0450 **Identification of miR-326 as a Novel Biochemical Marker of Bone Metastasis in a Lung Cancer Model**
Karmele Valencia*[1], Marta Martin-Fernandez[2], Carolina Zandueta[3], Cristina Ormazábal[4], Susana Martinez-Canarias[4], Eva Bandres[4], Concepcion De La Piedra Gordo[5], Fernando Lecanda[1]. [1]Foundation for Applied Medical Research, Spain, [2]Spain, [3]Fima University of Navarra, Spain, [4]Center for Applied Medical Research, Spain, [5]Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Spain
Disclosures: Karmele Valencia, None

SU0451 **RANKL, OPG, and Denosumab in Fibrous Dysplasia**
Jeffrey TSAI*[1], Nisan Bhattacharyya[1], William Chong[2], Alison Boyce[3], Rachel Gafni[3], Alfredo Molinolo[1], Pamela Robey[4], Michael Collins[3]. [1]NIDCR, NIH, USA, [2]National Institute of Health, USA, [3]National Institutes of Health, USA, [4]National Institute of Dental & Craniofacial Research, USA
Disclosures: Jeffrey TSAI, None

SU0452 **Regulation of PTHrP Expression in Bone Invasive Oral Squamous Cell Carcinomas**
Cara Gonzales[1], Alyssa Merkel[2], Shellese Cannonier[2], Julie Sterling*[3]. [1]University of Texas Health Science Center San Antonio, USA, [2]Vanderbilt University, USA, [3]Vanderbilt University Medical Center, USA
Disclosures: Julie Sterling, None

SU0453 **Restoration of Bone Formation in Myeloma Osteolytic Lesions by the Cathepsin K Inhibitor KK1-300-01**
Keiichiro Watanabe*[1], Masahiro Abe[2], Ryota Amachi[2], Masahiro Hiasa[2], Takeshi Harada[2], Shiro Fujii[2], Shingen Nakamura[2], Hirokazu Miki[2], Kumiko Kagawa[2], Hiroshi Mori[3], Itsuro Endo[4], Eiji Tanaka[2], Toshio Matsumoto[4]. [1]The University of Tokushima Graduate School of Oral Science, Japan, [2]University of Tokushima, Japan, [3]ONO PHARMACEUTICAL CO., LTD., Japan, [4]University of Tokushima Graduate School of Medical Sciences, Japan
Disclosures: Keiichiro Watanabe, None

LATE-BREAKING POSTERS II

11:30 am - 1:30 pm **Discovery Hall-Hall B**

LB-SU01 **Lipoproteins are an Important Component of *Staphylococcus aureus* in the Induction of Bone Destruction**
Ok-Jin Park*[1], Jiseon Kim[2], Jihuyn Yang[1], Cheol-Heui Yun[2], Seung Hyun Han[1]. [1]School of Dentistry, Seoul National University, South korea, [2]Seoul National University, South korea
Disclosures: Ok-Jin Park, None

LB-SU02 **Bone Mineral Density in Nigerian Children after Discontinuation of Calcium Supplementation**
Puja Umaretiya*[1], Tom Thacher[1], Philip Fischer[1], Stephen Cha[1], John Pettifor[2]. [1]Mayo Clinic, USA, [2]University of the Witwatersrand, South africa
Disclosures: Puja Umaretiya, None

LB-SU03 **Effect of a Special Supplement in Preventing Loss of Bone Strength in Osteoporotic Sheep**
Subrata Saha*[1], Westley Hayes[2], Racquel LeGeros[3], Gavriel Feuer[2], Mrinal Musib[2], Dana Ruehlman[4]. [1]State University of New York Downstate Medical Center, USA, [2]SUNY Downstate Medical Center, USA, [3]New York University College of Dentistry, USA, [4]Colorado State University, USA
Disclosures: Subrata Saha, None

LB-SU04 **Small Leucine-Rich Proteoglycans Control Osteoclastogenesis**
Vardit Kram*[1], Yanming Bi[2], Mildred Embree[3], Tina Kilts[2], Azusa Maeda[4], Marian Young[5]. [1]Hebrew University of Jerusalem, USA, [2]NIDCR, USA, [3]Columbia University, USA, [4]Nih/nidcr, USA, [5]National Institutes of Health, USA
Disclosures: Vardit Kram, None

LB-SU05 **Modification of Mesenchymal Stem Cells with a Novel Cell-surface Reactive Polymer for Applications in Bone Disease**
Sonia Dsouza*[1], Hironobu Murata[1], Moncy Jose[1], Jill Andersen[1], Richard R Koepsel[1], Alan J Russell[2]. [1]University of Pittsburgh, USA, [2]Carnegie Mellon University, USA
Disclosures: Sonia Dsouza, None

LB-SU06 **PTHrP Induces Lactation in the Absence of Pregnancy and Accelerates Breast Cancer**
Kata Boras-Granic*[1], John Wysolmerski[2]. [1]Yale School of Medicine, USA, [2]Yale University School of Medicine, USA
Disclosures: Kata Boras-Granic, None

LB-SU07 **A Novel Function of an Old Hormone for Postmenopausal Health**
Kim Henriksen*, Michael Feigh, Kim Andreassen, Sara Toftegaard Petersen, Claus Christiansen, Morten Karsdal. Nordic Bioscience A/S, Denmark
Disclosures: Kim Henriksen, Nordic Bioscience, 3

LB-SU08 **A Severe Case of Maffucci's Syndrome Complicated with Chondrosarcoma and Multigland Parathyroid Adenomas**
Azar Khosravi*, Akshay Jain, Warren Chow. CIty of Hope, USA
Disclosures: Azar Khosravi, None

LB-SU09 **TRAIL Induces RANK Ligand Expression in Stromal/preosteoblast Cells**
Kumaran Sundaram*[1], Christina Voelkel-Johnson[2], Sakamuri Reddy[1]. [1]Charles P. Darby Children's Research Institute, USA, [2]Dept. of Microbiology & Immunology Medical University of South Carolina, USA
Disclosures: Kumaran Sundaram, None

LB-SU10 **Osteoblast GSK-3β Regulates Metabolism and Male Specific Diabetes**
Ryan Gillespie*[1], Jason Bush[2], Gillian Bell[2], Laura Aubrey[2], Mathieu Ferron[3], Barbara Kream[4], James Woodgett[5], David Hess[2], Gerard Karsenty[3], Frank Beier[1]. [1]University of Western Ontario, Canada, [2]Western University, Canada, [3]Columbia University, USA, [4]University of Connecticut Health Center, USA, [5]Samuel Lunenfeld Research Institute/ Mount Sinai, Canada
Disclosures: Ryan Gillespie, None

LB-SU11 **Identification and Characterization of Human Menaquinone-4 Synthase UBIAD1 Gene Promoter.**
YOSHIHISA HIROTA*[1], Kimie Nakagawa[1], Masato Watanabe[1], Nobuaki Funahashi[1], Kazuhiro Uenishi[2], Toshio Okano[1]. [1]KOBE PHARMACEUTICAL UNIVERSITY, Japan, [2]Kagawa Nutrition University, Japan
Disclosures: YOSHIHISA HIROTA, None

LB-SU12 ***Tet2* Plays an Important Role in Bone Remodeling by Regulating both Osteoblasto- and Osteoclasto-genesis Through the Maintenance of 5-Hydroxymethylcytosine in the Genome**
Ling Li*[1], Zhe Li[1], Craig Street[2], Jiapeng Wang[1], Steven Rhodes[1], Feng Pan[1], Yongzheng He[1], Khalid Mohammad[1], Theresa Guise[1], Peng Jin[2], Mingjiang Xu[3], Feng-Chun Yang[1]. [1]Indiana university, USA, [2]Emory University, USA, [3]Indiana University School of Medicine, USA
Disclosures: Ling Li, None

LB-SU13 **Inorganic Polyphosphates Stimulate FGF23 Expression through FGFR Pathway**
Ningyuan Sun*[1], Huawei Zou[1], Liang Yang[1], Ping Gong[2], Toshikazu Shiba[3], Haiyang Yu[1], Quan Yuan[1]. [1]State Key Laboratory of Oral diseases, West China School of Stomatology, Sichuan University, China, [2]West China School of Stomatology, Sichuan University, China, [3]Regenetiss.Inc., Japan
Disclosures: Ningyuan Sun, None

LB-SU14 **Osteoclast Resorptive Activity Utilizes Interactions of Plekhm1 and TRAFD1**
Paul Odgren[1], Hanna Witwicka*[2], Hong Jia[2], Xiangdong Li[3]. [1]University of Massachusetts Medical School, USA, [2]Univ. of Mass. Medical School Dept. of Cell Biology, USA, [3]Chinese Academy of Sciences, China
Disclosures: Hanna Witwicka, None

LB-SU15 **Centrosome Fine Ultrastructure of the Osteocyte. Mechanosensitive Primary Cilium.**
Gael Y. Rochefort*[1], Delphine Maurel[2], Priscilla Aveline[3], Stephane Pallu[4], Claude Laurent Benhamou[5], Rustem E. Uzbekov[6]. [1]EA4708 I3MTO, Orléans Hospital, France, France, [2]Inserm Unit 658, Hopital Porte Madeleine, France, [3]Centre Hospitalier Régional D'Orléans, France, [4]EA 4708 - I3MTO Orléans, France, [5]CHR ORLEANS, France, [6]Department of Microscopy, François Rabelais University, Tours, France., France
Disclosures: Gael Y. Rochefort, None

LB-SU16 **The Assessment of Total Femur Bone Mineral Density in US Submariners**
Heath Gasier*, Linda Hughes, Colin Young, Annely Richardson, David Fothergill. Naval Submarine Medical Research Laboratory, USA
Disclosures: Heath Gasier, None

LB-SU17 **Effect of Visceral Adiposity to One Year Change of Bone Mineral Density**
Kwang Joon Kim*[1], Yumie Rhee[2], Kyoung Min Kim[3], Sung-Kil Lim[3]. [1]Severance Hospital, South korea, [2]Department of Internal Medicine, College of Medicine, Yonsei University, South korea, [3]Yonsei University College of Medicine, South korea
Disclosures: Kwang Joon Kim, None

LB-SU18 **Atypical Femoral Shaft Fractures are a Separate Entity, Easily Diagnosed by its Radiographic Stress Fracture Characteristics. Analysis of 59 Atypical Fractures and 218 Controls.**
Per Aspenberg*, Jörg Schilcher, Veronika Koeppen. Linkoping University, Sweden
Disclosures: Per Aspenberg, AddBio AB, 1; Eli Lilly corp., 5

LB-SU19 **Estrogen Receptor Alpha Regulation of Bone Marrow Adipogenesis**
Susan Krum*, Korinna Wend. UCLA, USA
Disclosures: Susan Krum, None

LB-SU20 **Expression of Measles Virus Nucleocapsid Protein (MVNP) Gene in Osteoclasts Induces Coupling Factors that Stimulate Bone Formation**
Jumpei Teramachi*[1], Noriyoshi Kurihara[1], Jolene Windle[2], G. David Roodman[1]. [1]Indiana University, USA, [2]Virginia Commonwealth University, USA
Disclosures: Jumpei Teramachi, None

MEET-THE-PROFESSOR SESSIONS

1:30 pm - 2:30 pm **Mezzanine Level-Rooms M100 – M101**

Meet-the-Professor Session: Nephrolithiasis
Mezzanine Level-Room M100B
Howard A. Fink, M.D., MPH
GRECC, Minneapolis VA Medical Center, USA
Disclosures: Howard Fink, None

Murray J. Favus, M.D.
University of Chicago, USA
Disclosures: Murray Favus, CVS/Caremark 5

Meet-the-Professor Session: Bone-Vascular Axis
Mezzanine Level-Room M100C
Dwight A. Towler, M.D., Ph.D.
Washington University in St. Louis, USA
Disclosures: Dwight Towler, Daiichi-Sankyo 5; Merck & Co. 5; Sanford-Burnham Biomedical Research Institute 5; Barnes-Jewish Hospital Foundation 2; National Institutes of Health 2

Meet-the-Professor Session: The Pathology of Common (or not so common) Bone Lesions in Humans and Mouse Models
Mezzanine Level-Room M100D
Brendan F. Boyce, M.D.
University of Rochester Medical Center, USA
Disclosures: Brendan Boyce, Merck 5

Meet-the-Professor Session: PTH and Marrow Microenvironment
Mezzanine Level-Room M100E
Laurie K. McCauley, D.D.S., Ph.D.
University of Michigan School of Dentistry, USA
Disclosures: Laurie McCauley, Amgen 5; Amgen 1

Meet-the-Professor Session: Idiopathic Osteoporosis in Premenopausal Women
Mezzanine Level-Room M101A
Elizabeth Shane, M.D.
Columbia University College of Physicians and Surgeons, USA
Disclosures: Elizabeth Shane, Eli Lilly 2; Novartis 2

Meet-the-Professor Session: Post-fracture Management
Mezzanine Level-Room M101B
Supported by an educational grant from Merck & Co, Inc.
Richard Dell, M.D.
Kaiser, USA
Disclosures: Richard Dell, None

Meet-the-Professor Session: From Molecular Target to Anti-Osteoporosis Drug
Mezzanine Level-Room M101C
Le Thi Duong, Ph.D.
Merck Research Laboratories, USA
Disclosures: Le Thi Duong, Merck & Co 3

CLINICAL ROUNDTABLE/CASE CONFERENCE - VITAMIN D AND REPERCUSSIONS OF THE IOM REPORT

Supported by an educational grant from Lilly USA, LLC

1:30 pm - 2:30 pm **Minneapolis Convention Center**

Auditorium-Main

Co-Chairs
Salvatore Minisola, M.D.
"Sapienza", University of Rome, Italy
Disclosures: Salvatore Minisola, Amgen, Bruno Farmaceutici, Eli Lilly, Merck Sharp & Dohme, Pfizer, Sigma Tau, Stroder 5; Abiogen, Amgen, Bruno Farmaceutici, Merck Sharp & Dohme, Nycomed, Novartis, Pfizer, Sigma Tau 8

Nancy E. Lane, M.D.
University of California at Davis, USA
Disclosures: Nancy Lane, Pfizer 5; Oncomed 5; Abbott 5

1:30 pm **How Much Vitamin D Do We Need?**
Sue Shapses, Ph.D.
Rutgers University, USA
Disclosures: Sue Shapses, Merck & Co 5

1:30 pm **Usefulness of Vitamin D Assays**
Neil Binkley, M.D.
University of Wisconsin, Madison, USA
Disclosures: Neil Binkley, None

CAREER DEVELOPMENT - SECRETS TO BUILDING A GREAT RESEARCH TEAM

Sponsored by the ASBMR Women in Bone and Mineral Research and Membership Development Committees

1:30 pm - 2:30 pm **Minneapolis Convention Center**

Room 101C

Building and maintaining a strong research team is a crucial career skill. This session, designed for investigators at all stages, will address key elements that help forge great research teams, including the qualities of effective team leaders, the positive behaviors of good team members, and the differences to consider when building a clinical vs. basic laboratory team. Following the panel there will be an interactive discussion. This session is a must-attend for investigators at all career stages and will provide practical, useful career development advice.

Co-Chairs
Janine Danks, Ph.D.
University of Melbourne, Australia
Disclosures: Janine Danks, None

Wenhan Chang, Ph.D.
Endocrine Unit, VA Medical Center, University of California, San Francisco, USA
Disclosures: Wenhan Chang, None

1:30 pm **Speakers:**
Kenneth E. White, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Kenneth White, None

Lynda F. Bonewald, Ph.D.
University of Missouri - Kansas City, USA
Disclosures: Lynda Bonewald, None

T. John Martin, M.D., DSc
St. Vincent's Institute of Medical Research, Australia
Disclosures: T. John Martin, None

CONCURRENT ORAL SESSION 19:
MUSCLE AND BONE INTERACTIONS

2:45 pm - 4:15 pm **Minneapolis Convention Center**

Auditorium Room 1

Moderators:
Karyn Esser, Ph.D.
University of Kentucky, USA
Disclosures: Karyn Esser, None

Marco Brotto, BSN, MS, Ph.D.
University of Missouri - Kansas City, USA
Disclosures: Marco Brotto, None

2:45 pm 1109 **Bivariate genome-wide association analysis identifies novel candidate genes for cross-sectional bone geometry and appendicular lean mass: The GEFOS and CHARGE consortia**
Yi-Hsiang Hsu[1], Xing Chen[2], Karol Estrada[3], Serkalem Demissie[4], Tamara Harris[5], Thomas Beck[6], Alireza Moayyeri[7], Candace Kammerer[8], Carolina Medina-Gomez[9], Vilmundur Gudnason[10], Tim Spector[7], Maria Zillikens[11], L. Adrienne Cupples[4], Andre Uitterlinden[12], Fernando Rivadeneira[3], Douglas Kiel[13], David Karasik*[13]. [1]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [2]Harvard University, USA, [3]Erasmus University Medical Center, The Netherlands, [4]Boston Uni Sch Pub Health, USA, [5]Intramural Research Program, National Institute on Aging, USA, [6]Quantum Medical Metrics, LLC, USA, [7]King's College London, United Kingdom, [8]University of Pittsburgh Graduate School of Public Health, USA, [9]Erasmus Medical Center, The Netherlands, [10]Icelandic Heart Association Research Institute, Iceland, [11]Erasmus Mc, The Netherlands, [12]Rm Ee 575, Genetic Laboratory, The Netherlands, [13]Hebrew SeniorLife, USA
Disclosures: David Karasik, None

3:00 pm 1110 **PTHrP Regulates the Modeling of Entheses During Linear Growth**
Meina Wang*[1], Joshua VanHouten[2], Randy Johnson[3], Arthur Broadus[2]. [1]Yale University, USA, [2]Yale University School of Medicine, USA, [3]M.D. Anderson Cancer Center, USA
Disclosures: Meina Wang, None

3:15 pm 1111 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Interactions between Periosteal Cells and Muscle-Derived Blood Vessels are Essential for Bone Autograft Healing
Nick Van Gastel*[1], Maarten Depypere[2], Karen Moermans[3], Ingrid Stockmans[3], Jan Schrooten[4], Frederik Maes[2], Frank Luyten[5], Geert Carmeliet[1]. [1]Katholieke Universiteit Leuven, Belgium, [2]Department of Electrical Engineering (ESAT/PSI), KU Leuven, Belgium, [3]Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, [4]Department of Metallurgy & Materials Engineering, KU Leuven & Prometheus, Division of Skeletal Tissue Engineering, KU Leuven, Belgium, [5]University Hospitals KU Leuven, Belgium
Disclosures: Nick Van Gastel, None

3:30 pm 1112 **Muscle Atrophy Enhances Bone Anabolism**
Ted Gross*[1], Brandon Ausk[1], Steven Bain[1], Leah Downey[1], Edith Gardner[1], Ronald Kwon[1], Leah Worton[2], Sundar Srinivasan[1]. [1]University of Washington, USA, [2]The University of Washington, USA
Disclosures: Ted Gross, None

3:45 pm 1113 **Trabecular Mineralization and Muscle Fiber Growth in Response to Dynamic Fluid Flow Stimulation**
Minyi Hu*[1], Robbin Yeh[1], Morgan Teeratananon[1], Yi-Xian Qin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Minyi Hu, None

4:00 pm **Ryanodine receptor 1 Remodeling in Cancer Associated Muscle Dysfunction**
1114 David Waning*[1], Khalid Mohammad[2], Daniel Andersson[3], Sutha John[4], Patricia Juarez-Camacho[4], Steven Reiken[3], Andrew Marks[5], Theresa Guise[2]. [1]Indiana University School of Medicine, USA, [2]Indiana University, USA, [3]Department of Physiology & Cellular Biophysics, College of Physicians & Surgeons of Columbia University, USA, [4]Indiana University Simon Cancer Center & Indiana University School of Medicine, USA, [5]Columbia University, USA
Disclosures: David Waning, None

CONCURRENT ORAL SESSION 20: GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS

2:45 pm - 4:15 pm **Minneapolis Convention Center**
Auditorium Room 2

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

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

2:45 pm **2012 ASBMR YOUNG INVESTIGATOR AWARD**
1115 **Injury-Activated TGFβ Controls Mobilization of MSCs for Tissue Remodeling**
CHANGJUN LI*[1], GEHUA ZHEN[1], WENYING HE[1], KAI JIAO[1], YIU-FAI CHEN[2], XIAOFENG JIA[1], Bing Yu[3], Xu Cao[4], Mei Wan[1]. [1]Johns Hopkins University School of Medicine, USA, [2]University of Alabama at Birmingham, USA, [3]Johns Hopkins School of Medicine, USA, [4]Johns Hopkins University, USA
Disclosures: CHANGJUN LI, None

3:00 pm **Hyperactive Transforming Growth Factor-beta1 Signaling Potentiates Fracture Non-union in**
1116 **Neurofibromatosis Type 1**
Steven Rhodes*[1], Yongzheng He[1], Xiaohua Wu[2], Ping Zhang[3], Shi Chen[1], Chang Jiang[1], Hiroki Yokota[4], Xianlin Yang[1], Xianghong Peng[1], Sreemala Murthy[1], Khalid Mohammad[1], Theresa Guise[1], Feng-Chun Yang[1]. [1]Indiana University, USA, [2]Indiana University School of Medicine, USA, [3]Indiana University – Purdue, University Indianapolis, USA, [4]Indiana University Purdue University Indianapolis, USA
Disclosures: Steven Rhodes, None

3:15 pm **Metabolically Active Brown Adipose Tissue (BAT) Has Anabolic Effects on Bone Through**
1117 **Endocrine/Paracrine Activity Including Production of IGFBP2**
Sima Rahman*[1], Yalin Lu[2], Sven Enerback[3], Clifford Rosen[4], Beata Lecka-Czernik[5]. [1]University of Toledo Health Sciences Campus, USA, [2]University of Toledo Medical Center, USA, [3]University of Goteborg, Sweden, [4]Maine Medical Center, USA, [5]University of Toledo College of Medicine, USA
Disclosures: Sima Rahman, None

3:30 pm **2012 ASBMR YOUNG INVESTIGATOR AWARD**
1118 **Overexpression of Bmi-1 in Mouse Lymphocytes Stimulates Osteogenesis by Improving the Osteogenic Microenvironment**
Xichao Zhou*[1], Wen Sun[2], David Goltzman[3], Andrew Karaplis[3], Xiang-Jiao Yang[3], Dengshun Miao[4]. [1]Nanjing Medical University, China, [2]Nanjing Medical University, The Research Center for Bone & Stem Cells, Peoples Republic of China, [3]McGill University, Canada, [4]Nunjing Medical University, Peoples Republic of China
Disclosures: Xichao Zhou, None

3:45 pm **2012 ASBMR YOUNG INVESTIGATOR AWARD**
1119 **Thrombopoietin: A Novel Regulator of Bone Healing**
Monique Bethel*[1], Patrick Millikan[1], Alexander Wessel[1], Yinghua Cheng[1], Jonathan Wilhite[1], David Burr[1], Robyn Fuchs[2], Tien-Min Chu[3], Melissa Kacena[1]. [1]Indiana University School of Medicine, USA, [2]Indiana University, USA, [3]Indiana University School of Dentistry, USA
Disclosures: Monique Bethel, None

4:00 pm **PTH Induce Short-Term Hemopoietic Stem Cell Expansion through T Cells**
1120 Jau-Yi Li*[1], Jonathan Adams[1], Laura Calvi[2], M. Neale Weitzmann[1], Roberto Pacifici[1]. [1]Emory University School of Medicine, USA, [2]University of Rochester School of Medicine, USA
Disclosures: Jau-Yi Li, None

CONCURRENT ORAL SESSION 21: BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX AND DEVELOPMENT

2:45 pm - 4:15 pm **Minneapolis Convention Center**
Room 200DE

Moderators:
Ling Qin, Ph.D.
University of Pennsylvania, USA
Disclosures: Ling Qin, None

Andre J. Van Wijnen, Ph.D.
University of Massachusetts Medical School, USA
Disclosures: Andre Van Wijnen, None

2:45 pm **Osterix Expressed in Chondrocytes Is Required for Skeletal Development**
1121 Shaohong Cheng*[1], Weirong Xing[2], Catrina Alarcon[3], Xin Zhou[4], Subburaman Mohan[5]. [1]VA Loma Linda Health Care Systems, USA, [2]Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, [3]Jerry L Pettis VA Med Ctr, USA, [4]MD Anderson Cancer Center, USA, [5]Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Shaohong Cheng, None

3:00 pm **Jab1 is Required for Chondrogenesis in Embryonic Limb Development**
1122 Lindsay Bashur*[1], Dongxing Chen[1], Bojian Liang[1], Ruggero Pardi[2], Brendan Lee[3], Shunichi Murakami[1], Guang Zhou[1]. [1]Case Western Reserve University, USA, [2]Scientific Institute San Raffaele, Italy, [3]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Lindsay Bashur, None

3:15 pm **Inducible Conditional Inactivation of TGF-beta Type II Receptor in Prx-1 Expressing Cells in**
1123 **Utero and Post-natal Life Leads to Prenatal and Postnatal Growth Failure and Joint Defects**
Tieshi Li*[1], Lara Longobardi[1], Timothy Myers[2], Joseph Temple[3], Michael Kuijer[3], Ying Li[4], Anna Spagnoli[1]. [1]University of North Carolina at Chapel Hill, USA, [2]University of North Carolina, USA, [3]Department of Pediatrics of UNC at Chapel Hill, USA, [4]UNC School of Medicine, USA
Disclosures: Tieshi Li, None

3:30 pm **The Skeletal Effects of Notch are Cell-Context Dependent**
1124 Stefano Zanotti*[1], Kristen Parker[2], Jian Feng[3], Ernesto Canalis[1]. [1]St. Francis Hospital & Medical Center, USA, [2]Saint Francis Hospital & Medical Center, USA, [3]Texas A&M Health Science Center, USA
Disclosures: Stefano Zanotti, None

3:45 pm **2012 ASBMR YOUNG INVESTIGATOR AWARD**
1125 **Rbpj-Dependent Notch Signaling in Chondrocytes Modulates Endochondral Ossification during Osteoarthritis Development through Transcriptional Induction by Hes1**
Shurei Sugita*[1], Yoko Hosaka[2], Taku Saito[2], Haruhiko Akiyama[3], Ung-Il Chung[4], Hiroshi Kawaguchi[5]. [1]Japan, [2]University of Tokyo, Graduate School of Medicine, Japan, [3]Kyoto University, Japan, [4]University of Tokyo Schools of Engineering & Medicine, Japan, [5]University of Tokyo, Faculty of Medicine, Japan
Disclosures: Shurei Sugita, None

4:00 pm 2012 ASBMR YOUNG INVESTIGATOR AWARD
1126 An Appropriate Balance of Notch Signaling is Required for Articular Cartilage and Joint Maintenance
Zhaoyang Liu*[1], Anthony Mirando[1], Tyler Moore[1], Alexandra Lang[1], Anat Kohn[2], Alana Jesse[2], Regis O'Keefe[2], Robert Mooney[1], Michael Zuscik[3], Matthew Hilton[1]. [1]University of Rochester Medical Center, USA, [2]UNIVERSITY OF ROCHESTER, USA, [3]University of Rochester School of Medicine & Dentistry, USA
Disclosures: Zhaoyang Liu, None

CONCURRENT ORAL SESSION 22: OSTEOPOROSIS ASSESSMENT

2:45 pm - 4:15 pm **Minneapolis Convention Center**
Room 101C

Moderators:
Judith E. Adams, MBBS, FRCR
Manchester Royal Infirmary, United Kingdom
Disclosures: Judith Adams, None

Elizabeth A. Streeten, M.D.
University of Maryland School of Medicine, USA
Disclosures: Elizabeth Streeten, None

2:45 pm 1127 Cortical Porosity as a Distinct Pathomorphology in Postmenopausal, Diabetic Women with Fragility Fractures
Janina Patsch*[1], Andrew Burghardt[1], Paran Yap[1], Thomas Baum[2], Ann Schwartz[1], Thomas Link[1]. [1]University of California, San Francisco, USA, [2]Klinikum rechts der Isar, Technische Universitaet Muenchen, Deu
Disclosures: Janina Patsch, None

3:00 pm 1128 TBS (Trabecular Bone Score) is More Sensitive Than BMD to Diabetes-Related Fracture Risk
William Leslie*[1], Berengère Aubry-Rozier[2], Olivier Lamy[2], Didier Hans[2]. [1]University of Manitoba, Canada, [2]Lausanne University Hospital, Switzerland
Disclosures: William Leslie, None

3:15 pm 1129 Osteoporosis is Not Enough: Cortical Porosity Identifies Women with Distal Forearm Fractures
Yohann Bala*[1], Roger Zebaze[2], Ali Ghasem-Zadeh[2], James Peterson[3], Shreyasee Amin[3], L. Joseph Melton[3], Sundeep Khosla[4], Ego Seeman[2]. [1]INSERM, UMR 1033 ; Universite de Lyon, Australia, [2]Austin Health, University of Melbourne, Australia, [3]Mayo Clinic, USA, [4]College of Medicine, Mayo Clinic, USA
Disclosures: Yohann Bala, None

3:30 pm 1130 Postmenopausal Women with Osteopenia and Fractures Have Thin Cortices and Trabecular Plate Loss
Emily Stein[1], Xiaowei Liu[2], Thomas Nickolas[3], Adi Cohen[3], Anna Kepley[4], X Guo[4], Elizabeth Shane*[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]University of Pennsylvania, USA, [3]Columbia University Medical Center, USA, [4]Columbia University, USA
Disclosures: Elizabeth Shane, None

3:45 pm 2012 ASBMR YOUNG INVESTIGATOR AWARD
1131 Geometry, Density Distribution and Internal Structure of the Proximal Femur in Relation to Age and Hip Fracture Risk in Women
Julio Carballido-Gamio*[1], Roy Harnish[2], Isra Saeed[2], Timothy Streeper[2], Sigurdur Sigurdsson[3], Shreyasee Amin[4], Elizabeth Atkinson[4], Terry Therneau[4], Kristin Siggeirsdottir[3], Xiaoguang Cheng[5], L. Joseph Melton[4], Joyce Keyak[6], Vilmundur Gudnason[3], Sundeep Khosla[7], Tamara Harris[8], Thomas Lang[2]. [1]Grupo Tecnológico Santa Fe, S.A. de C.V., USA, [2]University of California, San Francisco, USA, [3]Icelandic Heart Association Research Institute, Iceland, [4]Mayo Clinic, USA, [5]Beijing Ji Shui Tan Hospital, China, [6]University of California, USA, [7]College of Medicine, Mayo Clinic, USA, [8]Intramural Research Program, National Institute on Aging, USA
Disclosures: Julio Carballido-Gamio, None

4:00 pm 1132 **Osteoporotic Vertebral Fracture Prevalences Vary Widely Between Radiological Scoring Methods: The Rotterdam Study**

Ling Oei*[1], Edwin Oei[2], Stephan J Breda[3], Felisia Ly[2], Evelien van Meel[3], Emma J Dogterom[3], Laura GC de Kok[3], Joyce BJ van Meurs[3], Albert Hofman[3], Huibert Pols[4], Andre Uitterlinden[5], Maria Zillikens[2], Gabriel P Krestin[3], Fernando Rivadeneira[4]. [1]Erasmus University Medical Center, The Netherlands, [2]Erasmus MC, The Netherlands, [3]Erasmus MC, Netherlands, [4]Erasmus University Medical Center, The Netherlands, [5]Rm Ee 575, Genetic Laboratory, The Netherlands

Disclosures: Ling Oei, None

CONCURRENT ORAL SESSION 23: OSTEOPOROSIS - TREATMENT (CLINICAL)

2:45 pm - 4:15 pm **Minneapolis Convention Center**

Auditorium-Main

Moderators:

Andrea Giustina, M.D.
University of Brescia, Italy
Disclosures: Andrea Giustina, None

Robert W. Downs Jr., M.D.
Virginia Commonwealth University, USA
Disclosures: Robert Downs, None

2:45 pm 1133 **Denosumab Treatment Is Associated with Progressive Improvements in Cortical Mass and Thickness Throughout the Hip**

Ken Poole[1], Graham M. Treece*[1], Andrew Gee[1], Jacques P. Brown[2], Michael R. McClung[3], Andrea Wang[4], Cesar Libanati[4]. [1]University of Cambridge, United Kingdom, [2]CHUQ-CHUL Research Centre, Canada, [3]Oregon Osteoporosis Center, USA, [4]Amgen Inc., USA

Disclosures: Graham M. Treece, Amgen Inc., 2; Amgen Inc., Servier, 5; Amgen Inc., Lilly, 8

3:00 pm 1134 **Effects of 5 Years of Denosumab on Bone Histology and Histomorphometry: the FREEDOM Study Extension**

Jacques Brown*[1], Rachel Wagman[2], David Dempster[3], David Kendler[4], Paul Miller[5], Michael Bolognese[6], Ivo Valter[7], Jens-erik Beck Jensen[8], Cristiano Zerbini[9], Jose Ruben Zanchetta[10], Nadia Daizadeh[11], Ian Reid[12]. [1]CHUQ Research Centre, Laval University, Canada, [2]Amgen, Incorporated, USA, [3]Columbia University, USA, [4]Associate Professor, University of British Columbia, Canada, [5]Colorado Center for Bone Research, USA, [6]Bethesda Health Research, USA, [7]Center for Clinical Research, Estonia, [8]Hvidovre Hospital, Denmark, [9]Hospital Heliopolis, Brazil, [10]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [11]Amgen Inc, USA, [12]University of Auckland, New Zealand

Disclosures: Jacques Brown, Amgen, Eli Lilly, Novartis, 8; Abbott, Amgen, Bristol-Myers Squibb, Eli Lilly, Merck, Novartis, Pfzer, Roche, sanofi-aventis, Servier, Warner Chilcott, 2; Amgen, Eli Lilly, Merck, Novartis, sanofi-aventis, Warner Chilcott, 5

3:15 pm 1135 **A Prospective Study of Calcium Supplement Intake and Risk of Cardiovascular Disease in Women**

Julie Paik*[1], Gary Curhan[2], Kathryn Rexrode[2], JoAnn Manson[2], Rimm Eric[2], Eric Taylor[3]. [1]Brigham & Women's Hospital, USA, [2]Brigham & Women's Hospital, Harvard Medical School, USA, [3]Brigham & Women's Hospital, Maine Medical Center, USA

Disclosures: Julie Paik, None

3:30 pm 1136 **The Women's Health Initiative (WHI) Calcium plus Vitamin D Supplementation Trial: Health Outcomes 5 years after Trial Completion**

Jane Cauley*[1], Jean Wactawski-Wende[2], John Robbins[3], Rebecca Rodabough[4], Zhao Chen[5], Karen Johnson[6], Mary Jo O'Sullivan[7], JoAnn Manson[8]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]University at Buffalo, USA, [3]University of California, Davis Medical Center, USA, [4]Fred Hutchinson Cancer Research Center, USA, [5]University of Arizona, USA, [6]University of Tennessee Health Science Center, USA, [7]University of Miami, USA, [8]Harvard Medical School, USA

Disclosures: Jane Cauley, None

3:45 pm 1137 **Dose Response to Vitamin D Supplementation: Substantial Underestimate by Endocrine Society Clinical Practice Guidelines (CPG) Compared to the Institute of Medicine (IOM) Report.**
Malachi McKenna*, Barbara Murray. St. Michael's Hospital, Ireland
Disclosures: Malachi McKenna, None

4:00 pm 1138 **HRpQCT Reveals That Four Years of Estrogen Therapy in Early Postmenopausal Women Prevents Cortical, but Not Trabecular, Bone Loss**
Joshua Farr*[1], Sundeep Khosla[2], Virginia Miller[3], Ann Kearns[1]. [1]Mayo Clinic, USA, [2]College of Medicine, Mayo Clinic, USA, [3]Department of Surgery, Mayo Clinic, USA
Disclosures: Joshua Farr, None

CONCURRENT ORAL SESSION 24: AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS

2:45 pm - 4:15 pm **Minneapolis Convention Center**

Auditorium Room 3

Moderators:
Thomas J. Schnitzer, M.D., Ph.D.
Northwestern University, USA
Disclosures: Thomas Schnitzer, None

David Karasik, Ph.D.
Hebrew SeniorLife, USA
Disclosures: David Karasik, None

2:45 pm 1139 **What's "Normal?" Considerations in Establishing the Appendicular Lean Mass DXA Reference Population**
Bjoern Buehring*, Ellen Fidler, Jessie Libber, Jennifer Sanfilippo, Bryan Heiderscheit, Diane Krueger, Neil Binkley. University of Wisconsin, Madison, USA
Disclosures: Bjoern Buehring, None

3:00 pm 1140 **Muscle, Fat and Bone Connections: Genetic Risk Factors of Sarcopenic-Obesity and Dynapenic-Obesity and Their Consequent Risks of Osteoporotic Fractures**
Yi-Hsiang Hsu*[1], Robert McLean[2], Elizabeth Newton[3], Marian Hannan[4], L Adrienne Cupples[5], Douglas Kiel[6]. [1]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [2]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [3]Hebrew SeniorLife Institute for Aging Research, USA, [4]HSL Institute for Aging Research & Harvard Medical School, USA, [5]Dept Biostatistics, Sch of Public Health, Boston University, USA, [6]Hebrew SeniorLife, USA
Disclosures: Yi-Hsiang Hsu, None

3:15 pm 1141 **HIP FRACTURE AND SARCOPENIA: A MODEL OF OSTEOPOROSIS-RELATED MUSCLE ATROPHY**
Umberto Tarantino*[1], Monica Celi[2], Jacopo Baldi[3], Fabio Luigi Perrone[3], Federico Maria Liuni[3], Elena Gasbarra[3]. [1]Azienda Ospedaliera PTV, Italy, [2]University of Rome Tor Vergata, Italy, [3]orthopaedic Department University of Rome Tor Vergata, Italy
Disclosures: Umberto Tarantino, None

3:30 pm 1142 **Poor peripheral nerve function is associated with higher bone marrow fat and skeletal muscle adiposity: The Osteoporotic Fractures in Men (MrOS) Study**
Elsa S. Strotmeyer*[1], Jane Cauley[1], Yahtyng Sheu[1], Kimberly A. Faulkner[2], Tanushree Prasad[1], Rachel E. Ward[1], Sasa Zivkovic[3], Peggy Cawthon[4], Iva Miljkovic[1]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]National Institute for Occupational Safety & Health, USA, [3]University of Pittsburgh School of Medicine, USA, [4]California Pacific Medical Center Research Institute, USA
Disclosures: Elsa S. Strotmeyer, None

3:45 pm **Changes in thigh muscle volume predict changes in femoral BMD in sarcopenic elderly obese**
1143 **adults undergoing lifestyle therapy**
Reina Armamento-Villareal[1], Nicola Napoli[2], Krupa Shah[3], Lina Aguirre*[4], Tiffany Hilton[5], David Sinacore[6], Dennis Villareal[1]. [1]University of New Mexico School of Medicine, USA, [2]University Campus Biomedico, Italy, [3]University of Rochester School of Medicine, USA, [4]New Mexico VA Health Care System, USA, [5]Ithaca College, USA, [6]Washington University School of Medicine, USA
Disclosures: Lina Aguirre, None

4:00 pm **Physical Performance and Risk of Vertebral Fractrues in Older Men**
1144 Peggy Cawthon*[1], Terri Blackwell[2], John Schousboe[3], Lynn Marshall[4], Howard Fink[5], Deborah Kado[6], Kristine Ensrud[7], Jane Cauley[8], Dennis Black[9], Eric Orwoll[4], Steven Cummings[10]. [1]California Pacific Medical Center Research Institute, USA, [2]CPMC RESEARCH INSTITUTE, USA, [3]Park Nicollet Clinic, University of Minnesota, USA, [4]Oregon Health & Science University, USA, [5]GRECC, Minneapolis VA Medical Center, USA, [6]University of California, Los Angeles, USA, [7]Minneapolis VA Medical Center / University of Minnesota, USA, [8]University of Pittsburgh Graduate School of Public Health, USA, [9]University of California, San Francisco, USA, [10]San Francisco Coordinating Center, USA
Disclosures: Peggy Cawthon, None

DISCOVERY HALL COFFEE BREAK

4:00 pm - 4:30 pm **Minneapolis Convention Center**
Discovery Hall-Hall B

STATE-OF-THE-ART LECTURES - MATRICELLULAR SIGNALING

Supported by an educational grant from Merck & Co, Inc.

4:30 pm - 6:00 pm **Minneapolis Convention Center**
Room 101C

Co-Chairs
Sundeep Khosla, M.D.
College of Medicine, Mayo Clinic, USA
Disclosures: Sundeep Khosla, Bone Therapeutics 5

Laurie K. McCauley, D.D.S., Ph.D.
University of Michigan School of Dentistry, USA
Disclosures: Laurie McCauley, Lilly 6; Amgen 1; Amgen 5

4:30 pm **Communication among Bone Cells**
Hiroshi Takayanagi, M.D., Ph.D.
The University of Tokyo, Department of Immunology, Japan
Disclosures: Hiroshi Takayanagi, None

5:00 pm **Matrix Elasticity Controls Fate of MSCs**
Dennis Discher, Ph.D.
University of Pennsylvania, USA
Disclosures: Dennis Discher, None

5:30 pm **The Osteoclast and its Unique Cytoskeleton**
Steven L. Teitelbaum, M.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Steven Teitelbaum, None

SYMPOSIUM - THE AGING KIDNEY, OSTEOPOROSIS AND VASCULAR CALCIFICATION

4:30 pm - 6:00 pm **Minneapolis Convention Center**
Auditorium-Main

Chair
Paul D. Miller, M.D., FACP
Colorado Center for Bone Research, USA
Disclosures: Paul Miller, Amgen, Lilly, Merck, Radius 2; Amgen, Merck, Lilly, 8

4:35 pm **Age-related Kidney Disease - Implications for Disturbed Mineral Metabolism and Bone Disease**
Moshe Levi, M.D.
University of Colorado Denver, USA
Disclosures: Moshe Levi, Johnson & Johnson 2; Abbott 2; Genzyme 2; Merck 2

4:55 pm **Mineral Dysregulation in CKD, an Accelerated Model of Aging**
Susan C. Schiavi, Ph.D., M.S.
Genzyme Corporation, a Sanofi Company, USA
Disclosures: Susan Schiavi, Genzyme Co, a Sanofi Company 3

5:15 pm **Emerging Roles of FGF23 as a Bridge between Phosphate and Iron Metabolism in the Bone-kidney Endocrine Axis**
Kenneth E. White, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Kenneth White, Kyowa Hakko Kirin Co., Ltd. 7

5:35 pm **AGEs and Aging Bone Lesions in Mice**
Gary Striker, M.D.
Mount Sinai School of Medicine, USA
Disclosures: Gary Striker, Sanofi Renal 2

ASBMR TOWN HALL MEETING AND RECEPTION

6:00 pm - 7:00 pm **Minneapolis Convention Center**
Room 200DE

All attendees are invited to attend the ASBMR Town Hall Meeting and Reception, to learn more about the Society, including the year in review, planned activities, strategic directions and leadership opportunities. Come hear what ASBMR is working on, meet with ASBMR leadership, ask questions during an ''open-mic'' time and enjoy a wine and cheese reception.

BONE STRENGTH WORKING GROUP

Sponsored by the Canadian Bone Strength Working Group
Supported by unrestricted educational grants from Amgen Canada Inc. and Lilly Canada Inc.
Ticket Required

7:15 pm - 9:45 pm **Minneapolis Convention Center**
Room 102DEF

Co-chairs:
Robert Josse, M.D., University of Toronto, Canada
Jacques Brown, M.D., Laval University, Canada

7:15 pm **Registration and Dinner**

7:45 pm **Welcome and Introduction**
Angela Cheung, M.D., Ph.D.
University of Toronto, Canada

7:50 pm **Changes in Bone Mineral Density and Bone Strength from 16 to 34 Years of Age, As Assessed by High Resolution Peripheral Quantitative Computed Tomography**
Lauren Burt
University of Calgary, Canada

8:00 pm **Trabecular Bone Score – TBS – a Novel Method to Evaluate Bone Microarchitecture in Primary Hyperparathyroidism**
Barbara Silva, M.D., M.S.
Columbia University, USA

8:10 pm **Computational Trabecular Microarchitecture Quantification with 3D texture analysis as a Marker to Differentiate Postmenopausal Women with and without Fractures**
Alexander Valentinitsch
Medical University of Vienna, Austria

Keynote debate

8:25 pm **Long-term Antiresorptive Therapy is Harmful to Bone Strength**
For: Cyrus Cooper, D.M., FRCP, University of Southampton, United Kingdom
Against: Michael McClung, M.D., Oregon Osteoporosis Center, USA

9:25 pm **Questions and Discussion/Final Vote**

9:30 pm **Concluding Remarks**
Richard Kremer, M.D., Ph.D.
McGill University Health Center, Canada

PEDIATRIC BONE AND MINERAL WORKING GROUP

Pediatric Issues in Chronic Kidney Disease-Mineral Bone Disorder
Sponsored by: Alexion Pharmaceuticals
Ticket Required

7:15 pm - 9:30 pm **Minneapolis Convention Center**
Room 102ABC

7:15 pm **Opening Remarks and Dinner**

7:30 pm **Highlights from the Year in Pediatric Bone**
Erik A. Imel, M.D.
Indiana University School of Medicine, USA

8:00 pm **CKD-MBD: Impact of Phosphotropic Hormones on Bone Microarchitecture and Histomorphometry**
Katherine Wessling-Perry, M.D.
David Geffen School of Medicine at University of California Los Angeles USA

8:30 pm **CKD-MBD: Effects on Skeletal Structure, Bone Density and Muscle**
Mary Leonard, M.D., M.S.C.E
The Children's Hospital of Philadelphia, USA

9:00 pm **Bone Disease in the Pediatric Renal Transplant Recipient**
Outi Makitie, M.D., Ph.D.
Helsinki University Central Hospital, Finland

9:30 pm **Concluding Remarks**

Disclosures: Dr. Wessling-Perry-Nothing to disclose; Dr. Erik Imel-Kyowa Hakko Kirin Pharma 2, Amgen 5;

WORKING GROUP ON MUSCULOSKELETAL REHABILITATION IN PATIENTS WITH OSTEOPOROSIS

Non-pharmacologic Management of Osteoporosis
Fourteenth Annual Meeting
Ticket Required

7:30 pm - 9:00 pm **Minneapolis Convention Center**
Room 200HIJ

Co-Chairs:
Mehrsheed Sinaki, M.D., M.S.
Mayo Clinic, USA

Michael Pfeifer, M.D.
Institute of Clinical Osteology, Germany

7:30 pm **Welcome and Introduction**

7:35 pm **Multidisciplinary Team Approach for Management of Hip Fracture**
Ann E. Kearns, M.D.
Mayo Clinic, USA

7:55 pm **Factors Contributing to the Human Equilibrium/Disequilibrium: Basic Science Behind the Issue of Falls**
Eduardo E. Benarroch, M.D.
Mayo Clinic, USA

8:15 pm **Effects of one year training on femoral bone quality as Quantified using patient-specific finite element analysis.**
Sabine Verschueren, PT, PhD
Department of Rehabilitation Sciences, Head of Musculoskeletal Rehabilitation Research Group, University of Leuven, Belgium

8:35 pm **Burden and Medical Needs in Older Patients with Total Hip Arthroplastie and Muscle Atrophy or Weakness**
Russel Burge, Ph.D.
Global Health Outcomes
Bone, Muscle, Joint Platform
Lilly Biomedicines, Indianapolis, USA

8:55 pm **Summary and Closure**
Michael Pfeifer, M.D.
Institute of Clinical Osteology, Germany

Disclosures: Dr. Mehrsheed Sinaki-Nothing to disclose; Dr. Michael Pfeifer-Nothing to disclose; Dr. Ann E. Kearns-Nothing to disclose; Dr. Eduardo E. Benarroch-Nothing to disclose

BIOCHEMICAL MARKERS OF BONE TURNOVER WORKING GROUP

Bone Markers and their Role in Diabetes
Ticket Required

7:30 pm - 9:30 pm **Minneapolis Convention Center**
Auditorium Room 3

7:30 pm **Opening Remarks**
Kristina Akesson, M.D. and John Bilezikian, M.D.
Lund University, Sweden and Columbia University, USA

7:35 pm **Diabetes and Bone**
Anne Schwartz, Ph.D., MPH
University of California San Francisco, USA

7:55 pm **Bone Markers, Other Biomarkers and Diabetes**
Luigi Gennari, M.D.
University of Siena, Italy

8:25 pm **Discussion**

8:35 pm **Effects on Bone of Anti-Diabetic Drugs Glitazones/Metaformin Others**
Marius Kraezlin, M.D.
University of Basel, Switzerland

9:05 pm **Discussion**

9:15 pm **Concluding Remarks**

Disclosures: Dr. Kristina Akesson-Nothing to disclose; Dr. Marius Kraenzlin-Nothing to disclose; Dr. John Bilezikian-Nothing to disclose; Dr. Luigi Gennari-Nothing to disclose;

RARE BONE DISEASE WORKING GROUP

Rare Bone Disorders, Current and Future Research
Ticket Required

7:30 pm - 9:30 pm **Minneapolis Convention Center**
Room 200ABC

7:30 pm **Introduction**
Jay Shapiro, M.D.
Kennedy Krieger Institute, USA

7:40 pm **Current Methods for Linking Diseases, Genes, and Pathways Made Simple**
Matthew Warman, M.D.
Children's Hospital Boston, USA

8:00 pm **Skeletal Dysplasiae in Patients with Neurofibromatosis Type 1: New Targets and Future Therapies**
Florent Eleftreriou, Ph.D.
Vanderbilt University, USA

8:20 pm **Osteogenesis Imperfecta: Treatment Conundrum and the Future**
Jay Shapiro, M.D.
Kennedy Krieger Institute, USA

8:40 pm **Why Do Some People Form Two Skeletons?**
Fred Kaplan, M.D.
University of Pennsylvania Hospital, USA

9:00 pm **Future Research in Hypophosphatasia**
Michael Whyte, M.D.
Shriners Hospital for Children-Saint Louis, USA

9:20 pm **Conclusion**

Disclosures: Florent Eleftreriou-Alexion

RHEUMATIC DISEASES AND BONE WORKING GROUP

The Bone Component of Inflammation
Supported by educational grant from NUTRIM,
Maastricht University Medical Center, The Netherlands
Ticket Required

7:30 pm - 9:30 pm **Minneapolis Convention Center**
Auditorium Room 2

7:15 pm **Food and beverages available**

7:30 pm **Welcome**
Nancy Lane, M.D. and Marc Hochberg, M.D., MPH
UC Davis Health System, USA and Johns Hopkins University, USA

7:35 pm **Inflammation and Bone: Lessons from Fracture Healing**
Lou Gerstenfield, Ph.D.
Boston University, USA

8:00 pm **Rheumatoid Arthritis: Effects of Inflammation on Bone Cells and Bone Marrow Components**
Ellen Gravallese, Ph.D.
University of Massachusetts Medical School, USA

8:30 pm **Ankylosing Spondylitis: How to Prevent and Treat Vertebral Fractures**
Piet Geusens, M.D., Ph.D.
Maastricht MUMC, The Netherlands and UHasselt, Belgium

9:00 pm **Selected ASBMR Abstract Presentation**

9:25 pm **Concluding Remarks**

Disclosures: Dr. Piet Geusens-Nothing to disclose; Dr. Lous C. Gerstenfeld-Nothing to disclose; Dr. Ellen M. Gravallese-Lilly 2, Abbott Bioscience 5;

MONDAY, OCTOBER 15, 2012

DAY-AT-A-GLANCE

Time/Event/Location **All locations in the Minneapolis Convention Center unless otherwise noted**

REGISTRATION OPEN

7:30 am - 5:00 pm **Minneapolis Convention Center**
Hall C

POSTERS OPEN

8:00 am - 4:00 pm **Minneapolis Convention Center**
Discovery Hall-Hall B

PLENARY SYMPOSIUM II - BONE TURNOVER MARKERS

Sponsored by the ASBMR Professional Practice Committee

Supported by an educational grant from Lilly USA, LLC

8:00 am - 9:30 am **Minneapolis Convention Center**
Auditorium-Main

Co-Chairs
Markus J. Seibel, M.D., Ph.D.
Bone Research Program, ANZAC Research Institute, University of Sydney, Australia
Disclosures: Markus Seibel, Novartis 2; Amgen 5; MSD 5; Elsevier 7; Amgen 8; Novartis 8; Sanofi-aventis 8

E. Michael Lewiecki, M.D., FACP, FACE
University of New Mexico School of Medicine, USA
Disclosures: E. Michael Lewiecki, None

8:00 am **Novel Markers of Bone Metabolism**
Patrick Garnero, Ph.D.
INSERM Research Unit 1033 and Cisbio Bioassays, France
Disclosures: Patrick Garnero, Cisbio Bioassays 3

8:30 am **Novel Osteoporosis Therapies and their Effects on Markers of Bone Metabolism**
Kristina Akesson, M.D., Ph.D.
Skåne University Hospital, Malmö, Sweden
Disclosures: Kristina Akesson, Lilly 5

9:00 am **How to Improve the Clinical Utility of Bone Turnover Markers**
Douglas C. Bauer, M.D.
University of California, San Francisco, USA
Disclosures: Douglas Bauer, Amgen 2; Novartis 2

PRESENTATION OF THE ASBMR FREDERIC C. BARTTER AWARD

9:30 am - 9:40 am **Minneapolis Convention Center**
Auditorium-Main

PRESENTATION OF THE ASBMR SHIRLEY HOHL SERVICE AWARD

9:30 am - 9:40 am **Minneapolis Convention Center**
Auditorium-Main

DISCOVERY HALL OPEN

9:30 am - 4:30 pm **Minneapolis Convention Center**
Discovery Hall-Hall B

DISCOVERY HALL COFFEE BREAK

9:30 am - 10:00 am **Minneapolis Convention Center**
Discovery Hall-Hall B

CONCURRENT ORAL SESSION 25: OSTEOBLASTS

10:00 am - 11:30 am **Minneapolis Convention Center**
Room 101C

Moderators:
Eric Hesse, M.D., Ph.D.
University Medical Center Hamburg-Eppendorf, Germany
Disclosures: Eric Hesse, None

LUO Xianghang
The Second XiangYa Hospital, Central South University, China
Disclosures: LUO Xianghang, None

10:00 am 1145 **Genome-wide Profiling of DNase-Hypersensitivity during Osteoblastogenesis**
Phillip Tai*, Hai Wu, Troy W. Whitfield, Jonathan Gordon, Jane Lian, Andre Van Wijnen, Gary Stein, Janet L. Stein. University of Massachusetts Medical School, USA
Disclosures: Phillip Tai, None

10:15 am 1146 **miR-17~92 Cluster Critically Regulates Osteoblast Differentiation**
Mingliang Zhou*[1], Junrong Ma[2], Xiang Chen[2], Meng Gong[2], Xijie Yu[2]. [1]West China Hospital, Sichuan University, Peoples Republic of China, [2]Laboratory of Endocrinology & Metabolism, West China Hospital, Sichuan University, China
Disclosures: Mingliang Zhou, None

10:30 am 1147 **miRNA-34c regulates Notch signaling during bone development**
Yangjin Bae*[1], Tao Yang[1], Huan-Chang Zeng[1], Philippe Campeau[2], Yuqing Chen[2], Terry Bertin[2], Brian Dawson[2], Elda Munivez[2], Jianning Tao[1], Brendan Lee[3]. [1]Baylor College of Medicine, USA, [2]Baylor College od Medicine, USA, [3]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Yangjin Bae, None

10:45 am 1148 **Progranulin Accelerates Bone Regeneration through Stimulating Osteoblastogenesis and Repressing Osteoclastogenesis**
Chuanju Liu, Yunpeng Zhao*, Qingyun Tian, Brendon Richbourgh, Shuai Zhao. New York University, USA
Disclosures: Yunpeng Zhao, None

11:00 am 1149 **Semaphorin 3A Inhibits Osteoclastogenesis and Promotes Osteoblastogenesis Synchronously**
Mikihito Hayashi*[1], Tomoki Nakashima[1], Hiroshi Takayanagi[2]. [1]Tokyo Medical & Dental University, Japan, [2]The University of Tokyo, Department of Immunology, Japan
Disclosures: Mikihito Hayashi, None

11:15 am 1150 **Histone Deacetylase 3 Depletion in Mature Osteoblasts Promotes Apoptosis and Progressive Bone Loss with Age**
Meghan McGee-Lawrence*, Elizabeth Bradley, Samuel Carlson, Qingshan Chen, Kai-Nan An, Jennifer Westendorf. Mayo Clinic, USA
Disclosures: Meghan McGee-Lawrence, None

CONCURRENT ORAL SESSION 26: BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX AND DEVELOPMENT

10:00 am - 11:30 am **Minneapolis Convention Center**

Room 200DE

Moderators:
Mary C. Farach-Carson, Ph.D.
Rice University, USA
Disclosures: Mary Farach-Carson, None

Qianming Chen, Ph.D., D.D.S.
State Key Laboratory of Oral Diseases, Peoples Republic of China
Disclosures: Qianming Chen, None

10:00 am 1151 **Regulation of Energy Metabolism by Bone Sialoprotein, a Novel Endocrine Mechanism**
Jake Jinkun Chen*[1], Yuwei Wu[2], Liming Yu[1], Shu Meng[1], Qisheng Tu[1]. [1]Tufts University School of Dental Medicine, USA, [2]Tufts University, USA
Disclosures: Jake Jinkun Chen, None

10:15 am 1152 **Hdac3 Regulates Chondrocyte Hypertrophy and Matrix Secretion by Repressing Phlpp1 Expression and Facilitating Akt Signaling**
Elizabeth Bradley*[1], Lomeli Carpio[1], Meghan McGee-Lawrence[1], Alexandra Newton[2], Jennifer Westendorf[1]. [1]Mayo Clinic, USA, [2]University of California, USA
Disclosures: Elizabeth Bradley, None

10:30 am 1153 **Epidermal Growth Factor Receptor Regulates Cartilage Matrix Remodeling during Endochondral Ossification through β-catenin-dependent and -independent Pathways**
Xianrong Zhang[1], Ji Zhu[1], Valerie A Siclari[2], Motomi Enomoto-Iwamoto[3], Frank Beier[4], Ling Qin*[2]. [1]University of Pennsylvania, School of Medicine, USA, [2]University of Pennsylvania, USA, [3]Children Hospital of Philadelphia, USA, [4]University of Western Ontario, Canada
Disclosures: Ling Qin, None

10:45 am 1154 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
***Sprouty2* regulates skeletogenesis**
Adriane Joo*[1], Roger Long[1], Zhiqiang Cheng[1], Wenhan Chang[2], Ophir Klein[1]. [1]University of California, San Francisco, USA, [2]Endocrine Unit, VA Medical Center, University of California, San Francisco, USA
Disclosures: Adriane Joo, None

11:00 am 1155 **Mice Lacking Pten in Osteoblasts Have Improved Intramembranous and Late Endochondral Fracture Healing**
Travis Burgers*[1], Martin Hoffmann[2], Michael Morris[3], Martin Alvarado[4], Debra Sietsema[5], Jim Mason[1], Clifford Jones[6], Bart Williams[7]. [1]Van Andel Institute, USA, [2]Grand Rapids Medical Education Partners, USA, [3]Michigan State University, USA, [4]Creston High School, USA, [5]Orthopaedic Associates of Michigan; Michigan State University, USA, [6]Orthopedic Associates of Michigan, USA, [7]Van Andel Research Institute, USA
Disclosures: Travis Burgers, None

11:15 am 1156 **Potential Role of Periosteal Macrophages in Mediating Cathepsin K inhibition-Induced Cortical Bone Formation**
Weizhong Chang[1], Shuo Liu[1], Hui Xie*[1], Maureen Pickarski[2], Le Thi Duong[3], Xu Cao[1]. [1]Johns Hopkins University, USA, [2]Merck & Co., Inc., USA, [3]Merck Research Laboratories, USA
Disclosures: Hui Xie, None

CONCURRENT ORAL SESSION 27: OSTEOCLASTS

10:00 am - 11:30 am **Minneapolis Convention Center**

Auditorium Room 1

Moderators:
Noriyoshi Kurihara, D.D.S., Ph.D.
Indiana University, USA
Disclosures: Noriyoshi Kurihara, None

S. Jeffrey Dixon, Ph.D.
The University of Western Ontario, Canada
Disclosures: S. Jeffrey Dixon, None

10:00 am **Contribution of Bone Resorption to the Control of Glucose Metabolism**
1157 Mathieu Ferron*, Gerard Karsenty. Columbia University, USA
Disclosures: Mathieu Ferron, None

10:15 am **2012 ASBMR YOUNG INVESTIGATOR AWARD**
1158 **Targeted expression of catalase to mitochondria in cells of the macrophage/osteoclast lineage inhibits osteoclastogenesis and increases bone mass**
Shoshana Bartell*[1], Li Han[1], Aaron Warren[1], Julie Crawford[1], Peter Rabinovitch[2], Stavros Manolagas[1], Maria Jose Almeida[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]University of Washington, USA
Disclosures: Shoshana Bartell, None

10:30 am **Deletion of the Cell-adhesion Mediator PODXL in Early Osteoclast Precursors Impairs Bone**
1159 **Resorption and Causes a High Bone Mass Phenotype through Reduced Activation of Rac1**
Megan Weivoda*[1], Muzaffer Cicek[1], Ashok Kumar[2], Larry Pederson[3], Ming Ruan[3], Michael Hughes[4], Christine Hachfeld[3], Rachel Davey[5], Kelly McNagny[6], Merry Jo Oursler[1]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA, [3]Endocrine Research Unit, Mayo Clinic, USA, [4]University of British Columbia, Canada, [5]University of Melbourne, Australia, [6]Biomedical Research Centre, University of British Columbia, Canada
Disclosures: Megan Weivoda, None

10:45 am **Ablation of Connexin 43 in Osteoclasts Leads to Decreased in vivo osteoclastogenesis**
1160 Mitchell Sternlieb[1], Emmanuel Paul[1], Henry Donahue[1], Yue Zhang*[2]. [1]The Pennsylvania State University College of Medicine, USA, [2]Penn State University, USA
Disclosures: Yue Zhang, None

11:00 am **The Role of Osteoclasts in Neurofibromatosis Type 1 Pseudarthrosis**
1161 Steven Rhodes*, Keshav Menon, Yongzheng He, Karl Staser, Shi Chen, Khalid Mohammad, Theresa Guise, Feng-Chun Yang. Indiana University, USA
Disclosures: Steven Rhodes, None

11:15 am **Talin1 and Rap1 are Critical for Osteoclast Function**
1162 Wei Zou*[1], Tingting Zhu[2], Takashi Izawa[3], Jean Chappel[4], Susan Monkley[5], David Critchley[5], Brian G Petrich[6], Alexei Morozov[7], Mark H Ginsberg[6], Steven Teitelbaum[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University in St. Louis-School of Medicine, USA, [3]Washington University in St. Louis, USA, [4]Department of pathology, Washington University School of Medicine, USA, [5]Department of Biochemistry, University of Leicester, United Kingdom, [6]Department of Medicine, University of California, USA, [7]Behavioral Genetics Unit, NIMH, USA
Disclosures: Wei Zou, None

CONCURRENT ORAL SESSION 28: BONE BIOMECHANICS AND QUALITY (CLINICAL)

10:00 am - 11:30 am **Minneapolis Convention Center**

Auditorium Room 2

Moderators:
Janet Rubin, M.D.
University of North Carolina, Chapel Hill, School of Medicine, USA
Disclosures: Janet Rubin, None

Susan M. Ott, M.D.
University of Washington Medical Center, USA
Disclosures: Susan Ott, None

10:00 am 1163 **Lean Body Mass Mediates Associations between Physical Activity, Sendentary Behavior, and Bone Microstructure in Post-menarcheal Girls**
Leigh Gabel*[1], Heather McKay[2], Lindsay Nettlefold[3], Douglas Race[3], Heather Macdonald[2]. [1]University of British Columbia, Centre for Hip Health & Mobility, Canada, [2]University of British Columbia, Canada, [3]Univeristy of British Columbia, Canada
Disclosures: Leigh Gabel, None

10:15 am 1164 **Femoral Neck Cortical Thickness Declines in the Elderly Three-fold Faster Superiorly than Inferiorly: The AGES-REYKJAVIK Longitudinal Study**
Fjola Johannesdottir*[1], Thor Aspelund[2], Jonathan Reeve[3], Kenneth Poole[3], Sigurdur Sigurdsson[2], Tamara Harris[4], Vilmundur Gudnason[5], Gunnar Sigurdsson[6]. [1]Faculty of Engineering, University of Iceland, Iceland, [2]Icelandic Heart Association, Iceland, [3]University of Cambridge, United Kingdom, [4]Intramural Research Program, National Institute on Aging, USA, [5]Icelandic Heart Association Research Institute, Iceland, [6]Landspitali, Iceland
Disclosures: Fjola Johannesdottir, None

10:30 am 1165 **Similar Effects on Cancellous Bone Matrix Mineralization by Alendronate and Two Different Doses of Odanacatib in Rhesus Monkeys**
Paul Roschger*[1], Phaedra Messmer[1], Nadja Fratzl-Zelman[1], Barbara M. Misof[1], Klaus Klaushofer[1], Maureen Pickarski[2], Le T. Duong[2]. [1]Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling, 1st Medical Department, Hanusch Hospital, Vienna, Austria, [2]Bone Biology, Merck Research Laboratories, West Point, USA
Disclosures: Paul Roschger, None

10:45 am 1166 **Alterations in Intrinsic Bone Material Properties of Sclerosteosis Patients**
Eleftherios Paschalis[1], Paul Roschger[2], Antoon Van Lierop[3], Rutger Van Bezooijen[3], Sonja Gamsjaeger[4], Birgit Hofstetter[1], Klaus Klaushofer[5], Socrates Papapoulos*[3]. [1]Ludwig Boltzmann Institute for Osteology, Austria, [2]L. Boltzmann Institute of Osteology, Austria, [3]Leiden University Medical Center, The Netherlands, [4]Ludwig Boltzmann Institute of Osteologie, Austria, [5]Hanusch Hospital, Austria
Disclosures: Socrates Papapoulos, None

11:00 am 1167 **Lower Cortical Porosity and Higher Cortical Tissue Mineral Density Help to Explain Stronger Bones in Chinese versus Caucasian Wome**
Stephanie Boutroy*[1], Marcella Walker[2], Julia Udesky[1], Donald McMahon[3], George Liu[4], John Bilezikian[3]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA, [4]New York Downtown Hospital, USA
Disclosures: Stephanie Boutroy, None

11:15 am 2012 ASBMR YOUNG INVESTIGATOR AWARD

1168 Bone Microstructure, Serum PINP, and Plasma Osteopontin Levels are Correlated With Sympathetic Activity Measured by Microneurography in Human

Joshua Farr*[1], Nisha Charkoudian[2], Jill Barnes[3], David Monroe[4], Louise McCready[1], Elizabeth Atkinson[5], Shreyasee Amin[1], L. Joseph Melton[1], Michael Joyner[3], Sundeep Khosla[5]. [1]Mayo Clinic, USA, [2]U.S. Army Research Institute of Environmental Medicine, USA, [3]Department of Anesthesiology, Mayo Clinic, USA, [4]Mayo Foundation, USA, [5]College of Medicine, Mayo Clinic, USA

Disclosures: Joshua Farr, None

CONCURRENT ORAL SESSION 29: OSTEOPOROSIS - TREATMENT (CLINICAL)

10:00 am - 11:30 am **Minneapolis Convention Center**

Auditorium-Main

Moderators:

Mary Beth O'Connell, Pharm.D.
Wayne State University College of Pharmacy & Health Sciences, USA
Disclosures: Mary Beth O'Connell, None

Deborah E. Sellmeyer, M.D.
The Johns Hopkins Bayview Medical Center, USA
Disclosures: Deborah Sellmeyer, None

10:00 am 1169 Structural and Mechanical Implications of Antiresorptive and Anabolic Treatment of Osteoporosis by In Vivo Micro-MRI Based Techniques

Yusuf Bhagat*[1], Maite Aznarez-Sanado[1], Jeremy Magland[1], Theresa Scattergood[1], Peter Snyder[1], Felix Werner Wehrli[2]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania Medical Center, USA

Disclosures: Yusuf Bhagat, None

10:15 am 1170 Differential Effects of Teriparatide and Zoledronic Acid on the Outer and Inner Surfaces of Cortical Bone in Postmenopausal Women with Osteoporosis: Results from the SHOTZ Trial

David Dempster*[1], Hua Zhou[2], Robert Recker[3], Jacques Brown[4], Michael Bolognese[5], Christopher Recknor[6], David Kendler[7], E. Michael Lewiecki[8], David Hanley[9], D. Sudhaker Rao[10], Paul Miller[11], Grattan Woodson[12], Robert Lindsay[2], Neil Binkley[13], Xiaohai Wan[14], Valerie Ruff[14], Boris Janos[15], Kathleen Taylor[14]. [1]Columbia University, USA, [2]Helen Hayes Hospital, USA, [3]Creighton University Osteoporosis Research Center, USA, [4]CHUQ Research Centre, Laval University, Canada, [5]Bethesda Health Research, USA, [6]United Osteoporosis Center, USA, [7]Associate Professor, University of British Columbia, Canada, [8]University of New Mexico School of Medicine, USA, [9]University of Calgary, Canada, [10]Henry Ford Hospital, USA, [11]Colorado Center for Bone Research, USA, [12]USA, [13]University of Wisconsin, Madison, USA, [14]Eli Lilly & Company, USA, [15]Eli Lilly Canada, Inc., Canada

Disclosures: David Dempster, Amgen, Eli Lilly, Merck, Novartis, P&G, 8; Amgen, Merck, Novartis, P&G, 5; Eli Lilly, 2

10:30 am 1171 Overlapping and Follow-up of Alendronate to Teriparatide Treatment Results in Maintenance of Excess BMD Gain

Christian Muschitz*[1], Roland Kocijan[2], Astrid Fahrleitner-Pammer[3], Heinrich Resch[4]. [1]St. Vincent's Hospital, Austria, [2]St. Vincent Hospital Vienna, Austria, [3]Medical University Graz, Austria, [4]Medical University Vienna, Austria

Disclosures: Christian Muschitz, None

10:45 am 1172 Genetic Variants in the Promoter of LRP5 May Be Associated with Teriparatide Response, in the Treatment of Osteoporosis

Lee O'Brien*[1], Haojun Ouyang [2], Jared Kohler[3]. [1]Lilly, USA, [2]Eli Lilly & Company, USA, [3]Biostat Solutions, Inc, USA

Disclosures: Lee O'Brien, Eli Lilly and Company, 3

11:00 am 1173 **Femur QCT Analysis using MIAF in Postmenopausal Women Treated with Odanacatib - Results of a 2-year Placebo-controlled Trial**

Klaus Engelke*[1], Thomas Fuerst[2], Bernard Dardzinski[3], John Kornak[4], Shabana Ather[5], Harry Genant[6], Anne De Papp[7]. [1]University of Erlangen, Germany, [2]Synarc Inc, USA, [3]Merck Sharp & Dohme Corp., USA, [4]UCSF, Dep. of Epidemiology & Biostatistics, USA, [5]Merck & Co, Inc., USA, [6]UCSF/Synarc, USA, [7]Merck & Co., Inc., USA

Disclosures: Klaus Engelke, Synarc, 1; Synarc, 3

11:15 am 1174 **Denosumab Significantly Improved Trabecular Bone Score (TBS), an Index of Trabecular Microarchitecture, in Postmenopausal Women with Osteoporosis**

Michael R. McClung*[1], Kurt Lippuner[2], Maria Luisa Brandi[3], Jean-Marc Kaufman[4], Jose R. Zanchetta[5], Marc-Antoine Krieg[6], Henry G. Bone[7], Roland Chapurlat[8], Didier Hans[6], Andrea Wang[9], Jang Yun[9], Carol Zapalowski[9], Cesar Libanati[9]. [1]Oregon Osteoporosis Center, USA, [2]Osteoporosis Policlinic, University of Bern, Switzerland, [3]University of Florence, Italy, [4]University Hospital of Ghent, Belgium, [5]Instituto de Investigaciones Metabólicas, Argentina, [6]Lausanne University Hospital, Center of Bone Diseases, Switzerland, [7]Michigan Bone & Mineral Clinic, USA, [8]Hôpital Edouard Herriot, France, [9]Amgen Inc., USA

Disclosures: Michael R. McClung, Amgen, Merck, 2; Amgen, Lilly, Merck, Novartis5; Amgen, Lilly, Novartis, Warner-Chilcott, 8

CONCURRENT ORAL SESSION 30: BONE ACQUISITION AND PEDIATRIC BONE DISEASE

10:00 am - 11:30 am **Minneapolis Convention Center**

Auditorium Room 3

Moderators:

Mary B. Leonard, M.D.
Children's Hospital of Philadelphia, USA
Disclosures: Mary Leonard, None

Maria Luisa Bianchi, M.D.
Istituto Auxologico Italiano IRCCS, Italy
Disclosures: Maria Luisa Bianchi, None

10:00 am 1175 **Longitudinal Tracking of DXA Bone Measures in Children and Adolescents Over a 6-Year Period**

Tishya Wren*[1], Heidi Kalkwarf[2], Babette Zemel[3], Joan Lappe[4], John Shepherd[5], Sharon Oberfield[6], Karen Winer[7], Vicente Gilsanz[1]. [1]Children's Hospital Los Angeles, USA, [2]Cincinnati Children's Hospital Medical Center, USA, [3]Children's Hospital of Philadelphia, USA, [4]Creighton University Osteoporosis Research Center, USA, [5]University of California, San Francisco, USA, [6]Columbia University Medical Center, USA, [7]National Institutes of Health, NICHD, USA

Disclosures: Tishya Wren, None

10:15 am 1176 **HRpQCT Reveals Cortical Thinning and Deficits in Bone Microstructure in Children and Adolescents with a Distal Forearm Fracture Due to Mild but Not Moderate Trauma**

Joshua Farr*[1], Shreyasee Amin[1], Salman Kirmani[1], Louise McCready[1], Sara Achenbach[1], L. Joseph Melton[1], Sundeep Khosla[2]. [1]Mayo Clinic, USA, [2]College of Medicine, Mayo Clinic, USA

Disclosures: Joshua Farr, None

10:30 am 1177 **Fractures During Growth in Healthy Females: Relation with Bone Structural Alterations and Importance of Pubertal Timing**

Thierry Chevalley*[1], Jean-Philippe Bonjour[2], Bert van Rietbergen[3], Rene Rizzoli[4], Serge Ferrari[5]. [1]University Hospitals of Geneva Division of Bone Diseases, Switzerland, [2]University Hospital of Geneva, Switzerland, [3]Department of Biomedical Engineering, Eindhoven University of Technology, Netherlands, [4]University Hospital, Switzerland, [5]Geneva University Hospital & Faculty of Medicine, Switzerland

Disclosures: Thierry Chevalley, None

10:45 am **2012 ASBMR YOUNG INVESTIGATOR AWARD**

1178 **Pre-Pubertal Bone Mass Predicts Peak Bone Mass – A 28 Year Prospective Observational Study of 214 Children**

Christian Buttazzoni*, Bjorn Rosengren, Magnus Tveit, Lennart Landin, Jan-Åke Nilsson, Magnus Karlsson. Skåne University Hospital Malmö, Lund University, Sweden

Disclosures: Christian Buttazzoni, None

11:00 am **Genome-wide association analysis of skull BMD in children: a powerful strategy to identify**

1179 **genetic determinants of osteoporosis-related traits**

John Kemp*[1], Carolina Medina-Gomez [2], Karol Estrada[2], Denise Heppe[2], Maria Zillikens[2], Nicholas Timpson[3], Beate St Pourcain [4], Albert Hofman[2], Vincent Jaddoe[2], George Davey Smith [5], André Uitterlinden[2], David Evans[6], Fernando Rivadeneira[2], Jonathan Tobias[7]. [1]MRC Centre for Causal Analyses in Translational Epidemiology, United Kingdom, [2]Erasmus Medical Center, Netherlands, [3]MRC Centre for Causal Analyses in Translational Epidemiology, University of Bristol, United Kingdom, [4]School of Social & Community Medicine, University of Bristol, United Kingdom, [5]School of Social & Community Medicine,University of Bristol, United Kingdom, [6]MRC Centre for Causal Analyses in Translational Epidemiology,University of Bristol, United Kingdom, [7]School of Clinical Science at North Bristol, University of Bristol, United Kingdom

Disclosures: John Kemp, None

11:15 am **Effects of Glucocorticoid Therapy on Changes in Volumetric Bone Mineral Density (vBMD)**

1180 **and Cortical Structure in Childhood Nephrotic Syndrome (NS)**

Anne Tsampalieros*[1], Pooja Gupta[2], Babette Zemel[1], Rachel Wetzsteon[1], Mary Leonard[1]. [1]Children's Hospital of Philadelphia, USA, [2]Emory University School of Medicine, USA

Disclosures: Anne Tsampalieros, None

POSTER SESSION III AND POSTER TOURS*

11:30 am - 1:30 pm **Discovery Hall-Hall B**

*Poster Tours Will Begin at the ASBMR Networking Center at 12:00 noon

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: CELLULAR AND MOLECULAR MECHANISMS

MO0001 **Absence of Functional Leptin Receptor Isoforms in the POUND ($Lepr^{db/lb}$) Mouse is Associated with Decreased Femoral Bone Volume, Increased Femoral Bone Marrow Adipogenesis, and Muscle Wasting**

Phonepasong Arounleut*[1], Mohammed Elsalanty[2], Khaled Hussein[1], Carlos Isales[3], Alexis Stranahan[1], Mark Hamrick[1]. [1]Georgia Health Sciences University, USA, [2]Georgia Health Science University, USA, [3]Medical College of Georgia, USA

Disclosures: Phonepasong Arounleut, None

MO0002 **Dlx5 Inhibits Adipogenic Differentiation through the Down-Regulation of Peroxisome Proliferator-Activated Receptor γ (PPARγ) Expression**

HYELIM LEE*[1], Kyung-Mi Woo[1], Hyun-Mo Ryoo[2], Jeong-Hwa Baek[3]. [1]SEOUL NATIONAL UNIVERSITY, South Korea, [2]Seoul National University School of Dentistry, South Korea, [3]Seoul National University, School of Dentistry, South Korea

Disclosures: HYELIM LEE, None

MO0003 **Dynamics of Post-transplantation Bone Marrow Adiposity: A Model for Understanding Bone-Fat Interactions**

Phuong Le*[1], Eliza Grlickova-Duzevik[2], Anne Breggia[3], Kathleen Bishop[1], Clifford Rosen[3], Mark Horowitz[4]. [1]Maine Medical Center Research Institute, USA, [2]University of Maine, USA, [3]Maine Medical Center, USA, [4]Yale University School of Medicine, USA

Disclosures: Phuong Le, None

MO0004 **Dysfunctional Osteocytes Increase RANKL and Promote Cortical Pore Formation in Their Vicinity: a Mechanistic Explanation for the Development of Cortical Porosity with Age**

Robert Jilka*[1], Annick DeLoose[2], Leslie Climer[2], Lynda Bonewald[3], Robert Weinstein[1], Charles O'Brien[1], Stavros Manolagas[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]Central Arkansas Veterans Healthcare System, Univ of Arkansas for Medical Sciences, USA, [3]University of Missouri - Kansas City, USA

Disclosures: Robert Jilka, None

MO0005 **Pb Treatment Generates Reactive Oxygen Species in Articular Chondrocytes and Results in Osteoarthritis-like Changes to the Oxidant Scavenging Milieu**
Tzong-Jen Sheu[1], Shen-chin hsu*[2], Shanshan Shi[3], J. Edward Puzas[3], Min-jon Lin[4], Jonathan Holz[1]. [1]University of Rochester, USA, [2]Chung Shan Medical University Hospital Dept of Pharmacy, Taiwan, Taiwan, [3]University of Rochester School of Medicine, USA, [4]Chung Shan Medical University, Taiwan
Disclosures: Shen-chin hsu, None

MO0006 **Withdrawn**

MO0007 **Suppression of Autophagy in Osteoblasts and Osteocytes Increases Oxidative Stress and Recapitulates the Effects of Aging on the Murine Skeleton**
Melda Onal[1], Jinhu Xiong[1], Shiqiao Ye[1], Li Han[1], Robert Jilka[1], Robert Weinstein[1], Maria Jose Almeida[1], Haibo Zhao[1], Stavros Manolagas[1], Charles O'Brien*[2]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]University of Arkansas for Medical Sciences, USA
Disclosures: Charles O'Brien, None

MO0008 **T Lymphocytes and Osteoclast Precursors in Early Rheumatoid Arthritis.**
Patrizia D'Amelio*[1], Francesca Sassi[1], Ilaria Buondonno[1], Guido Rovera[2], Raffaele Pellerito [2], Giancarlo Isaia[1]. [1]University of Torino, Italy, [2]Mauriziano Hospital, Italy
Disclosures: Patrizia D'Amelio, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: FRAILTY AND SARCOPENIA

MO0009 **Dual Energy X-ray Absorptiometry Body Composition: A New Phantom for Clinical Trials**
Colin Miller*[1], Blaine Horvath[2], Hui Jing Yu[2], Stuart Jackson[3], Neil Binkley[4]. [1]BioClinica, Inc., USA, [2]BioClinica, USA, [3]University of Alberta, Canada, [4]University of Wisconsin, Madison, USA
Disclosures: Colin Miller, BioClinica, 3

MO0010 **Muscle Assessment by HRpQCT: A Preliminary Assessment of its Potential Utility**
Marta Erlandson*[1], Andy Kin On Wong[2], Eva Szabo [3], Martin Zulliger[4], Aakash Bhargava[2], Karen Beattie[2], Jonathan Adachi[5], Angela Cheung[3]. [1]University of Toronto, Canada, [2]McMaster University, Canada, [3]University Health Network, Canada, [4]Scanco Medical AG, Switzerland, [5]St. Joseph's Hospital, Canada
Disclosures: Marta Erlandson, None

MO0011 **Patterns of Major Osteoporotic Fractures in the Very Old**
Bjorn Rosengren*[1], Magnus Karlsson[1], Ingemar Peterson[2], Martin Englund[2]. [1]Skåne University Hospital Malmö, Lund University, Sweden, [2]Musculoskeletal Sciences, Department of Orthopedics, Clinical Sciences Lund, Lund University, Sweden
Disclosures: Bjorn Rosengren, None

MO0012 **pQCT Derived Lower Leg Muscle Density as a Predictor of Fall Status in Community-dwelling Adults: A Logistic Regression Analysis of the Saskatoon CaMos Cohort**
Andrew Frank*[1], Jonathan Farthing[2], Philip Chilibeck[2], Cathy Arnold[3], W.P. Olszynski[4], Saija Kontulainen[1]. [1]University of Saskatchewan, Canada, [2]College of Kinesiology, University of Saskatchewan, Canada, [3]School of Physical Therapy, University of Saskatchewan, Canada, [4]Midtown Professional Center (#103), Canada
Disclosures: Andrew Frank, None

MO0013 **Relationship Between Skeletal Muscle Mass, Strength And Physical Performance In Elderly Men With Sarcopenia**
Marija Tamulaitiene[1], Asta Mastaviciute*[2], Vidmantas Alekna[3], Arvydas Laurinavicius[4], Donatas Petroska[4], Vaidile Strazdiene[5]. [1]Vilnius University, Faculty of Medicine; National Osteoporosis Center, Vilnius, Lithuania, [2]Vilnius University, Faculty of Medicine; National Osteoporosis Center, Lithuania, [3]Vilnius University, Lithuania, [4]Vilnius University, Faculty of Medicine; National Center of Pathology, Lithuania, [5]State Research Institute Centre for Innovative Medicine; Vilnius University, Lithuania
Disclosures: Asta Mastaviciute, None

MO0014 **Thoracic Kyphosis Is More Strongly Associated with the Size and Density of the Thoracic Spinal Extensor Muscles than Lumbar Spinal Extensor Muscles**
Dennis Anderson*[1], Alexander Bruno[2], Brett Allaire[1], Yoo Mee Kim[3], Serkalem Demissie[4], Mary Bouxsein[1], Elizabeth Samelson[5]. [1]Beth Israel Deaconess Medical Center, USA, [2]Harvard-MIT, USA, [3]Division of Endocrinology, MizMedi Hospital, South Korea, [4]Boston University School of Public Health, USA, [5]Hebrew SeniorLife, Harvard Medical School, USA
Disclosures: Dennis Anderson, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: OSTEOARTHRITIS AND RHEUMATOID ARTHRITIS

MO0015 **Alendronate Protection Against Articular Cartilage Erosion in OVX Rats Supports a Role of Subchondral Bone Loss in Osteoarthritis Pathogenesis**
Jing Hu[1], Songsong Zhu*[2]. [1]Sichuan University, Peoples Republic of China, [2]Sichuan University, China
Disclosures: Songsong Zhu, None

MO0016 **Chondrocyte Metabolism in Inflammatory Arthritis is regulated by CIZ**
Tetsuya Nakamoto*[1], Takayuki Motoyoshi[1], Tasuku Hada[1], Makiri Kawasaki[1], Tomomi Sakuma[2], Tadayoshi Hayata[3], Yoichi Ezura[4], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]Tokyou Medical & Dental University, Japan, [3]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [4]Tokyo Medical & Dental University, Medical Research Insititute, Japan
Disclosures: Tetsuya Nakamoto, None

MO0017 **Effects of Teriparatide on Bone Metabolism of Patients with Rheumatoid Arthritis and Osteoarthritis**
Daihei Kida*. National Hospital Organization Nagoya Medical Center, Japan
Disclosures: Daihei Kida, None

MO0018 **Treatment of Murine Osteoarthritis by Cartilage Matrix Preservation and Reducing Inflammation by Gene-Transfer**
Zhechao Ruan*[1], Ayelet Erez[1], Kilian Guse[1], Brian Dawson[1], Yuqing Chen[1], Brendan Lee[2]. [1]Baylor College of Medicine, USA, [2]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Zhechao Ruan, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: REHABILITATION AND EXERCISE

MO0019 **Bone Changes in Athletes throughout a Competitive Season**
Lee Weidauer*[1], Maggie Eilers[2], Teresa Binkley[1], Matt Vukovich[1], Howard Wey[1], Bonny Specker[1]. [1]South Dakota State University, USA, [2]Creighton University, USA
Disclosures: Lee Weidauer, None

MO0020 **FRAX without BMD has Low Predictive Value of Low BMD in Older People**
Charles Inderjeeth*[1], Van Victoria[2], Foo Brendan[2], Anupam Chauhan[2], Antonia Petta[2]. [1]University of Western Australia, Australia, [2]SCGH, Australia
Disclosures: Charles Inderjeeth, None

MO0021 **Higher Bone Mineral Content at Superior as well as Inferior Femoral Neck in Older Adults Habitually Participating in Multidirectional Loading Activities.**
Katherine Brooke-Wavell*[1], Rachel Duckham[2], Hannah Carpenter[3], Rachael Taylor[4], Richard Morris[5], Tahir Masud[4], Steve Iliffe[5], Denise Kendrick[3]. [1]Loughborough University, United Kingdom, [2]UMASS, USA, [3]Nottingham University, United Kingdom, [4]Nottingham University Hospitals NHS Trust, United Kingdom, [5]University College London, United Kingdom
Disclosures: Katherine Brooke-Wavell, None

MO0022 **Prompt Analgesic Effect of Diphenhydramine Ointment on Bone, Muscle and Joint Pain Assessed by Electroalgometry**
Takuo Fujita*[1], Mutsumi Ohue[1], Mikio Nakajima[2], Yoshio Fujii[3], Akimitsu Miyauchi[4], Yasuyuki Takagi[5]. [1]Katsuragi Hospital, Japan, [2]Dept of Orthopedic Surgery, Osaka Medical College, Japan, [3]Calcium Research Institute Kobe Branch, Japan, [4]Miyauchi Medical Clinic, Japan, [5]National Hyogo Chuo Hospital, Japan
Disclosures: Takuo Fujita, None

MO0023 **Site Specificity of Physical Activity and its Effect on Long-Term Risk of Fracture: Spine vs. Hip**
Mehrsheed Sinaki, Morgan Brubaker*, Paul Limburg. Mayo Clinic, USA
Disclosures: Morgan Brubaker, None

MO0024 **Successful Management of Headaches Related to Occipito–Cervico-Thoracolumbar Malposture of Osteopenia/Osteoporosis: Significance of Axial Proprioception in Headaches**
Mehrsheed Sinaki*[1], Ivan Garza[1], Eiji Itoi[2], Michio Hongo[3], Mansoor Rayegani[4], Reza Roghani[4], Bart Clarke[5]. [1]Mayo Clinic, USA, [2]Tohoku University School of Medicine, Japan, [3]Akita University Graduate School of Medicine, Japan, [4]Shahid beheshti University, Iran, [5]Mayo Clinic College of Medicine, USA
Disclosures: Mehrsheed Sinaki, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: ASSESSMENT OF PEDIATRIC BONE DISEASE

MO0025 **Hypophosphatasia: Diagnosis Missteps**
Katherine Madson*[1], Karen Mack[1], William McAlister[2], Michael Whyte[3]. [1]Shriners Hospital for Children-Saint Louis, USA, [2]Mallinckrodt Institute of Radiology, Washington University School of Medicine, USA, [3]Shriners Hospital for Children, USA
Disclosures: Katherine Madson, None

MO0026 **Reliability of Lateral Distal Femur DXA Measures**
Nicole Mueske[1], Cassie Nguyen[2], Tishya Wren*[1]. [1]Children's Hospital Los Angeles, USA, [2]University of Southern California, USA
Disclosures: Tishya Wren, None

MO0027 **Vitamin D Status in Healthy 2-4 Month Old Infants in New York City**
Tulasi Ponnapakkam*[1], Ranjitha Katikaneni[2], Robert Gensure[3]. [1]Childrens Hospital at Montefiore, New York/Albert Einstein College of Medicine, USA, [2]Childrens Hospital at Montefiore/Albert Einstein College of Medicine, USA, [3]Children's Hospital at Montefiore, Albert Einstein College of Medicine, USA
Disclosures: Tulasi Ponnapakkam, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE ACQUISITION

MO0028 **Adenovirus 36, Adiposity and Bone Strength in Late-Adolescent Females**
Emma Laing*[1], Ralph Tripp[1], Norman Pollock[2], Clifton Baile[3], Mary Anne Della-Fera[1], Srujana Rayalam[1], Stephen Tompkins[1], Deborah Keys[4], Richard Lewis[1]. [1]The University of Georgia, USA, [2]Georgia Health Sciences University, USA, [3]University of Georgia, USA, [4]Independent Statistical Consultant, USA
Disclosures: Emma Laing, None

MO0029 **Bone Structure Abnormalities in Children with Osteogenesis Imperfecta**
Christopher Modlesky*[1], Brianne Mulrooney[1], Lauren Davey[2], Michael Bober[2]. [1]University of Delaware, USA, [2]A.I. duPont Hospital for Children, USA
Disclosures: Christopher Modlesky, None

MO0030 **Compromised Bone-Muscle Unit in Boys with Duchenne Muscular Dystrophy**
Diane Visy*[1], Wendy King[2], John Kissel[2], Prem Goel[2], Velimir Matkovic[2]. [1]University of Zagreb, Croatia, [2]The Ohio State University, USA
Disclosures: Diane Visy, None

MO0031 **Femoral Neck Development in 4- to 10-year-old Precompetitive Gymnasts: a 4-year Longitudinal Study**
Adam Baxter-Jones*[1], Rita Gruodyte[1], Stefan Jackowski[1], Marta Erlandson[2]. [1]University of Saskatchewan, Canada, [2]University of Toronto, Canada
Disclosures: Adam Baxter-Jones, None

MO0032 **High Fructose and Low Calcium Diet Diminish the Quality of Circumferential Long-Bone Growth**
Edek Williams*[1], Devendra Bajaj[2], Veronique Douard[3], Ronaldo Ferraris[3], J. Fritton[4]. [1]UMDNJ Graduate School, USA, [2]NJ Medical School Orthopaedics, USA, [3]NJ Medical School Pharmacology & Physiology, USA, [4]New Jersey Medical School, USA
Disclosures: Edek Williams, None

MO0033 **Lack of Association of Fluoride Intake with Girls' Childhood Bone Development Assessed by Dual-Energy X-ray Absorptiometry (DXA)**
Steven Levy*[1], John Warren[2], Barbara Broffitt[2], Elena Letuchy[3], Trudy Burns[1], Julie Eichenberger Gilmore[1], James Torner[1], Kathleen Janz[1], Kathy Phipps[4]. [1]University of Iowa, USA, [2]University of Iowa College of Dentistry, USA, [3]University of Iowa College of Public Health, USA, [4]University of Oregon, USA
Disclosures: Steven Levy, None

MO0034 **Pre-menarcheal Development of Vertebral Body Geometry, Density and Strength in Relation to Loading**
Jodi Dowthwaite*[1], Paula F. Rosenbaum[2], Tamara Scerpella[3]. [1]SUNY Upstate Medical University;, Syracuse University, USA, [2]SUNY Upstate Medical University, USA, [3]University of Wisconsin, USA
Disclosures: Jodi Dowthwaite, None

MO0035 **Skeletal Effects of Fat Mass Loss in Obese Adolescents**
Brittney Bernardoni*[1], Aaron Carrel[2], Sijan Wang[3], Tamara Scerpella[4]. [1]University of Madison School of Medicine & Public Health, USA, [2]University of Wisconsin-Madison Department of Pediatrics, USA, [3]University of Wisconsin-Madison Department of Biostatistics & Medical Informatics, USA, [4]University of Wisconsin, USA
Disclosures: Brittney Bernardoni, None

MO0036 **The Relationship Between Prepubertal Adiposity, Age of Peak Height Velocity and Bone Strength in Adolescence**
Natalie Glass*[1], Kathleen Janz[1], James Torner[1], Elena Letuchy[1], Trudy Burns[1], Julie Eichenberger Gilmore[1], Janet Schlechte[2], Steven Levy[1]. [1]University of Iowa, USA, [2]University of Iowa Hospital, USA
Disclosures: Natalie Glass, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE LOSS

MO0037 **Reduced Bone Mass Acquisition in a Mouse Model of Post-Traumatic Stress (PTS)**
Hongrun Yu*, Heather Watt, Chandrasekhar Kesavan, Jon Wergedal, Subburaman Mohan. Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Hongrun Yu, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: PATHOPHYSIOLOGY OF PEDIATRIC BONE DISEASE

MO0038 **Circulating Parathyroid Hormone as an Important Determinant on Peripheral Bone Density and Osteoprotegerin in Healthy Korean Adolescents**
Wonjin Kim*[1], Dong Phil Choi[2], Hyeon Chang Kim[2], Yumie Rhee[3]. [1]College of medicine, Yonsei university, South Korea, [2]Department of Preventive Medicine, College of Medicine, Yonsei University, South Korea, [3]Department of Internal Medicine, College of Medicine, Yonsei University, South Korea
Disclosures: Wonjin Kim, None

MO0039 **Gut-bone Signaling: A Link between Type 1 Diabetes and Osteoporosis**
Jing Zhang *, Regina Irwin, Robert Britton, Narayanan Parameswaran, Laura McCabe. Michigan State University, USA
Disclosures: Jing Zhang , None

MO0040 **Leptin but not Osteocalcin relates to Insulin Resistance in Early Pubertal Children**
Kathleen Hill*[1], Emma Laing[2], Ashley Ferira[2], Berdine Martin[3], Anthony Acton[4], Connie Weaver[3], Richard Lewis[2], Munro Peacock[5]. [1]Indiana University School of Medicine, USA, [2]The University of Georgia, USA, [3]Purdue University, USA, [4]Indiana University, USA, [5]Indiana University Medical Center, USA
Disclosures: Kathleen Hill, None

MO0041 **Serum Homocysteine Levels in Children with Fractures and Low Bone Mineral Density. A Pilot Study**
Stepan Kutilek*[1], Vladimir Nemec[2], Petra Rehackova[3]. [1]Pardubice Hospital; Faculty of Health Studies; University of Pardubice, Czech Republic, [2]Consultant; Head of Pediatric Dept., Czech Republic, [3]Study Coordinator, Ph.D Student, CCBR Czech Republic, Czech Republic
Disclosures: Stepan Kutilek, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: TREATMENT OF PEDIATRIC BONE DISEASE

MO0042 **Impact of Vitamin D Supplementation on Gross Motor Development: The Result of a Randomized Dose-response Trial in Canada**
Brandy Wicklow*[1], Sina Gallo[2], Annette Majnemer[2], Catherine Vanstone[2], Sherry Agellon[2], Kathryn Comeau[2], Glenville Jones[3], Mary L'Abbe[4], Ali Khamessan[5], Atul Sharma[2], Hope Weiler[2], Celia Rodd[2]. [1]University of Manitoba, Canada, [2]McGill University, Canada, [3]Queen's University, Canada, [4]University of Toronto, Canada, [5]EURO-PHARM INERNAIONAL CANADA INC, Canada
Disclosures: Brandy Wicklow, None

MO0043 **Therapeutic Effects of Hematopoietic Stem Cell Transplantation in Osteogenesis Imperfecta**
Meenal Mehrotra*[1], Makio Ogawa[2], Amanda LaRue[3]. [1]Research Services, Ralph H Johnson VAMC & Medical University of South Carolina, USA, [2]Department of Pathology & Laboratory Medicine, medical university of South Carolina, USA, [3]Ralph H. Johnson VAMC, Medical University of South Carolina, USA
Disclosures: Meenal Mehrotra, None

BONE BIOMECHANICS AND QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

MO0044 ***In vivo*** **Precision of Magnetic Resonance Imaging based Measures of Bone Structure and Strength at the Femoral Neck**
James Johnston*, Leina Liao, Nguyen Nguyen, David Leswick, Saija Kontulainen. University of Saskatchewan, Canada
Disclosures: James Johnston, None

MO0045 **Association of Prevalent Vertebral Fractures with Bone Density and Strength at the Thoracic and Lumbar Spine in Men and Women**
Mary Bouxsein*[1], Alexander Bruno[2], Qiong Louie-Gao[3], Dennis Anderson[1], Brett Allaire[4], Douglas Kiel[5], Tony Keaveny[6], Serkalem Demissie[3], David Kopperdahl[7]. [1]Beth Israel Deaconess Medical Center, USA, [2]Harvard-MIT, USA, [3]Boston University School of Public Health, USA, [4]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, USA, [5]Hebrew SeniorLife, USA, [6]University of California, Berkeley, USA, [7]O.N. Diagnostics, USA
Disclosures: Mary Bouxsein, None

MO0046 **Association of Trabecular Bone Score (TBS) with Mechanical Behavior of Human Lumbar Vertebrae**
Jean-Paul Roux*[1], Julien Wegrzyn[2], Stephanie Boutroy[3], Mary Bouxsein[4], Didier Hans[5], Roland Chapurlat[6]. [1]INSERM, UMR 1033, Université de Lyon, France, [2]INSERM U1033 - Université de Lyon, France, [3]Columbia University Medical Center, USA, [4]Beth Israel Deaconess Medical Center, USA, [5]Lausanne University Hospital, Switzerland, [6]E. Herriot Hospital, France
Disclosures: Jean-Paul Roux, None

MO0047 **Biological Co-adaptation of Morphological and Composition Traits in Weight-bearing and Non-weight Bearing Bones of Baboons**
Lynn Copes*[1], Steven Tommasini[2], Tarpit Patel[3], Steven Leigh[4], Robin Bernstein[5]. [1]George Washington University, USA, [2]Yale University School of Medicine, USA, [3]Department of Orthopaedics, Washington University, USA, [4]Department of Anthropology, University of Illinois, USA, [5]Department of Anthropology, George Washington University, USA
Disclosures: Lynn Copes, None

MO0048 **Bone Marrow Edema and Structural Alterations in Bone Microarchitecture**
Afrodite Zendeli*[1], Christian Muschitz[2], Roland Kocijan[3], Heinrich Resch[4]. [1]Austria, [2]St. Vincent's Hospital, Austria, [3]St. Vincent Hospital Vienna, Austria, [4]Medical University Vienna, Austria
Disclosures: Afrodite Zendeli, None

MO0049 **Bone Quality by TBS, BMD and Sex Steroids Levels in Normal Men**
Mário Rui Mascarenhas*[1], Ana Paula Barbosa[2], Vera Simões[3], Ana Gonçalves[4], David Santos Pinto[5], Manuel Bicho[6], Didier Hans[7], Isabel do Carmo[4]. [1]Faculdade de Medicina Lisboa, Portugal, [2]Endocrinology, Santa Maria Hospital & Faculty of Medicine, Portugal, [3]Endocrinology & Metabolism Centre (Genetics Lab) of Lisbons Faculty of Medicine, Osteoporosis Unit - CEDML, Lda, Portugal, [4]Endocrinology, Diabetes & Metabolism Department, Santa Maria University Hospital, CHLN-EPE, Portugal, [5]CEDML - Lisbon's Endocrinology, Diabetes & Metabolism Clinic (Osteoporosis Unit), Portugal, [6]Metabolism & Endocrine Centre (Genetics Lab) of Lisbons Faculty of Medicine, Portugal, [7]Lausanne University Hospital, Switzerland
Disclosures: Mário Rui Mascarenhas, None

MO0050 **Changes in Cortical Density and Microstructure in Pre- and Post-menarcheal Girls: A 12-month HR-pQCT Study**
SoJung Kim*[1], Heather Macdonald[1], Lindsay Nettlefold[2], Leigh Gabel[1], Heather McKay[1]. [1]University of British Columbia, Canada, [2]Centre for Hip Health & Mobility, Canada
Disclosures: SoJung Kim, None

MO0051 **Comparison of CT-scan-based and 2D-BMD-based Vertebral Finite Element Models for Vertebral Strength Evaluation**
Christophe Travert*[1], Nicolas Vilayphiou[2], Helene Follet[3], Wafa Skalli[1]. [1]Arts et Metiers ParisTech, France, [2]INSERM UMR1033, Université de Lyon & Hospices Civils de Lyon, France, [3]INSERM, UMR1033 ; Universite De Lyon, France
Disclosures: Christophe Travert, None

MO0052 **Computational Trabecular Microarchitecture Quantification with 3D texture analysis as a Marker to Differentiate Postmenopausal Women with and without Fractures**
Alexander Valentinitsch*[1], Janina Patsch[2], Andrew Burghardt[2], Thomas Link[2], Sharmila Majumdar[2], Lukas Fischer[3], Claudia Schueller-Weidekamm[4], Heinrich Resch[5], Franz Kainberger[6], Georg Langs[1]. [1]Medical University of Vienna, Austria, [2]University of California, San Francisco, USA, [3]Medizinische Universität Wien, Austria, [4]Medical Univerisity of Vienna, Austria, [5]Medical University Vienna, Austria, [6]Medical University of Vienna, Division of Muskuloskeletal Radiology & Neuroradiology, Austria
Disclosures: Alexander Valentinitsch, None

MO0053 **Correlation between Fracture Strength and Imaging endpoints: Radiography, pQCT and Micro-CT.**
Aurore Varela*, Susan Y. Smith. Charles River Laboratories, Canada
Disclosures: Aurore Varela, None

MO0054 **Distinct tissue mineral density (TMD) distribution in human trabecular plates and rods**
Ji Wang*[1], Galateia Kazakia[2], Bin Zhou[1], Xiutao Shi[1], X Guo[1]. [1]Columbia University, USA, [2]University of California, San Francisco, USA
Disclosures: Ji Wang, None

MO0055 **Finite-Element Analysis based on In Vivo Micro MR Images of the Proximal Femur**
Maite Aznarez-Sanado*[1], Chamith Rajapakse[2], Jeremy Magland[1], Ning Zhang[1], Felix Werner Wehrli[3]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania School of Medicine, USA, [3]University of Pennsylvania Medical Center, USA
Disclosures: Maite Aznarez-Sanado, None

MO0056 **Fracture Healing in Postmenopausal Women with a Distal Radius Fracture Monitored by High-Resolution Peripheral Quantitative Computer Tomography (HRpQCT): A Pilot Study**
Sandrine Bours*[1], Joost De Jong[2], Paul Willems[3], Chris Arts[3], Peter Brink[3], Bert Rietbergen[4], Tineke Van Geel[5], Piet Geusens[6], Joop Van Den Bergh[7]. [1]Maastricht University Medical Centre, The Netherlands, [2]Eindhoven Technical University, Netherlands, [3]Maastricht University Medical Centre, Netherlands, [4]Eindhoven University of Technology, The Netherlands, [5]Maastricht University, The Netherlands, [6]University Hasselt, Belgium, [7]VieCuri MC Noord-Limburg & Maastricht UMC, The Netherlands
Disclosures: Sandrine Bours, None

MO0057 **Hip Structural Analysis of Patients with Atypical Femur Fractures: Data from the Ontario AFF Cohort**
Angela Cheung*[1], George Tomlinson[1], LIANNE TILE[2], Aliya Khan[3], Robert Josse[4], Earl Bogoch[5], Heather McDonald-Blumer[2], Rowena Ridout[6], Savannah Cardew[2], Moira Kapral[1], K. Shawn Davison[7], Robert Bleakney[8], Khalid Syed[1], Jessica Chang[1], Queenie Wong[1], Hanxian Hu[1], Suzanne Morin[9], Jacques Brown[10], Alexandra Papaioannou[11], Jonathan Adachi[12]. [1]University Health Network, Canada, [2]University of Toronto, Canada, [3]McMaster University, Canada, [4]St. Michael's Hospital, University of Toronto, Canada, [5]St. Michael's Hospital, Canada, [6]Toronto Western Hospital, Canada, [7]Laval University, Canada, [8]Mount Sinai Hospital, Canada, [9]McGill University, Canada, [10]CHUQ Research Centre, Laval University, Canada, [11]Hamilton Health Sciences, Canada, [12]St. Joseph's Hospital, Canada
Disclosures: Angela Cheung, Novartis, 5; Warner Chilcott, 5; Merck, 5; Merck, 2

MO0058 **In Vivo Microindentation for the Assessment of Bone Material Level Properties**
Patrick Ammann*[1], Robert Güerri[2], Paul Hansma[3], Xavier Nogues[4], Adolfo Diez-Perez[5]. [1]Division of Bone Diseases, Switzerland, [2]Hospital Universitario Del Mar.Institut Municipal D'Investigació Mèdica, Spain, [3]University of California, Santa Barbara, USA, [4]Institut Municipal D'Investigació Mèdica, Spain, [5]Hospital del Mar-IMIM-Universitat Autónoma, Barcelona, & RETICEF, Instituto Carlos III, Spain., Spain
Disclosures: Patrick Ammann, None

MO0059 **Intra and Inter-individual Variation in Tissue Type as a Reflection of Suppressed Remodeling Rate in Slender Tibiae**
Naomi A. Hampson*[1], David Lin[2], Karl Jepsen[3], Haviva Goldman[2]. [1]Drexel University, USA, [2]Drexel University College of Medicine, USA, [3]University of Michigan, USA
Disclosures: Naomi A. Hampson, None

MO0060 **Local Topological Analysis applied to HR-pQCT images of the Distal Radius and the Distal Tibia in the OFELY Study**
Jean-Baptiste Pialat*[1], Stéphanie Boutroy[2], Pierre-Jean Gouttenoire[3], Rafaa Ellouz[4], Nicolas Vilayphiou[5], Elisabeth Sornay-Rendu[6], Roland Chapurlat[7], Françoise Peyrin[3]. [1]INSERM U831,Université de Lyon & Hospices Civils de Lyon, France, [2]INSERM UMR1033 & Université de Lyon, France, [3]CREATIS, CNRS UMR 5220, INSERM U1044 & Université de Lyon, France, [4]INSERM UMR 1033 & Université de Lyon, France, [5]INSERM UMR1033, Université de Lyon & Hospices Civils de Lyon, France, [6]INSERM UMR1033, Université de Lyon, France, [7]INSERM UMR 1033, Université de Lyon & Hospices Civils de Lyon, France
Disclosures: Jean-Baptiste Pialat, None

MO0061 **Non-invasive Imaging of Human Bone Turnover - A Longitudinal Pilot Study in Lung Transplant Recipients with Severe Bone Loss**
Lukas Fischer*[1], Alexander Valentinitsch[2], Barbara Zweytick[2], Claudia Schüller-Weidekamm[2], Peter Pietschmann[3], Franz Kainberger[4], Georg Langs[4], Janina Patsch[2]. [1]Medizinische Universität Wien, Austria, [2]Medical University of Vienna, Austria, [3]Institute Fuer Pathophysiologie, Austria, [4]Medical Universtiy of Vienna, Austria
Disclosures: Lukas Fischer, None

MO0062 **Osteocalcin and Osteopontin Regulate Bone Mineralization by Controlling Bone Magnesium Levels**
Atharva Poundarik*[1], Caren Gundberg[2], Deepak Vashishth[3]. [1]Rensselaer Polytechnic University, USA, [2]Yale University School of Medicine, USA, [3]Rensselaer Polytechnic Institute, USA
Disclosures: Atharva Poundarik, None

MO0063 **Reference Point Indentation Measures Are Associated with Whole Bone Mechanical Properties Independent of Geometry**
Lamya Karim*, Leeann Louis, Christine Conlon, Mary Bouxsein. Beth Israel Deaconess Medical Center, USA
Disclosures: Lamya Karim, None

MO0064 **Site-specific Associations Between BMI and Bone Content and Density in Healthy Adults: A pQCT Study**
Amanda Lorbergs*[1], Stefan Jackowski[2], Andrew Frank[2], Ashlee McLardy[2], Lauren Sherar[3], Adam Baxter-Jones[2], Saija Kontulainen[2]. [1]McMaster University, Canada, [2]University of Saskatchewan, Canada, [3]Loughborough University, United Kingdom
Disclosures: Amanda Lorbergs, None

MO0065 **Structural-Functional Imaging of Bone Quantity and Quality Meausures and Bone Marrow Fat and Blood Perfusion in Axial and Appendicular Skeletons**
H van Holsbeeck*[1], T Chenevert[1], M Feng[1], D Hamstra[1], J Jacobson[1], S Lee[1], C Van Poznak[1], Yebin Jiang[2]. [1]University of Michigan, USA, [2]Osteoporosis & Arthritis Lab, University of Michigan, USA
Disclosures: H van Holsbeeck, None

MO0066 **The Role of Bone Intrinsic Properties on the Mechanical Behavior of Lumbar Vertebrae: Organic rather than Inorganic Bone Matrix?**
Julien Wegrzyn*[1], Jean-Paul Roux[2], Delphine Farlay[3], Roland Chapurlat[4], Mary Bouxsein[5]. [1]INSERM U1033 - Université de Lyon, France, [2]INSERM, UMR 1033, Université de Lyon, France, [3]INSERM, UMR1033; Université De Lyon, France, [4]E. Herriot Hospital, France, [5]Beth Israel Deaconess Medical Center, USA
Disclosures: Julien Wegrzyn, None

MO0067 **Tissues with Low and Abnormally High Mineral Content but Normal Crystal Size Coexist in Children with Osteogenesis Imperfecta Type VI**
Nadja Fratzl-Zelman*[1], Paul Roschger[1], Ingo Schmidt[2], Francis Glorieux[3], Klaus Klaushofer[1], Peter Fratzl[2], Frank Rauch[3], Wolfgang Wagermaier[2]. [1]Ludwig Boltzmann Institute of Osteology at Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling, 1st Med. Dept. Hanusch Hospital, Austria, [2]Max Planck Institute of Colloids & Interfaces, Dept. of Biomaterials, Germany, [3]Genetics Unit, Shriners Hospital for Children & McGill University, Canada
Disclosures: Nadja Fratzl-Zelman, None

BONE BIOMECHANICS AND QUALITY: CHANGES IN BONE QUALITY IN UNTREATED AND TREATED OSTEOPOROSIS

MO0068 **Age-Specific Bone Microarchitecture values at Lumbar Spine in US Caucasian Women Derived from DXA: TBS Normative Data**
Christine Simonelli*[1], Edward Leib[2], Renaud Winzenrieth[3], Didier Hans[4]. [1]HealthEast Osteoporosis Care, USA, [2]University of Vermont, USA, [3]Med-Imaps, PTIB, France, [4]Lausanne University Hospital, Switzerland
Disclosures: Christine Simonelli, None

MO0069 **Intravenous Ibandronate Treatment of 24 Months Increases Cancellous and Cortical Bone Mineralization Density in Male Patients with Idiopathic Osteoporosis**
Barbara Misof*[1], Janina Patsch[2], Paul Roschger[1], Christian Muschitz[3], Eleftherios Paschalis[1], Eva Prokop[1], Klaus Klaushofer[1], Peter Pietschmann[4], Heinrich Resch[3]. [1]Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling, 1st Medical Department, Hanusch Hospital, Heinrich Collin Str. 30, Vienna, Austria, [2]Department of Radiology, Medical University of Vienna, Waehringer Guertel 18-20, Vienna, Austria, [3]II. Medical Department with Osteology/Rheumatology & Gastroenterology, KH Barmherzige Schwestern (St. Vincent Hospital) Vienna, Academic Teaching Hospital of the Medical University Vienna, VINforce study group, Stumpergasse 13, Vienna, Austria, [4]Department of Pathophysiology & Allergy Research, Center for Pathophysiology, Infectiology & Immunology, Medical University of Vienna, Währinger Gürtel 18–20, Vienna, Austria
Disclosures: Barbara Misof, None

MO0070 **Radiographic Characteristics of Prodromal Bone Deterioration (PBD) at the Lateral Femur in Patients with Long-term BP Treatment**
Shijing Qiu*[1], Mahalakshmi Honasoge[1], Saroj Palnitkar[2], Sudhaker Rao[1], Sanjay Reddy[1]. [1]Henry Ford Hospital, USA, [2]Henry Ford Health System, USA
Disclosures: Shijing Qiu, None

BONE BIOMECHANICS AND QUALITY: DISUSE OSTEOPOROSIS

MO0071 **Bone Remodeling is Linked to Vessel Remodeling in Femoral Head and Neck**
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Disclosures: Ping Zhang, None

BONE BIOMECHANICS AND QUALITY: MECHANICAL LOADING CELLULAR AND MOLECULAR EFFECTS

MO0072 **Aging Mice Exhibit Reduced Periosteal and Greater Endosteal Mechano-responsiveness Following Two Weeks of Axial Compressive Loading**
Alesha Castillo[1], Ian Mahaffey*[2], Whitney Cole[2]. [1]Palo Alto Veterans Affairs Medical Center, USA, [2]VA Palo Alto Health Care System, USA
Disclosures: Ian Mahaffey, None

MO0073 **Gene Expression in Corticocancellous Tissue is Altered Following Cyclic Tibial Loading in Adult Female Mice**
Whitney Bullock*, Russell Main, Daniel Duffy, Philip DeShield. Purdue University, USA
Disclosures: Whitney Bullock, None

MO0074 **The Role of Endothelial BMP2 in Osteogenesis of the Mouse Forelimb**
Jennifer McKenzie*[1], Sarah McBride[2], Vicki Rosen[3], Matthew Silva[4]. [1]Washington University, USA, [2]Clemson University, USA, [3]Harvard School of Dental Medicine, USA, [4]Washington University in St. Louis School of Medicine, USA
Disclosures: Jennifer McKenzie, None

MO0075 **Withdrawn**

BONE BIOMECHANICS AND QUALITY: MECHANICAL LOADING EFFECTS IN HUMANS AND INTACT ANIMALS

MO0076 **Exposure to Big Endothlin-1 in Bovine Sternal Cores Mimics Some Aspects of Mechanical Loading**
Luisa Meyer[1], Michael Johnson[2], Juan Vivanco[3], Robert Blank[2], Heidi Ploeg[3], Everett Smith*[2]. [1]University of Wisconsin - Madison, USA, [2]University of Wisconsin, USA, [3]University of Wisconsin Madison, USA
Disclosures: Everett Smith, None

MO0077 **Mechanotransductive Stimulation using LIPUS Accelerates Fracture Healing in a Disuse Osteopenia Model**
Yi-Xian Qin[1], Long Bi*[2], Maria Pritz[2]. [1]State University of New York at Stony Brook, USA, [2]Stony Brook University, USA
Disclosures: Long Bi, None

MO0078 **Physical Activity in Adolescence may be Associated with Larger Total and Cortical Area and Greater Bone Strength**
Rachel Duckham*[1], Adam Baxter-Jones[2], Donald Bailey[2], Robert Faulkner[2], James Johnston[2], Saija Kontulainen[2]. [1]University of Saskatchewan, USA, [2]University of Saskatchewan, Canada
Disclosures: Rachel Duckham, None

MO0079 **Physical Activity is Associated with Improved Cortical Microstructure at the Ultradistal Tibia in Young Men**
Martin Nilsson*[1], Robert Rudäng[1], Claes Ohlsson[2], Mattias Lorentzon[3]. [1]Centre for Bone & Arthritis Research At the Sahlgrenska Academy, Sweden, [2]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [3]Center for Bone Research at the Sahlgrenska Academy, Sweden
Disclosures: Martin Nilsson, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: ANALYSIS TECHNIQUES

MO0080 **Identification of Bone-Derived Binding Partners of Human Phosphate Regulating Endopeptidase Mutated in X-Linked Hypophosphatemia (PHEX)**
THEODORE CRAIG*[1], Rajiv Kumar[2]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA
Disclosures: THEODORE CRAIG, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: ANALYSIS: CALCIFICATION

MO0081 **Inactivation of Nedd4 Enhances Vascular Cell Mineralization through Stabilizing a Smad1 in Human Vascular Smooth Muscle Cells**
Je-Yoel Cho[1], Ji-Hyun Lee*[2], Xiangguo Che[3], Jae-Jin Cho[2], Je-Yong Choi[4]. [1]College of Veterinary Medicine, Seoul National University, South Korea, [2]Seoul National University, South Korea, [3]Kyungpook National University, South Korea, [4]Kyungpook National University, School of Medicine, South Korea
Disclosures: Ji-Hyun Lee, None

MO0082 **Mineralization Is Supported by Regulated Transport of H^+ out of the Osteon**
Li Liu*[1], Irina Tourkova[1], Lida Guo[1], Paul Schlesinger[2], Peter Friedman[3], Harry Blair[1]. [1]University of Pittsburgh, USA, [2]Washington University, USA, [3]University of Pittsburgh School of Medicine, USA
Disclosures: Li Liu, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: CARTILAGE AND CHONDROCYTES

MO0083 **Cbfb Deficiency in Mesenchymal Stem Cell Provides Insight into Pathogenesis of Cleido Cranial Dysplasia and Mechanism of Cartilage Development**
Mengrui Wu*[1], Fei Tian[2], Junqing Ma[3], Wei Chen[4], Guochun Zhu[5], Bo Gao[5], Wang Lin[3], Lianfu Deng[6], Yi-Ping Li[4]. [1]The University of Alabama at Birmingham, USA, [2]Department of Pathology, University of Alabama at Birmingham, USA, USA, [3]Institute of Stomatology, Nanjing Medical University, China, [4]University of Alabama at Birmingham, USA, [5]Department of Pathology, University of Alabama at Birmingham, USA, [6]Shanghai Institute of Traumatology & Orthopaedics, Shanghai Key Laboratory for Prevention & Treatment of Bone & Joint Diseases with Integrated Chinese-Western Medicine, Ruijin Hospital, Jiao Tong University School of Medicine, China
Disclosures: Mengrui Wu, None

MO0084 **Choline Kinase Beta is an Important Regulator of Endochondral Bone Formation**
Zhuo Li*[1], Gengshu Wu[1], Roger Sher[2], Kayla Rumack[3], Gregory Cox[2], Michael Doschak[1], Monzur Murshed[4], Frank Beier[3], Dennis Vance[1]. [1]University of Alberta, Canada, [2]The Jackson Laboratory, USA, [3]University of Western Ontario, Canada, [4]McGill University, Canada
Disclosures: Zhuo Li, None

MO0085 **Identification of Signature Genes Selectively Expressed in Mesenchymal Stem Cells Derived from Synovial Joint Tissues**
Yoichi Ezura*[1], Tadayoshi Hayata[2], Tetsuya Nakamoto[3], Takuya Notomi[4], Takeshi Muneta[3], Ichiro Sekiya[5], Masaki Noda[3]. [1]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [2]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [3]Tokyo Medical & Dental University, Japan, [4]GCOE, Tokyo Medical & Dental University, Japan, [5]Tokyo Medical & Dental Univsity, Japan
Disclosures: Yoichi Ezura, None

MO0086 **Loss of Stk11 (Lkb1) in Chondrocytes Delays Chondrocyte Hypertrophy Resulting in a Chondrosarcoma-like Overgrowth in the Postnatal Skeleton**
Lick Pui Lai*, Andrew McMahon. Harvard University, USA
Disclosures: Lick Pui Lai, None

MO0087 **Mitochondrial Superoxide Produced by *Sod2* Deficiency Suppresses Proliferation of Chondrocytes**
Masato Koike*[1], Hidetoshi Nojiri[2], Yoshitomo Saita[2], Daichi Morikawa[1], Keiji Kobayashi[1], Kenji Watanabe[1], Kazuo Kaneko[2], Takahiko Shimizu[1]. [1]Department of Advanced Aging Medicine, Chiba University Graduate School of Medicine, Japan, [2]Department of Orthopedics, Juntendo University School of Medicine, Japan
Disclosures: Masato Koike, None

MO0088 **Phosphate-mediated Activation of Hypertrophic Chondrocyte Apoptosis is modulated by PTHrP and 1,25-dihydroxyvitamin D.**
Eva Liu*[1], Eric Zhu[2], Francesca Gori[2], Marie Demay[3]. [1]Endocrine Unit, Massachusetts General Hospital, Brigham & Women's Hospital, Harvard Medical School, USA, [2]Endocrine Unit, Massachusetts General Hospital, Harvard Medical School, USA, [3]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Eva Liu, None

MO0089 **Response of GFP Reporters Expressed in the TMJ Condylar Cartilage to Mechanical Loading**
Achint Utreja*[1], Sumit Yadav[2], Xi Jiang[1], Ravindra Nanda[3], David Rowe[1]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut Health Center, USA, [3]Craniofacial Sciences, USA
Disclosures: Achint Utreja, None

MO0090 **TGF-β1 Decreases Ift88 Expression in Chondrocytic Cell Line ATDC5**
Makiri Kawasaki*[1], Tetsuya Nakamoto[1], Takuya Notomi[2], Tadayoshi Hayata[3], Yoichi Ezura[4], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]GCOE, Tokyo Medical & Dental University, Japan, [3]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [4]Tokyo Medical & Dental University, Medical Research Insititute, Japan
Disclosures: Makiri Kawasaki, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: GENE IDENTIFICATION AND EXPRESSION

MO0091 **Dual Role of the Trps1 Transcription Factor in the Mineralization Process**
Lauren Stevenson[1], Callie Mobley[2], Manisha Yadav[3], Tony Winters[2], Anne Poliard[4], Odile Kellermann[5], Brendan Lee[6], Jose Luis Millan[7], Dobrawa Napierala*[8]. [1]University of Alabama, USA, [2]University of Alabama at Birmingham, USA, [3]Burnham Institute for Medical Research, USA, [4]Faculté de Chirurgie Dentaire, et UMR-S 747, Université Paris Descartes, France, [5]INSERM UMR-S 747, Université René Descartes, France, [6]Baylor College of Medicine & Howard Hughes Medical Institute, USA, [7]Sanford-Burnham Medical Research Institute, USA, [8]University of Alabama At Birmingham School of Dentistry, USA
Disclosures: Dobrawa Napierala, None

MO0092 **Enhanced Expression of miRNA-424 during Osteogenic Differentiation in Human Skeletal Muscle-derived Stem Cells**
Teruyo Oishi*[1], Akiyoshi Uezumi[2], Arihiko Kanaji[3], Kunihiro Tsuchida[2], Harumoto Yamada[4]. [1]Department of Orthopaedic Surgery, Fujita Health University School of Medicine, Japan, [2]2)
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Disclosures: Teruyo Oishi, None

MO0093 **Identification of Novel Transcription and Epigenetic Factors in Chondrocytogenesis**
Yuan SI*[1], Min-Young Youn[2], Kazuki Inoue[3], Yoko Yamamoto[2], Yuuki Imai[4]. [1]Tokyo University, Japan, [2]University of Tokyo, Japan, [3]university of Tokyo, Imcb, Nuclear Signaling, Japan, [4]The University of Tokyo, Japan
Disclosures: Yuan SI, None

MO0094 **The Role of Lysyl Oxidase-like Protein 2 in Mineralization of Human Dental Pulp Stem Cells.**
Je-Yoel Cho[1], Joohyun Kim*[2], Hye-Jeong Park[2]. [1]College of Veterinary Medicine, Seoul National University, South korea, [2]Seoul National University, South korea
Disclosures: Joohyun Kim, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: GENERAL

MO0095 **Characterisation of Inflammatory Murine Fibroblast-like Synoviocytes**
Rowan Hardy[1], Claudia Huelso[1], Yingling Liu[1], Shihani Stoner[1], Mark Cooper[2], Markus Seibel[1], Hong Zhou*[1]. [1]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [2]University of Birmingham, United Kingdom
Disclosures: Hong Zhou, None

MO0096 **Effect of Negatively Charged Oligo(polyethylene glycol) Fumarate on Periosteal Chondrogenesis**
Michelle Casper*[1], Mahrokh Dadsetan[2], Michael Yaszemski[3]. [1]Author, USA, [2]Co-author, USA, [3]Mayo Clinic College of Medicine, USA
Disclosures: Michelle Casper, None

MO0097 **Gender-dependence of Bone Materials Properties in *Col1a2* deficient mice (*oim*)**
Xiaomei Yao*[1], Carleton Stephanie[2], Charlotte Phillips[2], Yong Wang[1]. [1]University of Missouri-Kansas City, USA, [2]University of Missouri-Columbia, USA
Disclosures: Xiaomei Yao, None

MO0098 **Inverted Osteon: a Novel Bone Superstructure Emerging from Tumor Chaos**
Edward Mertz*[1], Emmanouil Saloustros[1], Sisi Liu[1], Constantine Stratakis[2], Sergey Leikin[1]. [1]National Institutes of Health, USA, [2]NICHD, National Institutes of Health, USA
Disclosures: Edward Mertz, None

MO0099 **Proliferation, Colony Formation and Trilineage Differentiation of White-tailed Deer Antlerogenic Progenitor Cells and Animal-Matched, Marrow-Derived Mesenchymal Stromal Cells**
Ethan Daley*[1], Andrea Alford[1], Steven Goldstein[2]. [1]University of Michigan, USA, [2]University of Michigan Orthopaedic Research Lab, USA
Disclosures: Ethan Daley, None

MO0100 **Role of ALK5, a TGF-beta type I Receptor, in preventing abnormal lateral expansion of growth plate cartilage**
Tomoya Matsunobu*[1], Kiyoyuki Torigoe[2], Muneaki Ishijima[3], Ashok Kulkarni [2], Yukihide Iwamoto[4], Yoshihiko Yamada[2]. [1]Graduate School of Medical Sciences, Kyushu University, Japan, [2]Laboratory of Cell & Developmental Biology, National Institute of Dental & Craniofacial Research, NIH, USA, [3]Juntendo University, Faculty of Medicine, Japan, [4]Department of Orthopaedic Surgery, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan, Japan
Disclosures: Tomoya Matsunobu, None

MO0101 **The Role of *Hox11* Genes in Musculoskeletal Patterning in the Limb**
Ilea Swinehart[1], Aleesa Schlientz[1], Christopher Quintanilla[1], Deneen Wellik*[2]. [1]University of Michigan, USA, [2]University of Michigan Medical Center, USA
Disclosures: Deneen Wellik, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: MATRIX PROTEINS

MO0102 **Alkaline Phosphatase Modulation of Preosteoblasts by Different Salts of Fluoride**
Kellen Gasque*, thamara frascarelli alberconi, Ana Flávia Soares, Marilia Afonso Rabello Buzalaf, ana carolina Magalhães, rodrigo cardoso de oliveira. Bauru Dental School, Brazil
Disclosures: Kellen Gasque, None

MO0103 **Defective Craniofacial Development and Bone Formation in CTGF Knockout Mice**
Alex Lambi*[1], Christina Mundy[1], Talia L. Pankratz[2], Joan T. Richtsmeier[2], Steven Popoff[1]. [1]Temple University School of Medicine, USA, [2]Pennsylvania State University, USA
Disclosures: Alex Lambi, None

MO0104 **Glycosaminoglycans Modulate Osteoclast Development and Functions Depending on their Sulfation Pattern**
Juliane Salbach*[1], Martina Rauner[2], Claudia Goettsch[3], Stephanie Möller[4], Matthias Schnabelrauch[4], Vera Hintze[5], Dieter Scharnweber[5], Lorenz Hofbauer[6]. [1]Dresden University Medical Center, Germany, [2]Medical Faculty of the TU Dresden, Germany, [3]Brigham & Women's Hospital, Cardiovascular Division, USA, [4]Biomaterials Department, INNOVENT, Germany, [5]Max Bergmann Center for Biomaterials, Technische Universität Dresden, Germany, [6]Dresden University Medical Center, Germany
Disclosures: Juliane Salbach, None

MO0105 **Integrin-Mediated Osteoblast Adhesion to CTGF (CCN2) Induces Activation of Intracellular Kinases, Cytoskeletal Reorganization and Differentiation**
Honey Hendesi*[1], Christina Mundy[2], Alex Lambi[2], Robin A. Pixley[2], Steven Popoff[2]. [1]Temple University, USA, [2]Temple University School of Medicine, USA
Disclosures: Honey Hendesi, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: MECHANICAL STRESS

MO0106 **Mechanically Stressed Osteoblasts Secrete Soluble Factors that Activate Early Stage Osteoarthritis in Chondrocytes**
Padma Pradeepa Srinivasan*, Andris Kronbergs, Randall Duncan, Catherine Kirn-Safran. University of Delaware, USA
Disclosures: Padma Pradeepa Srinivasan, None

MO0107 **Systemic Administration of an Antagomir Designed to Inhibit miR-92, a Regulator of Angiogenesis, Failed to Modulate Skeletal Anabolic Response to Mechanical Loading**
Anthony Sengul[1], Subburaman Mohan[2], Jon Wergedal[2], Joe Rungaroon[3], Chandrasekhar Kesavan*[2]. [1]University of Riverside, USA, [2]Jerry L. Pettis Memorial VA Medical Center, USA, [3]JLP VA Medical Center, USA
Disclosures: Chandrasekhar Kesavan, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: PROTEINASES

MO0108 **Proteolytic Processing of Osteopontin by PHEX and Accumulation of Osteopontin Fragments in Hyp Mouse Bone, the Murine Model of X-linked Hypophosphatemia**
Nilana Barros*[1], Betty Hoac[2], Raquel Neves[1], William Addison[3], Diego Assis[1], Monzur Murshed[2], Adriana Carmona[1], Marc McKee[2]. [1]UNIFESP, Brazil, [2]McGill University, Canada, [3]Harvard University, USA
Disclosures: Nilana Barros, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: FGF23 AND OTHER PHOSPHATONINS

MO0109 **FGF-23 Gene Variation Associates with Phosphate Homeostasis and Bone Health in Finnish Children and Adolescents**
Minna Pekkinen*[1], Christine Laine[1], Riikka Mäkitie[1], Elisa Saarnio[2], Christel Lamberg-Allardt[3], Heli Viljakainen[4], Outi Makitie[5]. [1]Folkhälsan Institute of Genetics, University of Helsinki, Finland, [2]Calcium Research Unit, Department of Food & Environmental Sciences (Nutrition), University of Helsinki, Finland, [3]University of Helsinki, Finland, [4]Helsinki University Central Hospital for Children & Adolescents, Finland, [5]Hospital for Children & Adolescents, Helsinki University Hospital, Finland
Disclosures: Minna Pekkinen, None

MO0110 **Osteoclastic Bone Resorption might be Involved in the Secretion of FGF23 into Circulation**
Miwa Yamazaki*[1], Kazuaki Miyagawa[2], Yasuhisa Ohata[3], Masanobu Kawai[1], Keiichi Ozono[4], Toshimi Michigami[5]. [1]Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [2]Osaka Medical Center, Japan, [3]Osaka University, Japan, [4]Osaka University Graduate School of Medicine, Japan, [5]Osaka Medical Center, Research Institute for Maternal & Child Health, Japan
Disclosures: Miwa Yamazaki, None

MO0111 **Phosphate Sensing in Osteocytes: Extracellular Phosphate Induces FGF23 Expression in IDG-SW3 Osteocyte-Like Cells**
Nobuaki Ito*[1], David Findlay[2], Renee Ormsby[2], Paul Anderson[3], Lynda Bonewald[4], Gerald Atkins[2]. [1]The university of Adelaide, Australia, [2]University of Adelaide, Australia, [3]Musculoskeletal Biology Research, University of South Australia, Australia, [4]University of Missouri - Kansas City, USA
Disclosures: Nobuaki Ito, None

MO0112 **Transient but not Constitutive Activation of ERK Is Necessary for the Unique Action of FGF23 in Bone.**
Tomoko Minamizaki*[1], Yukiko Konishi[2], Hirotaka Yoshioka[1], Katsuyuki Kozai[1], Yuji Yoshiko[1]. [1]Hiroshima University Institute of Biomedical & Health Sciences, Japan, [2]Hiroshima University Graduate School of Biomedical & Health Sciences, Japan
Disclosures: Tomoko Minamizaki, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: PARATHYROID AND PARATHYROID HORMONE-RELATED PEPTIDE

MO0113 **Analysis of Relationships between intact PTH and 25-hydroxy vitamin D (25OHD) and its Fractions as Measured by LC-MS/MS**
Adam May*[1], Earle Holmes[2], Pauline Camacho[1]. [1]Loyola University of Chicago, USA, [2]Loyola University Medical Center, USA
Disclosures: Adam May, None

MO0114 **Cinacalcet Single Dose Fast Test can Foresee Therapeutic PTH-response in Primary Hyperparathyroidism (PHP)?**
Alessandra De Remigis*[1], Luigi Vianale[2], Pierluigi De Remigis[2], Giorgio Napolitano[3]. [1]Johns Hopkins University, USA, [2]General Hospital Chieti Italy, Italy, [3]University of Chieti, Italy
Disclosures: Alessandra De Remigis, None

MO0115 **Crosstalk Between Parathyroid Hormone Related Proteins And Minor Fibrillar Collagens.**
Minoti Hiremath*, Neda Shefa, Julia Oxford. Boise State University, USA
Disclosures: Minoti Hiremath, None

MO0116 **Histomorphometric Analysis of Marrow Adipocytes after Treatment with Cinacalcet or Parathyroidectomy for Renal Hyperparathyroidism**
Aiji Yajima*[1], Yasuo Imanishi[2], Masaki Inaba[2], Yoshihiro Tominaga[3], Shigeru Satoh[4], Akemi Ito[5], Sharon Martin Moe[6]. [1]Akita University, School of Medicine, USA, [2]Osaka City University Graduate School of Medicine, Japan, [3]Nagoya 2nd Red Cross Hospital, Japan, [4]Division of Renal Replacement Therapeutic Science, Department of Urology Akita University, Japan, [5]Ito Bone Histomorphometry Institute, Japan, [6]Indiana University, USA
Disclosures: Aiji Yajima, Kirin Co Ltd, 5

MO0117 **LIAISON® 1-84 PTH Reference Ranges for Healthy Subjects and CKD stage 5 Patients in Comparison to LIAISON® N-tact™ PTH assay**
Zlata Fejfarkova*[1], Daniel Rajdl[2], Roman Cibulka[2], Richard Pikner[3], Hana Novotna[4]. [1]Klatovská Nemocnice, A.s., Czech Republic, [2]Institute of Clinical Biochemistry & Hematology, Faculty of Medicine Pilsen, Charles University, Czech Republic, [3]Department of Clinical Laboratories & Bone Metabolism, Klatovska nemocnice, Czech Republic, [4]Dept. of Nephrology, Klatovska Nemocnice, Czech Republic
Disclosures: Zlata Fejfarkova, None

MO0118 **PTH Prevents the Deterioration of Trabecular Bone Architecture Induced by Localized Radiation**
Abhishek Chandra*[1], Shenghui Lan[2], Xianrong Zhang[3], Ji Zhu[3], Xiaowei Liu[1], Ling Qin[1]. [1]University of Pennsylvania, USA, [2]Department of Orthopaedics, Union Hospital, Tongji Medical College, Huazhong University of Science & Technology, China, [3]University of Pennsylvania, School of Medicine, USA
Disclosures: Abhishek Chandra, None

DISORDERS OF MINERAL METABOLISM: CHRONIC KIDNEY DISEASE AND METABOLIC BONE DISEASE

MO0119 **Defective Glomerular Maturation in the Ebf1-Deficient Mouse Underlies the Disconnect Between High Circulating Osteocalcin and Decreased Osteoblast Maturation in These Animals**

Jackie Fretz*[1], Tracy Nelson[2], Heino Velazquez[3], Yougen Xi[2], Gilbert Moeckel[4], Mark Horowitz[1]. [1]Yale University School of Medicine, USA, [2]Department of Orthopaedics & Rehabilitation, Yale University School of Medicine, USA, [3]Department of Internal Medicine- Nephrology, Yale University School of Medicine, New Haven, CT 06520, USA, USA, [4]Department of Pathology, Yale University School of Medicine, USA

Disclosures: Jackie Fretz, None

MO0120 **ELISAs for Biomarkers of Bone and Mineral Disorders of Patients with Chronic Kidney Disease**

Daniel-Sebastian Karau[1], Wolfgang Woloszczuk*[2], Thuy Oanh Ho Thi[3], Rainer Oberbauer[4], Roelf Datema[5]. [1]Biomarker Design ForschungsGmbH, Austria, [2]Biomedica Medizinprodukte GmbH & CoKg, Austria, [3]Biomedica, Austria, [4]Medizinische Universitätsklinik Wien, Austria, [5]Biomarker Design, Austria

Disclosures: Wolfgang Woloszczuk, None

MO0121 **Increased Bone Density in Mice Lacking the Proton Receptor OGR1**

Nancy Krieger*[1], Zhenqiang Yao[1], Kelly Kyker-Snowman[2], Brendan Boyce[3], David Bushinsky[1]. [1]University of Rochester, USA, [2]University of Rochester School of Medicine, USA, [3]University of Rochester Medical Center, USA

Disclosures: Nancy Krieger, None

MO0122 **Klotho Gene Ablation Alters Hematopoiesis**

Sangeetha V.M*, Lindsay Coe, Despina Sitara. New York University College of Dentistry, USA

Disclosures: Sangeetha V.M, None

MO0123 **Osteoprotegerin is Associated with Fractures in Men and Women with Stage 3-5 Chronic Kidney Disease**

Sarah West*[1], Charmaine Lok[2], Sophie Jamal[3]. [1]University of Toronto, Canada, [2]Toronto General Hospital, Canada, [3]The University of Toronto, Canada

Disclosures: Sarah West, None

DISORDERS OF MINERAL METABOLISM: CONGENITAL AND GENETIC BONE DISEASES

MO0124 **Sclerostin and Bone Turnover Markers in Adult Patients with Different Types of Osteogenesis Imperfecta**

Roland Kocijan*[1], Christian Muschitz[2], Karin Amrein[3], Astrid Fahrleitner-Pammer[3], Peter Pietschmann[4], Judith Haschka[1], Sebastian Dinu[5], Heinrich Resch[6]. [1]St. Vincent Hospital Vienna, Austria, [2]St. Vincent's Hospital, Austria, [3]Medical University Graz, Austria, [4]Institute Fuer Pathophysiologie, Austria, [5]Central Laboratory St. Vincent Group, Vienna, Austria, [6]Medical University Vienna, Austria

Disclosures: Roland Kocijan, None

DISORDERS OF MINERAL METABOLISM: IDIOPATHIC HYPERCALCIURIA, NEPHROLITHIASIS

MO0125 **The Effects of Idiopathic Hypercalciuria on Bone Mineral Mass and Bone Geometry in Postmenopausal Women: A Tibia pQCT Study**

Konstantinos Stathopoulos*, Ilias Bournazos, Eleutheria Metania, Pelagia Katsibri, Andonis Partsinevelos, Erato Atsali, Panagiotis Papaggelopoulos, Grigoris Skarantavos. Bone Metabolic Unit, 1st Department of Orthopedics, University of Athens, School of Medicine, "Attikon" University General Hospital, Greece, Greece

Disclosures: Konstantinos Stathopoulos, None

DISORDERS OF MINERAL METABOLISM: OSTEOMALACIA/RICKETS

MO0126 **Evolution of Hypovitaminosis D Prevalence in a Swiss Rheumatology Outpatient Population: a pre-post Information Study**
Berengere Aubry-rozier*, Delphine Stoll, Olivier Lamy, Marc-Antoine Krieg, Didier Hans. Lausanne University Hospital, Switzerland
Disclosures: Berengere Aubry-rozier, None

MO0127 **HMWFGF2 Isoforms Regulate Bone Mineralization via Modulation of Pyrophosphate Genes in Mouse Bone Marrow Cultures**
Marja Marie Hurley*[1], Liping Xiao[2]. [1]University of Connecticut Health Center School of Medicine, USA, [2]University of Connecticut Health Center, USA
Disclosures: Marja Marie Hurley, None

MO0128 **LC-MS/MS for Vitamin D Anlaysis. Much more than a Single Analytical Technique**
Caje Moniz*[1], Lewis Couchman[2], Christopher Benton[2], Julia Jones[3], Graham Carter[3]. [1]King's College Hospital, United Kingdom, [2]Kings College Hospital, United Kingdom, [3]Charing Cross Hospital, United Kingdom
Disclosures: Caje Moniz, None

MO0129 **Usefulness of Serum Fibroblast Growth Factor 23 Levels in the Diagnosis and Management of Vitamin D-Deficient Rickets**
Takuo Kubota*[1], Taichi Kitaoka[1], Yasuhisa Ohata[2], Makoto Fujiwara[1], Kohji Miura[1], Yoko Miyoshi[1], Noriyuki Namba[1], Shinji Takeyari[3], Takehisa Yamamoto[3], Keiichi Ozono[1]. [1]Osaka University Graduate School of Medicine, Japan, [2]Osaka University, Japan, [3]Minoh City Hospital, Japan
Disclosures: Takuo Kubota, None

DISORDERS OF MINERAL METABOLISM: PARATHYROID DISEASES

MO0130 **Association of Primary Hyperparathyroidism with Sarcoidosis.**
Bart Clarke[1], Vivien Lim*[2]. [1]Mayo Clinic College of Medicine, USA, [2]Khoo Teck Puat Hospital, Singapore
Disclosures: Vivien Lim, None

MO0131 **Does an Elevated Serum Parathyroid Hormone Increase Cardiovascular Risk? Comparison of Coronary Artery Calcification in Patients with Primary Hyperparathyroidism versus Normocalcemic Hyperparathyroidism in the Dallas Heart Study**
Naim Maalouf*[1], Colby Ayers[2], Natalie Cusano[3], Shonni Silverberg[4], John Bilezikian[3]. [1]University of Texas Southwestern Medical Center, Dallas, USA, [2]UT Southwestern Medical Center, USA, [3]Columbia University College of Physicians & Surgeons, USA, [4]Columbia University, USA
Disclosures: Naim Maalouf, None

MO0132 **Effect of Recombinant Human Parathyroid Hormone (rhPTH[1–84]) on Skeletal Dynamics and BMD in Hypoparathyroidism: the REPLACE study**
John Bilezikian*[1], Bart Clarke[2], Michael Mannstadt[3], Tamara Vokes[4], Dolores Shoback[5], Hjalmar Lagast[6], Roger Garceau[6]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Mayo Clinic College of Medicine, USA, [3]Massachusetts General Hospital Harvard Medical School, USA, [4]University of Chicago, USA, [5]VA Medical Center, USA, [6]NPS Pharmaceuticals, USA
Disclosures: John Bilezikian, NPS Pharmaceuticals, 2; NPS Pharmaceuticals, 5

MO0133 **Efficacy and Safety of Low Dose Recombinant Parathyroid Hormone (rhPTH[1–84]) in Hypoparathyroidism: The RELAY Study**
Tamara Vokes*[1], Dolores Shoback[2], Bart Clarke[3], Michael Mannstadt[4], John Bilezikian[5], Jolene Berg[6], Hjalmar Lagast[7], Roger Garceau[7]. [1]University of Chicago, USA, [2]VA Medical Center, USA, [3]Mayo Clinic College of Medicine, USA, [4]Massachusetts General Hospital Harvard Medical School, USA, [5]Columbia University College of Physicians & Surgeons, USA, [6]Cetero Research, USA, [7]NPS Pharmaceuticals, USA
Disclosures: Tamara Vokes, NPS Pharmaceuticals, 5

MO0134 **Epidemiology and Natural History of Normocalcemic Primary Hyperparathyroidism and Normocalcemic Hypoparathyroidism**
Natalie Cusano*[1], Naim Maalouf[2], Elzbieta Dworakowski[3], Chiyuan Zhang[3], Serge Cremers[3], John Bilezikian[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]University of Texas Southwestern Medical Center, Dallas, USA, [3]Columbia University, USA
Disclosures: Natalie Cusano, None

MO0135 **Further Insights into the Pathogenesis of Primary Hyperparathyroidism: A Nested Case-Control Study**
Lars Rejnmark*[1], Anne Kristine Amstrup[1], Charlotte Mollerup[2], Niels Fogh-Andersen[3], Lene Heickendorff[4], Leif Mosekilde[1]. [1]Aarhus University Hospital, Denmark, [2]Department of Endocrine Surgery, Copenhagen University Hospital, Rigshospitalet, Denmark, [3]Department of Clinical Biochemistry, Copenhagen University Hospital Herlev, Denmark, [4]5)
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Disclosures: Lars Rejnmark, None

MO0136 **Parathyroid Atypical Adenomas: Mutational Screening of CDC73/HRPT2 Gene**
Claudio Marcocci*[1], Simona Borsari[1], Elena Pardi[1], Chiara Banti[1], Federica Saponaro[1], Antonella Picone[1], Gabriele Di Rosa[1], Liborio Torregrossa[2], Filomena Cetani[1]. [1]Department of Endocrinology & Metabolism - Section of Endocrinology & Bone Metabolism, University of Pisa, Pisa, Italy, [2]Department of Surgery, Division of Pathology, University of Pisa, Italy
Disclosures: Claudio Marcocci, None

MO0137 **Primary Hyperparathyroidism and Hypoparathyroidism Show Major Microstructual Differences from Each Other by High Resolution Peripheral Computed Tomography**
Stephanie Boutroy*[1], Barbara Silva[1], Mishaela Rubin[2], Jim Sliney Jr[1], Julia Udesky[1], Donald McMahon[3], Chiyuan Zhang[2], Natalie Cusano[3], John Bilezikian[3]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Stephanie Boutroy, None

MO0138 **Serum Dkk1 and Sclerostin Levels in Parathyroid Disorders**
Giuseppe Viccica*[1], Luisella Cianferotti[2], Simona Borsari[1], Elena Pardi[1], Roberta Centoni[1], Silvia Chiavistelli[1], Sonia Albertini[1], Edda Vignali[1], Antonella Meola[1], Filomena Cetani[2], Claudio Marcocci[2]. [1]Department of Endocrinology & Metabolism - Section of Endocrinology & Bone Metabolism, University of Pisa, Italy, [2]University of Pisa, Italy
Disclosures: Giuseppe Viccica, None

MO0139 **The Clinical Features of Primary Hyperparathyroidism in Chinese Patients in the Past 10 Years**
Jian-min Liu*[1], Lin Zhao[2], Li-hao Sun[3], Xiao-yan He[3], Hong-Yan Zhao[3], Bei Tao[3], Xi Chen[4], Guang Ning[3]. [1]Rui-jin Hospital, Shanghai Jiao-tong University School of Medicine, Peoples republic of china, [2]Department of Endcrinology, Rui-jin Hospital, Shanghai Jiao-tong University School of Medicine, China, [3]Department of Endocrine & Metabolic Disease, Rui-jin Hospital, Shanghai Jiao-Tong University School of Medicine, China, [4]Department of Surgery, Rui-jin Hospital, Shanghai Jiao-Tong University School of Medicine, China
Disclosures: Jian-min Liu, None

MO0140 **The Epidemiology of Hypo-and Pseudohypoparathyroidism in Denmark**
Line Underbjerg*[1], Tanja Sikjaer[2], Leif Mosekilde[3], Lars Rejnmark[3]. [1]Department of Medicine & Endocrinology, MEA, Aarhus University Hospital, Denmark, [2]Department of Medicine & Endocrinology, MEA Aarhus University Hospital, Denmark, [3]Aarhus University Hospital, Denmark
Disclosures: Line Underbjerg, None

DISORDERS OF MINERAL METABOLISM: RHEUMATOLOGIC AND OTHER SYSTEMIC ILLNESSES

MO0141 **Bioactive PLGA/TCP/Icaritin Composite Scaffolds Reduce Collapse Incidence of Femoral Head in a Bipedal Emu Model of Steroid-Associated Osteonecrosis**
Lizhen Zheng*[1], Zhong Liu[2], Ming Lei[3], Le Huang[2], Yixin HE[4], Ge Zhang[5], Ling Qin[2]. [1]Prince of Wales Hospital, Hong Kong, [2]Chinese University of Hong Kong, Hong Kong, [3]Shenzhen Second People's Hospital, China, [4]The Cuinese University of Hong Kong, Hong Kong, [5]Price of Wales Hospital, Hong Kong
Disclosures: Lizhen Zheng, None

MO0142 **Osteoporosis and Vertebral Fractures are Independent Predictors of Cardiovascular Disease in Rheumatoid Arthritis, and Outperform Traditional Risk Factors and Disease Activity Scores**
Ausaf Mohammad*[1], Diane Bergin[2], Derek Lohan[2], Sarah Mooney[2], John Newell[3], Martin O'Donnell[3], Robert J Coughlan[4], John J Carey[4]. [1]Rheumatology, Unit1, Merlin Park University Hospital, Ireland, [2]Radiology, Galway University Hospitals, Ireland, [3]HRB Clinical Research Facility, NUI Galway, Ireland, [4]Rheumatology, Galway University Hospitals, Ireland
Disclosures: Ausaf Mohammad, None

DISORDERS OF MINERAL METABOLISM: VASCULAR AND ECTOPIC CALCIFICATION

MO0143 **Association of Cortical Volumetric Bone Mineral Density with Arterial Calcification in African Ancestry Men**
Allison Kuipers*[1], Joseph Zmuda[1], J. Jeffrey Carr[2], J. Greg Terry[2], Clareann H Bunker[1], Alan L. Patrick[3], Victor W. Wheeler[3], Iva Miljkovic[1]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]Wake Forest University of Health Sciences, USA, [3]Tobago Health Studies Office, Trinidad & tobago
Disclosures: Allison Kuipers, None

MO0144 **Regional Up-regulation of 25-hydroxyvitamin D 1alpha-hydroxylase (CYP27B1) Gene Is Associated with the Pathogenesis of Ectopic Calcification in the Alpha Klotho Mutant Mice**
Hironori Yamamoto*[1], Ayako Otani[1], Nozomi Yokoyama[1], Rina Onishi[1], Yuichiro Takei[2], Yutaka Taketani[1], Ken-Ichi Miyamoto[3], Eiji Takeda[4]. [1]University of Tokushima, Japan, [2]The University of Tokushima School of Medicine, Japan, [3]Tokushima University School of Medicine, Japan, [4]University of Tokushima School of Medicine, Japan
Disclosures: Hironori Yamamoto, None

MO0145 **Relationships between Serum Adiponectin and Bone Density, Adiposity and Calcified Atherosclerotic Plaque in African Americans**
Thomas Register*[1], Jasmin DIvers[2], Donald Bowden[2], J. Jeffrey Carr[2], Leon Lenchik[3], Lynn Wagenknect[2], R. Caresse Hightower[2], Jianzhao Xu[2], Carrie Smith[2], Keith Hruska[4], Carl D. Langefeld[2], Barry Freedman[2]. [1]Wake Forest University School of Medicine, USA, [2]Wake Forest School of Medicine, USA, [3]Wake Forest University, USA, [4]Washington University in St. Louis School of Medicine, USA
Disclosures: Thomas Register, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: GENE THERAPY

MO0146 **Lentiviral Rescue of TCIRG1 Expression in IMO Osteoclasts Restores Resorptive Function in a Lineage Specific Manner**
Christian Thudium*[1], Ilana Moscatelli[2], Carmen Flores[3], Karoline Natasja Stæhr Gudmann[4], Anders Fasth[5], Ansgar Schulz[6], Oscar Porras[7], Anna Villa[8], Morten Karsdal[1], Kim Henriksen[1], Johan Richter[3]. [1]Nordic Bioscience A/S, Denmark, [2]Lund University, Sweden, [3]Department of Molecular Medicine & Gene Therapy, Lund Strategic Center for Stem Cell Biology, Sweden, [4]Nordic bioscience, Denmark, [5]University of Gothenburg, Sweden, [6]University Medical Center Ulm, Germany, [7]National Children's Hospital, Costa Rica, [8]Milan Unit, Istituto di Ricerca e Genetica Biomedica, CNR, Italy
Disclosures: Christian Thudium, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: GENERAL STUDIES

MO0147 **A Limited Number of Mutations in MAFB, a Negative Regulator of RANKL-induced Osteoclastogenesis, Cause Idiopathic Multicentric Osteolysis with Nephropathy**
Steven Mumm*[1], Margaret Huskey[1], Deborah Wenkert[2], Gary Gottesman[2], Katherine Madson[2], William McAlister[1], Michael Whyte[3]. [1]Washington University School of Medicine, USA, [2]Shriners Hospital for Children-Saint Louis, USA, [3]Shriners Hospital for Children, USA
Disclosures: Steven Mumm, None

MO0148 **A Non-synonymous Coding Variant in Frizzled-1 is Associated with Enhanced Wnt Signaling and Mineralization of Saos2 Osteoblast-like Cells**
Yingze Zhang*[1], Shibing Yu[2], Allison Kuipers[3], Yanxia Chu[1], Joseph Zmuda[3]. [1]University of Pittsburgh, USA, [2]University of Pittsburgh Medical Center, USA, [3]University of Pittsburgh Graduate School of Public Health, USA
Disclosures: Yingze Zhang, None

MO0149 **A Novel *TMEM41B* Mutation Causes Autosomal Recessive Syndromic Acro-osteolysis with Recurrent Infections, Sensory Neuropathy and Mental Retardation**
Bram CJ van der Eerden*[1], Pietro Chiurazzi[2], Sigrid Swagemakers[3], Marijke Schreuders-Koedam[4], Giovanni Neri[2], Peter J van der Spek[3], Johannes Van Leeuwen[5]. [1]Department of Internal Medicine, Erasmus MC, Netherlands, [2]Istituto di Genetica Medica, Università Cattolica del Sacro Cuore, Italy, [3]Department of Bioinformatics, Erasmus University Medical Center, Netherlands, [4]Department of Internal Medicine, Erasmus University Medical Center, Netherlands, [5]Erasmus University Medical Center, The Netherlands
Disclosures: Bram CJ van der Eerden, None

MO0150 **Abnormal Type I Collagen Folding and Matrix Deposition in a Cyclophilin B KO Mouse Model of Recessive Osteogenesis Imperfecta**
Wayne Cabral*[1], Elena Makareeva[2], MaryAnn Weis[3], Sergey Leikin[2], David Eyre[3], Joan Marini[4]. [1]NIH, NICHD, USA, [2]Section on Physical Biochemistry, NICHD, NIH, USA, [3]Orthopaedic Research Laboratories, University of Washington, USA, [4]Bone & Extracellular Matrix Branch, NICHD, NIH, USA
Disclosures: Wayne Cabral, None

MO0151 **Cause of Death (COD) in Patients with Osteogenesis Imperfecta (OI) in Denmark**
Lars Folkestad*[1], Jannie Hald[2], Jeppe Gram[3], BENTE LANGDAHL[4], Bo Abrahamsen[5], Kim Brixen[6]. [1]Osteoporose KlinikkenOdense University Hospital, Denmark, [2]MEA Aarhus University Hospital, Tage Hansensgade 2DK-8000 Aarhus CDenmark, Denmark, [3]Hospital of Southwest Denmark, Denmark, [4]AARHUS UNIVERSITY HOSPITAL, Denmark, [5]Copenhagen University Hospital Gentofte, Denmark, [6]Institute for Clinical Research, Denmark
Disclosures: Lars Folkestad, None

MO0152 **Withdrawn**

MO0153 **Enzyme Replacement Therapy Prevents Enamel Defects in Hypophosphatasia Mice**
Manisha Yadav*[1], Rodrigo Cardoso de Oliveira [2], Brian Foster[3], Hanson Fong[4], Esther Cory Burak[5], Sonoko Narisawa[6], Robert Sah[5], Martha Somerman[7], Michael Whyte[8], Jose Luis Millan[9]. [1]Burnham Institute for Medical Research, USA, [2]2University of São Paulo, Bauru Dental School, Department of Biological Sciences, Brazil, [3]National Institute of Arthritis & Musculoskeltal & Skin Diseases (NIAMS, USA, [4]University of Washington School of Dentistry, USA, [5]Department of Bioengineering, UCSD, USA, [6]Sanford Burnham Medical Research Institute, USA, [7]NIDCR, USA, [8]Shriners Hospital for Children-Saint Louis, USA, [9]Sanford-Burnham Medical Research Institute, USA
Disclosures: Manisha Yadav, None

MO0154 **High-Throughput Bone Phenotyping of 100 Knockout Mouse Lines Identifies 9 New Genes That Determine Bone Strength**
John Bassett[1], Apostolos Gogakos[2], Jacqueline White[3], Holly Evans[4], Richard Jacques[5], Anne Van der Spek[2], Alan Boyde[6], Michael Campbell[5], Peter Croucher*[7], Graham Williams[2]. [1]Imperial College London, United Kingdom, [2]Molecular Endocrinology Group, Dept Medicine, Imperial College London, United Kingdom, [3]Wellcome Trust Sanger Institute, United Kingdom, [4]The Mellanby Centre for Bone Research, University of Sheffield, United Kingdom, [5]School of Health & Related Research, University of Sheffield, United Kingdom, [6]Institute of Dentistry, Queen Mary University, United Kingdom, [7]Garvan Institute of Medical Research, Australia
Disclosures: Peter Croucher, None

MO0155 **Muscle-Bone Interaction in Hypophosphatemic Rickets : A Mechanostat-Based Assessment**
Louis-Nicolas Veilleux*[1], Moira Cheung[2], IBTIHEL MOUNA BEN AMOR[3], Francis Glorieux[4], Frank Rauch[5]. [1]McGill University, Canada, [2]Imperial College, United Kingdom, [3]SHRINERS HOSPITAL FOR CHILDREN, Canada, [4]Shriners Hospital for Children & McGill University, Canada, [5]Shriners Hospital for Children, St. Louis, Canada
Disclosures: Louis-Nicolas Veilleux, None

MO0156 **The Low Bone Mass in Genetic Hypercalciuria Stone-forming (GHS) Rats Is Due to the Enhanced Bone Resorption and Decreased Bone Formation**
Hongwei Wang*[1], honggang ye[1], jinhua wang[1], sooyoung park[1], baisheng fu[1], David Bushinsky[2], Murray Favus[1]. [1]University of Chicago, USA, [2]University of Rochester, USA
Disclosures: Hongwei Wang, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: LINKAGE STUDIES AND POLYMORPHISMS

MO0157 **Estrogen Receptor-α Gene Haplotypes Influence Calcium Absorption during Caloric Restriction**
Brian Chang*, Deeptha Sukumar, Hasina Ambia-Sobhan, Muhammad Naeem, Derek Gordon, Sue Shapses. Rutgers University, USA
Disclosures: Brian Chang, None

MO0158 **OPG Gene Polymorphisms 1181G>C and 245T>G Associated with Vertebral Fractures in a Community-dwelling Elderly: The Sao Paulo Ageing & Healthy Study (SPAH)**
Rosa Pereira*[1], Valéria Caparbo[2], Soledad Matamouros[2], Caroline Cha[2], Jaqueline Lopes[1], Camille Figueiredo[2], Isac Castro[3], Ricardo Oliveira[4], Luiz Onuchic[2], Ciro Martinhago[4]. [1]Faculdade de Medicina da Universidade de São Paulo, Brazil, [2]Faculdade de Medicina da USP, Brazil, [3]Nephrology, Faculdade de Medicina da USP, Brazil, [4]RDO Diagnósticos Médicos, Brazil
Disclosures: Rosa Pereira, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: BONE MORPHOGENETIC PROTEINS

MO0159 **Linker Regions of Smad1/5/8 Regulate Bone-inducing Activity of BMPs**
Sho Tsukamoto*[1], Satoshi Ohte[2], Katsumi Yoneyama[1], Mai Fujimoto[1], Arei Miyamoto[1], Eiko Murata[3], Eijiro Jimi[4], Takenobu Katagiri[5]. [1]Saitama Medical University RCGM, Japan, [2]Saitama Medical University, Research Center for Genomic Medicine, Japan, [3]Saitama Medical University, Faculty of Health & Medical Care, Japan, [4]Kyushu Dental College, Japan, [5]Saitama Medical University Research Center for Genomic Medicine, Japan
Disclosures: Sho Tsukamoto, None

MO0160 **LPS Inhibits Ectopic Bone Formation Induced by BMP-2 plus TGF-β1 in Mice**
Akifumi Matsumoto*[1], Masamichi Takami[2], Arei Miyamoto[3], Keita Tachi[2], Tetsuo Suzawa[2], Kazuyoshi Baba[2], Ryutaro Kamijo[2]. [1]Showa University, Japan, [2]Showa University School of Dentistry, Japan, [3]Saitama Medical University, Research Center for Genomic Medicine, Japan
Disclosures: Akifumi Matsumoto, None

MO0161 **Mesenchymal Stem Cell-derived BMP2 Regulates Endosteal SDF1-Cell Osteoblastic Differentiation**
Timothy Myers*[1], Lara Longobardi[2], Tieshi Li[2], Ying Li[3], Joseph Temple[1], Anna Spagnoli[2]. [1]University of North Carolina, USA, [2]University of North Carolina at Chapel Hill, USA, [3]UNC School of Medicine, USA
Disclosures: Timothy Myers, None

MO0162 **Stromal Cell-derived Factor-1β mediates Bone Morphogenetic Protein Receptor Signaling, Chemotaxis, and Apoptosis-Resistance via Enhancing Autophagy in Murine Mesenchymal Stem Cells *in vitro***
Samuel Herberg*[1], Xing-Ming Shi[1], Wendy Bollag[1], Mark Hamrick[1], Carlos Isales[2], William Hill[3]. [1]Georgia Health Sciences University, USA, [2]Medical College of Georgia, USA, [3]Georgia Health Sciences University & Charlie Norwood VAMC, USA
Disclosures: Samuel Herberg, None

MO0163 **Trends in Nonunion Incidence and Correlation with NSAID Use in the United States from 1996 to 2009**
John Wang*[1], Timothy Bhattacharyya[2]. [1]Intramural Research Program, NIAMS/NIH, USA, [2]Intramural Research Program, NIAMS, NIH, USA
Disclosures: John Wang, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: FIBROBLAST GROWTH FACTORS

MO0164 **Selective Knockout of HMWFGF2 Isoforms in Mice Increases Serum Phosphate and Increases Bone Formation In Vivo and In Vitro**
Liping Xiao*[1], Thomas Doetschman[2], Marja Marie Hurley[3]. [1]University of Connecticut Health Center, USA, [2]University of Arizona, USA, [3]University of Connecticut Health Center School of Medicine, USA
Disclosures: Liping Xiao, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: GENERAL

MO0165 **Disruption of PTH/PTHrP Receptor in Osteocytes does not Affect Hematopoiesis**
Keertik Fulzele*[1], Cristina Panaroni[2], Vaibhav Saini[3], Xiaolong Liu[4], Kevin Barry[4], Joy Wu[4], Paola Pajevic Divieti[5]. [1]Massachusetts General Hospital; Harvard Medical School, USA, [2]Endocrine Unit, Massachusetts General Hospital, USA, [3]MGH, Harvard Medical School, USA, [4]Massachusetts General Hospital, USA, [5]MGH- Harvard Medical School, USA
Disclosures: Keertik Fulzele, None

MO0166 **Increased Activity Is Associated with Higher Osteocalcin in Children and Adolescents**
Saydi Chahla*[1], William Thomas[2], Brigitte Frohnert[2], Aaron S. Kelly[2], Brandon Nathan[2], Lynda E. Polgreen[2]. [1]University of Minnesota Medical School, USA, [2]University of Minnesota, USA
Disclosures: Saydi Chahla, None

MO0167 **Intercellular Adhesion Molecule 1 Deficiency Leads to Impaired Neutrophils Recruitment and Increased Tissue Destruction in Endodontic Infection**
Andiara De Rossi*[1], Raquel Silva[2], Sandra Fukada[3], Lea Assed Bezerra da Silva[1], Marcos Antonio Rossi[4]. [1]Faculty of Dentistry of Ribeirão Preto, University of São Paulo, Brazil, [2]School of Dentistry of Ribeirao Preto - University of Sao Paulo, Brazil, [3]Faculty of Pharmaceutical Sciences of Ribeirão Preto, University of São Paulo, Brazil, [4], Faculty of Medicine of Ribeirão Preto, University of São Paulo, Brazil
Disclosures: Andiara De Rossi, None

MO0168 **Myeloid-derived Suppressor Cells as Key Immune Regulators of Non-union Fractures**
Seth Levy*[1], anadi sawant[2], Selvarangan Ponnazhagan[1]. [1]The University of Alabama At Birmingham, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Seth Levy, None

MO0169 **Myostatin Serum Concentrations are Decreased with Vitamin D Supplementation in Black, but not White, Children**
Paige Berger*[1], Norman Pollock[2], Emma Laing[1], Matthew Bowser[3], Mark Hamrick[2], Carlos Isales[4], Stephanie Foss[1], Connie Weaver[5], Munro Peacock[6], Stuart Warden[7], Kathleen Hill[8], Richard Lewis[1]. [1]The University of Georgia, USA, [2]Georgia Health Sciences University, USA, [3]Georgia Health Science University, USA, [4]Medical College of Georgia, USA, [5]Purdue University, USA, [6]Indiana University Medical Center, USA, [7]Indiana University, USA, [8]Indiana University School of Medicine, USA
Disclosures: Paige Berger, None

MO0170 **NLRC4 Inflammasome and Bone Loss in Experimental Periodontal Disease**
João Chave De Souza*[1], Marcell Costa de Medeiros[1], Fernanda Regina Godoy Rocha[1], Sabrina_Cruz Tfaile Frasnelli[1], Morgana_Rodrigues Guimarães[1], Mario Julio Ávila Campos[2], Dario Simões Zamboni[2], Carlos Rossa[3]. [1]UNESP, Brazil, [2]USP, Brazil, [3]School of Dentistry at Araraquara - Univ Estadual Paulista (UNESP), Brazil
Disclosures: João Chave De Souza, None

MO0171 **Osteocalcin Is Associated with Adiposity but not Insulin Sensitivity as Measured by IVGTT in Healthy Children and Adolescents**
Lynda E. Polgreen*[1], William Thomas[1], Brigitte Frohnert[1], Saydi Chahla[2], Aaron S. Kelly[1], Brandon Nathan[1]. [1]University of Minnesota, USA, [2]University of Minnesota Medical School, USA
Disclosures: Lynda E. Polgreen, None

MO0172 **PDGFBB Promotes PDGFR Alpha-positive Cell Migration into Artificial Bone in vivo**
Shigeyuki Yoshida*[1], Ryotaro iwasaki[2], Hiromasa Kawana[2], Taneaki Nakagawa[2], Takeshi Miyamoto[3]. [1]Keio University, Japan, [2]dentistry & oral surgery, Japan, [3]Keio University School of Medicine, Japan
Disclosures: Shigeyuki Yoshida, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: INSULIN-LIKE GROWTH FACTORS AND BINDING PROTEINS

MO0173 **Growth Hormone Deficiency and Bone**
Peter Jackuliak[1], Martin Kuzma*[2], Juraj Payer[3], Zdenko Killinger[4], Peter Vanuga[5], Zuzana Homerova[2], Tomas Koller[2], Sona Tomkova[6], Ivica Lazurova[7]. [1]Slovakia, [2]University Hospital Bratislava, Slovakia, [3]University Hospital, Ruzinov, Slovakia, [4]University Hospital, Slovakia, [5]National institute of Endocrinology & Diabetology, Slovakia, [6]Nemocnica Kosice - Saca a.s., Slovakia, [7]University Hospital Kosice, Slovakia
Disclosures: Martin Kuzma, None

MO0174 **Integrin Signaling Regulates the Skeletal Response to IGF-1**
Candice GT Tahimic*[1], Roger K. Long[2], Takuo Kubota[3], Chak Fong[4], Alicia T. Menendez[4], Hashem Elalieh[4], Yongmei Wang[5], Daniel Bikle[6]. [1]NCIRE / San Francisco Veterans Affairs Medical Center, USA, [2]Department of Medicine, University of California, Davis, USA, [3]Osaka University Graduate School of Medicine & Dentistry, Japan, [4]Endocrine Unit, University of California, San Francisco / SF Veterans Affairs Medical Center, USA, USA, [5]Endocrine Unit, University of California, San Francisco/VA Medical Center, USA, [6]Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA
Disclosures: Candice GT Tahimic, None

GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS: TRANSFORMING GROWTH FACTOR

MO0175 **A 220 Kb DNA Segment Spanning the Mouse *Tnfsf11* Transcription Unit and Its Upstream Regulatory Control Region Rescues the Pleiotropic Biologic Phenotype of the RANKL Null Mouse**
Kathleen Bishop*[1], Erin Riley[1], Seong Min Lee[1], Joseph Goellner[2], Charles O'Brien[3], J. Pike[1]. [1]University of Wisconsin-Madison, USA, [2]University of Arkansas for Medical Sciences, USA, [3]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Kathleen Bishop, None

MO0176 **A Muscle Specific Factor Increases Survival of Dexamethasone-Stressed Osteocytes**
Katharina Jähn*[1], Leticia Brotto[1], Nuria Lara[1], Chenglin Mo[2], William Gutheil[3], Mark Johnson[4], Marco Brotto[1], Lynda Bonewald[1]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri-Kansas City, USA, [3]University of Missouri Kansas City, USA, [4]University of Missouri, Kansas City Dental School, USA
Disclosures: Katharina Jähn, None

MO0177 **Animal Models of Sarcopenia: Orchidectomized Rat and Monkey Models**
Aurore Varela*[1], Elisabeth Lesage[1], Nancy Doyle[1], Solomon Haile[1], Joseph Arezzo[2], Susan Y. Smith[1]. [1]Charles River Laboratories, Canada, [2]Albert Einstein College of Medicine, USA
Disclosures: Aurore Varela, None

MO0178 **Withdrawn**

MO0179 **Burden and Medical Needs In Older Patients with Total Hip Arthroplasties and Muscle Atrophy or Weakness**
Lindsay Hallett[1], Julia Green[1], Julie Birt[2], Yang Zhao[3], Talia Foster[1], Russel Burge*[2]. [1]United Biosource Corporation, USA, [2]Eli Lilly & Company, USA, [3]Eli Lilly, USA
Disclosures: Russel Burge, None

MO0180 **Cellular Mechanisms of Tendon-muscle Crosstalk**
Janalee Isaacson[1], Sandra Romero-Suarez[2], Leticia Brotto[3], Chenglin Mo[4], Marco Brotto[5], Eduardo Abreu*[3]. [1]Student, SON PhD Program, USA, [2]University of Missouri, Kansas City, USA, [3]School of Nursing, Muscle Biology Research Group, University of Missouri-Kansas City, USA, [4]University of Missouri-Kansas City, USA, [5]University of Missouri - Kansas City, USA
Disclosures: Eduardo Abreu, None

MO0181 **Change of Muscle Strength, Muscle Mass, Muscle Related Markers in Rheumatoid Arthritis Patients Treated with Tocilizumab**
Akihide Nampei*[1], Makoto Hirao[2], Hideki Tsuboi[3], Shosuke Akita[3], Kosuke Ebina[4], Kenrin Shi[5], Hideki Yoshikawa[5], Jun Hashimoto[6]. [1]Osaka Rosai Hospital, Japan, [2]Osaka University, Graduate School of Medicine, Department of Orthopedics, Japan, [3]National Hospital Organazation, Osaka Minami Medecal Center, Japan, [4]Osaka University, Graduate School of Medicine, Japan, [5]Osaka University Graduate School of Medicine, Japan, [6]National Hospital Organization, Osaka Minami Medical Center, Japan
Disclosures: Akihide Nampei, None

MO0182 **Discordant Bone and Muscle Adaptation to Multiple Microgravity Exposure with Interposed Resistance Exercise**
Yasaman Shirazi-Fard*, Kevin Shimkus, Jacqueline Perticone, Derrick Morgan, Joshua Davis, James Fluckey, Susan Bloomfield, Harry Hogan. Texas A&M University, USA
Disclosures: Yasaman Shirazi-Fard, None

MO0183 **Does Vitamin D Supplementation Affect Body Composition and Strength?**
Violet Lagari*[1], Orlando Gomez-Marin[2], Silvina Levis[2]. [1]University of Miami, USA, [2]University of Miami School of Medicine, USA
Disclosures: Violet Lagari, None

MO0184 **Improving Outpatient Follow-up for Osteoporosis Management After a Hip Fracture**
Anika Alarakhia*[1], Robert Quinet[2]. [1]Ochsner Medical Center, USA, [2]Ochsner Medical Center-New Orleans, USA
Disclosures: Anika Alarakhia, None

MO0185 **Withdrawn**

MO0186 **Relationship between Regional Bone Mineral Density and Muscle Mass in Elderly Men with Sarcopenia**

Vidmantas Alekna*[1], Asta Mastaviciute[2], Arvydas Laurinavicius[3], Marija Tamulaitiene[4], Donatas Petroska[3], Vaidile Strazdiene[5]. [1]Vilnius University, Lithuania, [2]Vilnius University, Faculty of Medicine; National Osteoporosis Center, Lithuania, [3]Vilnius University, Faculty of Medicine; National Center of Pathology, Lithuania, [4]Vilnius University, Faculty of Medicine; National Osteoporosis Center, Vilnius, Lithuania, [5]State Research Institute Centre for Innovative Medicine, Lithuania

Disclosures: Vidmantas Alekna, None

MO0187 **The characterization of Effects of Low Intensity Vibration on Bone and Muscle in the Rat Model of Acute Spinal Cord Injury**

Helen M. Bramlett[1], W. Dalton Dietrich[1], Lana Jones Mawhinney[1], Alex Marcillo[1], Ofelia Furones-Alonso[1], Amade Bregy[1], William A. Bauman[2], Christopher Cardozo[2], Weiping Qin*[3]. [1]University of Miami Miller School of Medicine, USA, [2]James J. Peters VA Medical Center, USA, [3]Bronx Veterans Affairs Medical Center, USA

Disclosures: Weiping Qin, None

MO0188 **Whole Body Metabolic Changes Impact Lactation-Induced Bone Loss Through FGF-21 and IGFBP-2**

Sheila Bornstein*[1], Phuong Le[2], Victoria Demambro[2], Katherine Motyl[2], Sue Brown[3], Sutada Lotinun[4], Roland Baron[5], David Clemmons[6], Mark Horowitz[7], Mathieu Ferron[8], Gerard Karsenty[8], Clifford Rosen[1]. [1]Maine Medical Center, USA, [2]Maine Medical Center Research Institute, USA, [3]University of Virginia, USA, [4]Harvard School of Dental Medicine, USA, [5]Harvard School of Medicine & of Dental Medicine, USA, [6]University of North Carolina, USA, [7]Yale University School of Medicine, USA, [8]Columbia University, USA

Disclosures: Sheila Bornstein, None

OSTEOBLASTS: APOPTOSIS AND CELL CYCLE

MO0189 **Glucose-Dependent Insulinotropic Peptide Prevents Serum Deprivation-Induced Apoptosis In Both Human Mesenchymal Cells And Osteoblasts**

Joanne Rasschaert[1], Jessica Berlier*[2], Ilham Kharroubi[3], Jing Zhang[3], Céline Gillet[3], Myrielle Mathieu[3], Valerie Gangji[4]. [1]Laboratory of Bone & Metabolic Biochemistry, Belgium, [2]Laboratory of Bone & Metabolic Biochemistry - Université Libre de Bruxelles, Belgium, [3]Laboratory of Bone & Metabolic Biochemistry, Université Libre de Bruxelles, Belgium, [4]Hôpital Erasme, Université Libre de Bruxelles, Belgium

Disclosures: Jessica Berlier, None

OSTEOBLASTS: BONE FORMATION AND BONE RESORPTION

MO0190 **Anabolic and Anti-resorptive Effects of Colforsin Daropate Hydrochloride, a Water-soluble Derivative of Forskolin**

Jiwon Lim*[1], Young-Ae Choi[1], Hong-In Shin[1], Eui Kyun Park[2]. [1]Kyungpook National University, South Korea, [2]Kyungpook National University School of Dentistry, South Korea

Disclosures: Jiwon Lim, None

MO0191 **Anti-Diabetic Drug Rosiglitazone Inhibits Bone Regeneration and Causes Massive Accumulation of Fat at Sites of New Bone Formation**

Lichu liu*[1], James Aronson[2], Piotr Czernik[3], Shilong Huang[4], Yalin Lu[3], Sima Rahman[5], Vipula Kolli[6], Larry Suva[2], Beata Lecka-Czernik[7]. [1]Arkansas Children's Hospital Research Institute, USA, [2]University of Arkansas for Medical Sciences, USA, [3]University of Toledo Medical Center, USA, [4]Huazhong University, China, [5]University of Toledo Health Sciences Campus, USA, [6]NICHD/NIH, USA, [7]University of Toledo College of Medicine, USA

Disclosures: Lichu liu, None

MO0192 **Ca^{2+}/Calmodulin-Dependent Protein Kinase Kinase 2 as a Novel Modulator of Bone Remodeling**

Uma Sankar*[1], Rachel Cary[2], Michael Voor[1], Deborah Novack[3]. [1]University of Louisville, USA, [2]Owensboro Cancer Research Program, University of Louisville, USA, [3]Washington University in St. Louis School of Medicine, USA

Disclosures: Uma Sankar, None

MO0193 **Cysteine Mutants of Sclerostin Retained a Comparable Inhibitory Potency on Wnt/ b-Catenin Signaling Despite of Inappropriate Folding**
Ajita Jami*[1], Eun Jin Kim[2], Jogeswar Gadi[3], Kyoung Min Kim[2], Hyo jin Cho[4], Sihoon Lee[5], Sung-Kil Lim[2]. [1], [2]Yonsei University College of Medicine, South Korea, [3]Yonsei University College of Medicine Seoul South Korea, South Korea, [4]Division of Endocrinology, South Korea, [5]Gachon University School of Medicine, South Korea
Disclosures: Ajita Jami, None

MO0194 **Deciphering the Role of Parafibromin in Bone Development**
Casey Droscha*[1], Bart Williams[2], Travis Burgers[1], Cassandra Diegel[1]. [1]Van Andel Institute, USA, [2]Van Andel Research Institute, USA
Disclosures: Casey Droscha, None

MO0195 **Development of a Novel Tetrapod-shaped Drug-eluting Artificial Bone**
Yujiro Maeda*[1], Shinsuke Ohba[2], Hironori Hojo[3], Nobuyuki Shimohata[4], Fumiko Yano[5], Kenichi Yamamoto[6], Noriko Hatano[1], Tsuyoshi Takato[1], Ung-Il Chung[7]. [1]Department of Sensory & Motor System Medicine, Faculty of Medicine, University of Tokyo, Japan, [2]Division of Biotechnology, Center for Disease Biology & Integrative Medicine, Japan, [3]The Center for Disease Biology & Integrative Medicine, Japan, [4]Center for Disease Biology & Integrative Medicine, Faculty of Medicine, University of Tokyo, Japan, [5]University of Tokyo, Japan, [6]Tokyo university, Japan, [7]University of Tokyo Schools of Engineering & Medicine, Japan
Disclosures: Yujiro Maeda, None

MO0196 **Droplets versus Injection: Simple Methods of Loading Stem Cells into Biomaterials that Generate Different Outcomes in Bone Regeneration.**
Luciane Capelo*[1], Bruno Pimenta[2], Eliandra de Souza[3], Roberto Fanganiello[4], Maria Rita Passos-Bueno[2]. [1]Federal University of Sao Paulo, Brazil, [2]University of Sao Paulo, Brazil, [3]UNIFESP, Brazil, [4]Institute of Biosciences, University of Sao Paulo, Brazil
Disclosures: Luciane Capelo, None

MO0197 **Effects of Dried Plum Supplementation on Bone Metabolism**
Brenda Smith[1], Thomas Wronski[2], Jennifer Graef*[1], Elizabeth Rendina[1], Katie Clark[1], Stephen Clarke[1], Edralin Lucas[1], Bernard Halloran[3]. [1]Oklahoma State University, USA, [2]University of Florida, USA, [3]VA Medical Center (111N), USA
Disclosures: Jennifer Graef, None

MO0198 **Lamin A/C Acts as an Essential Transcriptional Regulator of Mesenchymal Stem Cell Differentiation by Controlling the Dynamics of the Wnt/β-catenin Pathway**
Christopher Vidal*[1], Sandra Bermeo[2], Hong Zhou[3], Gustavo Duque[4]. [1]University of Sydney, Australia, [2]Ph.D Student, Australia, [3]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [4]Ageing Bone Research Program, University of Sydney, Australia
Disclosures: Christopher Vidal, None

MO0199 **Molecular Clock Regulates Calcification in Developing Murine Calvaria**
John-David McElderry*, Guisheng Zhao, Renny Franceschi, Michael Morris. University of Michigan, USA
Disclosures: John-David McElderry, None

MO0200 **Plasminogen Activator Inhibitor-1 Is Involved in Streptozotocin-induced Diabetic Bone Loss in Female Mice**
Yukinori Tamura*[1], Naoyuki Kawao[1], Kiyotaka Okada[1], Masato Yano[1], Katsumi Okumoto[2], Osamu Matsuo[1], Hiroshi Kaji[1]. [1]Kinki University Faculty of Medicine, Japan, [2]Life Science Research Institute, Kinki University, Japan
Disclosures: Yukinori Tamura, None

MO0201 **Post-lactation Bone Formation may be Driven by Downregulated Sclerostin, Cathepsin K, and DKK1, and Upregulated Hematopoietic Factors, which Stimulate Osteoblast Proliferation and New Bone Formation**
Jillian Collins*[1], Beth J. Kirby[1], Robert Gagel[2], Christopher Kovacs[1]. [1]Memorial University of Newfoundland, Canada, [2]University of Texas M.D. Anderson Cancer Center, USA
Disclosures: Jillian Collins, None

MO0202 **Regulation of Osteoclast formation by Toll-like receptors 2 and 5**
Ali Kassem*[1], Ulf Lerner[2], Pernilla Lundberg[1], Pedro PC Souza[3], Catharina Lindholm[4]. [1]Umeå University, Sweden, [2]University of Umea, Sweden, [3]University of São Paulo State, Brazil, [4]Gothenburg University, Sweden
Disclosures: Ali Kassem, None

MO0203 **Regulator of G Protein Signaling Protein 12 Regulates the Coupling between Osteoblasts and Osteoclasts during Bone Remodeling**
Tongjun Liu*[1], Xiaoning He[2], Yi-Ping Li[3], Jay Cao[4], Xinping Zhang[5], Chunyi Li[2], Shuying Yang[6]. [1]The University At Buffalo, USA, [2]University at Buffalo, USA, [3]University of Alabama at Birmingham, USA, [4]USDA ARS, USA, [5]University of Rochester Medical Center, USA, [6]State University of New York At Buffalo, USA
Disclosures: Tongjun Liu, None

MO0204 **RhoA Activity and Wnt Signaling are Suppressed in Clinorotated Osteoblasts**
Eunhye Cho*[1], Qiaoqiao Wan[1], Hiroki Yokota[2], Sungsoo Na[1]. [1]Indiana University-Purdue University Indianapolis, USA, [2]Indiana University Purdue University Indianapolis, USA
Disclosures: Eunhye Cho, None

MO0205 **The Effects of Micro-Spatial Environment for Osteoblast Osteogenesis**
Mirei Chiba*[1], Ryosuke Miyai[2], Takeru Ota[2], Haruhide Hayashi[2]. [1]Tohoku University Graduate School of Dentistry, Japan, [2]Graduate School of Dentistry, Tohoku University, Japan
Disclosures: Mirei Chiba, None

OSTEOBLASTS: GENE EXPRESSION AND TRANSCRIPTION FACTORS

MO0206 **Computational Systems Biology of Osteoblasts**
Cheryl Ackert-Bicknell*, Karen Dowell, Catherine Sharpe, Allen Simons, Matthew Hibbs. The Jackson Laboratory, USA
Disclosures: Cheryl Ackert-Bicknell, None

MO0207 **Foxp1/2/4, New Transcriptional Regulators for the Chondrocyte Hypertrophy and Osteoblast Differentiation during Skeletal Ossification**
Xizhi Guo[1], Haixia Zhao*[1], Wenrong ZHOU[2]. [1]Shanghai Jiao Tong University, Peoples Republic of China, [2]Shanghai JiaoTong University, Peoples Republic of China
Disclosures: Haixia Zhao, None

MO0208 **Genome-Wide Analysis of H4 Acetylation in Osteoblasts**
Amel Dudakovic*, Jared Evans, Ying Li, Sumit Middha, Meghan McGee-Lawrence, Jennifer Westendorf. Mayo Clinic, USA
Disclosures: Amel Dudakovic, None

MO0209 **Ift88 Functions in Osteoblast Differentiation**
Courtney Haycraft*, Sarah Joseph. Medical University of South Carolina, USA
Disclosures: Courtney Haycraft, None

MO0210 **Intramembranous Bone Formation in a Transgenic Model of Constitutive Gs-G Protein Signaling in Osteoblasts**
Lalita Wattanachanya*[1], Liping Wang[2], Richard Kao[3], Dylan O'Carroll[2], Wei-Dar Lu[2], Edward Hsiao[4], Bruce R. Conklin[5], Robert Nissenson[6]. [1]King Chulalongkorn Memorial Hospital The Thai Red Cross Society, Thailand & VA Medical Center, San Francisco, USA, [2]VA Medical Center, San Francisco, USA, [3]UCSF/VAMC, USA, [4]University of California, San Francisco, USA, [5]Gladstone Institute of Cardiovascular Disease, University of California, San Francisco, USA, [6]VA Medical Center & University of California, San Francisco, USA
Disclosures: Lalita Wattanachanya, None

MO0211 **Nuclear Receptor Rorβ Is a Novel Regulator of Runx2 Activity in Osteoblasts**
Gang Liu[1], Matthew Roforth[1], Sundeep Khosla[2], David Monroe*[3]. [1]Mayo Clinic, USA, [2]College of Medicine, Mayo Clinic, USA, [3]Mayo Foundation, USA
Disclosures: David Monroe, None

MO0212 **Parathyroid Hormone Regulates Dissociation of HDAC4 from Runx2 on the MMP-13 promoter by PKA Phosphorylation in Osteoblastic Cells**
Emi Shimizu*[1], Zui Pan[2], Teruyo Nakatani[1], Nicola Partridge[1]. [1]New York University College of Dentistry, USA, [2]UMDNJ-Robert Wood Johnson Medical School, USA
Disclosures: Emi Shimizu, None

MO0213 **Single Cell Gene Expression Profiling of Mature Murine Primary Osteoblasts**
Simon Melov, James Flynn*. Buck Institute for Research on Aging, USA
Disclosures: James Flynn, Merck, 2

MO0214 **The Effect of the Light/Dark Cycle, Hormone Replacement Therapy (HRT), and Melatonin on Bone Physiology in a Blind, HER2+/*neu* Mouse Model.**
Paula Witt-Enderby*[1], John Slater[2], Nakpangi Johnson[2], Corry Bondi[2], Balasunder Dodda[2], Mary Kotlarczyk[3], William Clafshenkel[4], Shalini Sethi[2], Suzanne Higginbotham[5], James Rutkowski[6], Vicki Davis[7]. [1]Duquesne University, School of Pharmacy, USA, [2]Duquesne University School of Pharmacy, Division of Pharmaceutical Sciences, USA, [3]Duquesne University Graduate School of Pharmaceutical Sciences, USA, [4]Graduate School of Pharmaceutical Sciences, Duquesne University, USA, [5]Duquesne University School of Pharmacy, Division of Clinical, Social & Administrative Sciences, USA, [6]Clarion Research Group, USA, [7]Clarion University, USA
Disclosures: Paula Witt-Enderby, None

MO0215 **Ucma, an unique Cartilage Matrix-associated Protein, as a Common Target of Runx2 and Osterix during Osteoblast Differentiation**
Yeon Ju Lee*[1], Wook-Young Baek[2], Eun-Hye Lee[1], Jung-Mi Lee[1], Jung-Eun Kim[2]. [1]Department of Molecular Medicine, Cell & Matrix Research Institute, Kyungpook National University School of Medicine, South Korea, [2]Kyungpook National University School of Medicine, South Korea
Disclosures: Yeon Ju Lee, None

OSTEOBLASTS: HORMONAL REGULATION AND SIGNAL TRANSDUCTION

MO0216 **BMP-2 Promotes Osteoclast Differentiation by Enhancing the Activity of Smad1**
Yoshihiro Yoshikawa*, Aiko Kamada, Isao Tamura, Seiji Goda, Eisuke Domae, Takashi Ikeo. Osaka Dental University, Japan
Disclosures: Yoshihiro Yoshikawa, None

MO0217 **Involvement of GPR30-mediated Signaling in the Estrogenic Effects of Flavonoids on Rat Osteoblastic UMR106 Cells**
Ming Xian Ho*[1], Xiaoli Dong[1], KA CHUN Wong[1], Man-Sau Wong[2]. [1]The Hong Kong Polytechnic University, Hong Kong, [2]Hong Kong Polytechnic University, Hong Kong
Disclosures: Ming Xian Ho, None

MO0218 **PTH Induces Osteocyte Dedifferentiation, Changes in Morphology and Reverts Embedding Osteocytes to a More Motile Phenotype**
Matt Prideaux*[1], Erica Perryn[2], Sarah Dallas[3], Lynda Bonewald[3]. [1]University of Missouri-Kansas City, USA, [2]University of Missouri Kansas City School of Dentistry, USA, [3]University of Missouri - Kansas City, USA
Disclosures: Matt Prideaux, None

MO0219 **Statins and Bisphosphonates Inhibit Menaquinone-4 Biosynthesis in Bone**
Toshio Okano*[1], Kimie Nakagawa[1], YOSHIHISA HIROTA[1], Yoshitomo Suhara[2], Naoko Tsugawa[1]. [1]Kobe Pharmaceutical University, Japan, [2]Shibaura Institute of Technology, Japan
Disclosures: Toshio Okano, None

MO0220 **Undercarboxylated Osteocalcin Predicts Beta-cell Function in Adult Men and Women with Impaired Fasting Glucose**
Barbara Gower*[1], Caren Gundberg[2], Norman Pollock[3], Thomas Clemens[4], Laura Lee Goree[5], Wesley Granger[5]. [1]University of Alabama at Birmingham, USA, [2]Yale University School of Medicine, USA, [3]Georgia Health Sciences University, USA, [4]Johns Hopkins University, USA, [5]Univ. Alabama at Birmingham, USA
Disclosures: Barbara Gower, None

OSTEOBLASTS: PROGENITOR AND STROMAL CELLS, PROLIFERATION AND DIFFERENTIATION

MO0221 **Anti-Hypertensive Drug Telmisartan Is a Selective PPARγ Agonist with Anti-Diabetic but Not Anti-Osteoblastic Activity**
Vipula Kolli*[1], Yalin Lu[2], Piotr Czernik[2], Sima Rahman[3], Beata Lecka-Czernik[4]. [1]NICHD/NIH, USA, [2]University of Toledo Medical Center, USA, [3]University of Toledo Health Sciences Campus, USA, [4]University of Toledo College of Medicine, USA
Disclosures: Vipula Kolli, None

MO0222 **Aromatic Amino acids Combinations Are Not More Potent Than Single Amino Acids in Activating the MAPK Pathway in BMSCs**
Mona El Refaey*[1], Kehong Ding[1], Qing Zhong[2], Jianrui Xu[1], Mark Hamrick[1], William Hill[3], Xing-Ming Shi[1], Norman Chutkan[1], Monte Hunter[1], Wendy Bollag[1], Karl Insogna[4], Carlos Isales[2]. [1]Georgia Health Sciences University, USA, [2]Medical College of Georgia, USA, [3]Georgia Health Sciences University & Charlie Norwood VAMC, USA, [4]Yale University School of Medicine, USA
Disclosures: Mona El Refaey, None

MO0223 **Bone Loss Following Stabilization of Beta-Catenin in *mTert*-Expressing Mesenchymal Stem Cells**
Diana Carlone*, Rebecca D. Riba, Dana M. Ambruzs, Samantha Stewart, David T. Breault. Children's Hospital Boston, USA
Disclosures: Diana Carlone, None

MO0224 **Characterization of Progenitors with the Potential to Differentiate into Mesenchymal and Hematopoietic Lineages**
Danka Grcevic*[1], Brya Matthews[2], Sanja Ivcevic[1], Hector Aguila[2], Ivo Kalajzic[2]. [1]University of Zagreb School of Medicine, Croatia, [2]University of Connecticut Health Center, USA
Disclosures: Danka Grcevic, None

MO0225 **Col2.3GFP Marked Human Embryonic Stem Cells (hESC) Demonstrate Osteoblast Specific Reporter Expression in a Mouse Calvarial Defect Model**
Xiaonan Xin*, Xi Jiang, Liping Wang, Mary Louise Stover, Shuning Zhan, Jianping Huang, I-Ping Chen, Ernst Reichenberger, David Rowe, Alexander Lichtler. University of Connecticut Health Center, USA
Disclosures: Xiaonan Xin, None

MO0226 **Effect of High Calcium Environment on Proliferation and Survival Activity of BMSCs *in vitro***
EunAh Lee*[1], HyunJi Cho[2], Jong Kuk Park[3], WheeMoon Cho[2], Youngsook Son[2]. [1]Kyung Hee University, South Korea, [2]Lab of Tissue Engineering, College of Life Science, Kyung Hee University, South Korea, [3]Korea Institute of Radiational & Medical Science, 215-4 Gongneung-dong, Nowon-gu, South Korea
Disclosures: EunAh Lee, None

MO0227 **Effect of Strontium Ion on *in vitro* Proliferation and Osteogenic Differentiation of PA20-h5, a Clonal Mesenchymal Stem Cell Line Derived from Subcutaneous Adipose Tissue**
Simone Ciuffi*, Valeria Nardone, Sergio Fabbri, Francesca Marini, Roberto Zonefrati, Carmelo Mavilia, Gianna Galli, Barbara Pampaloni, Annalisa Tanini, Anna Maria Carossino, Maria Luisa Brandi. University of Florence, Italy
Disclosures: Simone Ciuffi, None

MO0228 **Effect of Strontium Release from Amidated Carboxymethyl Cellulose Hydrogel on the Osteinduction of a Clonal Cell Line Obtained from Human Adipose Tissue-Derived Mesenchymal Stem Cells**
Valeria Nardone*, Sergio Fabbri, Cecilia Romagnoli, Gaia Palmini, Elisa Bartolini, Gianna Galli, AnnaMaria Carossino, Annalisa Tanini, Maria Luisa Brandi. University of Florence, Italy
Disclosures: Valeria Nardone, None

MO0229 **Effects of Cytoskeletal Manipulation on Mechanotransduction in Mesenchymal Stem Cells**
Petra Müller, Anne Langenbach, Joachim Rychly*. University of Rostock, Germany
Disclosures: Joachim Rychly, None

MO0230 **Hypoxia Disrupts Osteoblast Proliferation and Mineralization in Rats with High Intrinsic Aerobic Capacity**
Jacqueline Cole*[1], Lauren G. Koch[1], Steven L. Britton[1], Ronald Zernicke[1], Kenneth Kozloff[2]. [1]University of Michigan, USA, [2]University of Michigan Department of Orthopaedic Surgery, USA
Disclosures: Jacqueline Cole, None

MO0231 **Osteoprotegerin (OPG) Secreted from Osteoblasts Stimulates Human Mesenchymal Stem Cells for Osteogenesis**
SunMi Palumbo*, Wan-Ju Li. University of Wisconsin-Madison, USA
Disclosures: SunMi Palumbo, None

MO0232 **Protein Kinase Inhibitor γ (PKIγ) Conversely Regulates Osteogenesis and Adipogenesis by Inactivating Protein Kinase A**
Xin Chen*[1], Bryan Hausman[1], Janet Rubin[2], Guangbin Luo[1], Shunichi Murakami[1], Guang Zhou[1], Edward Greenfield[1]. [1]Case Western Reserve University, USA, [2]University of North Carolina, Chapel Hill, School of Medicine, USA
Disclosures: Xin Chen, None

MO0233 **Rodent Trabecular Bone Marrow Is Enriched with a Highly Proliferative, Immunosuppressive, and PTH-responsive Population of Mesenchymal Progenitors**
Valerie Siclari*[1], Ji Zhu[2], Kentaro Akiyama[3], Fei Liu[4], Xianrong Zhang[2], Abhishek Chandra[1], Songtao Shi[3], Ling Qin[1]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania, School of Medicine, USA, [3]University of Southern California, USA, [4]Shanghai Ninth People's Hospital, China
Disclosures: Valerie Siclari, None

OSTEOBLASTS: STEROID/SERM EFFECTS

MO0234 **ERα and ERβ differentially regulate the effects of estradiol and mechanical strain on proliferation and *Sost* expression**
Gabriel Galea*[1], Lee Meakin[1], Toshihiro Sugiyama[2], Andre Van Wijnen[3], Lance Lanyon[4], Joanna Price[1]. [1]University of Bristol, United Kingdom, [2]Yamaguchi University School of Medicine, Japan, [3]University of Massachusetts Medical School, USA, [4]Royal Veterinary College, United Kingdom
Disclosures: Gabriel Galea, None

MO0235 **Influence of Estradiol on the Mechanical Response of Human Fetal Osteoblasts Cells *in Vitro***
PADMALOSINI MUTHUKUMARAN*, Chwee Teck Lim, Taeyong Lee. National University of Singapore, Singapore
Disclosures: PADMALOSINI MUTHUKUMARAN, None

OSTEOCLASTS: CATHEPSINS AND OTHER PROTEINASES

MO0236 **Inhibition of Lipopolysacharide Induced Osteoclast Formation And Bone Resorption In Vitro In Mice By Cystatin C**
Fredrik Stralberg*[1], Anders Grubb[2], Ulf Lerner[3]. [1]Molecular Periodontology, Umeå University, Sweden, [2]Lund University, Sweden, [3]University of Umea, Sweden
Disclosures: Fredrik Stralberg, None

OSTEOCLASTS: CELL ADHESION

MO0237 **Paxillin Contracts the Osteosteoclast Cytoskeleton in a myosin IIA-dependent manner**
Wei Zou*[1], Carl DeSelm[1], Thomas Broekelmann[2], Robert Mecham[3], Scott Vande Pol[4], Kyunghee Choi[5], Steven Teitelbaum[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University School of Mdicine, USA, [3]Washington University School of Medicine, USA, [4]Department of Pathology, University of Virginia, USA, [5]Department of pathology, Washington University School of Medicine, USA
Disclosures: Wei Zou, None

MO0238 **Resorption Capacity of Osteoclasts Predefined by Surface Porosity of Ceramic Biomaterials**
Kanthi Lewis*[1], Gerald Zimmer[2], Astrid Rohrhofer[1], Oskar Hoffmann[1]. [1]University of Vienna, Austria, [2]Baxter Innovations AG, Austria
Disclosures: Kanthi Lewis, None

OSTEOCLASTS: CYTOKINES AND GROWTH FACTORS

MO0239 **A T-box Family Transcription Factor may Mediate CSF1-induced JDP2 Gene Transcription**
Chen Yao*, Gang-Qing Yao, Karl Insogna. Yale University School of Medicine, USA
Disclosures: Chen Yao, None

MO0240 **IFN-γ Inhibits Mechanical Stress-induced Osteoclastogenesis and Bone Resorption**
Haruka Kohara*[1], Hideki Kitaura[2], Masako Yoshimatsu[1], Yuji Fujimura[1], Yukiko Morita[1], Toshiko Eguchi[1], Noriaki Yoshida[1]. [1]Nagasaki University, Japan, [2]Tohoku University, Japan
Disclosures: Haruka Kohara, None

MO0241 **Manipulation of the RANKL/RANK/OPG Axis Using Structure-based Design and Yeast Surface Display**
Julia Warren*[1], Christopher Nelson[2], Daved Fremont[2], Steven Teitelbaum[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University in St. Louis, USA
Disclosures: Julia Warren, None

MO0242 **Prostaglandin D_2 Induces Apoptosis of Human Osteoclasts Through the Activation of Akt and ERK Signaling Pathways**
Artur De Brum-Fernandes[1], Li Yue*[1], Sophie Roux[2], Stephen McManus[2]. [1]Universite De Sherbrooke, Canada, [2]University of Sherbrooke, Canada
Disclosures: Li Yue, None

OSTEOCLASTS: DIFFERENTIATION

MO0243 **Comparative analysis of Osteoclast Differentiation from Red-boned and Common Goats**
Qiuye Lin*[1], Zhenhui Cao[1], Hua Rong[1], Zhiqiang Xu[2], Dahai Gu[1], Guozhou Liao[1], Qichao Huang[1], Xiaobo Chen[1], Xi Zhang[3], Shizheng Gao[1], Changrong Ge[2], Junjing Jia[1], Wei Yao[4]. [1]Yunnan Provincial Key Laboratory of Animal Nutrition & Feed, Yunnan Agricultural University, China, [2]Yunnan Agricultural University, China, Peoples Republic of China, [3]Yunnan Agricultural University, Peoples Republic of China, [4]University of California, Davis Medical Center, USA
Disclosures: Qiuye Lin, None

MO0244 **Differential Regulation of Osteoclast Precursor Migration by Activin A and RANKL**
Tristan Fowler*, Richard Kurten, Larry Suva, Dana Gaddy. University of Arkansas for Medical Sciences, USA
Disclosures: Tristan Fowler, None

MO0245 **Gender-Based Differences in RANKL Induced Osteoclastogenesis Through MKP-1 Signaling.**
Michael Valerio*, Keith Kirkwood. Medical University of South Carolina, USA
Disclosures: Michael Valerio, None

MO0246 **Lis1 Regulates Osteoclastogenesis through Small GTPase Cdc42**
Shiqiao Ye*, Stavros Manolagas, Haibo Zhao. Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Shiqiao Ye, None

MO0247 **Liver X Receptor Activation Suppresses Osteoclastogenesis via the Down-regulation of c-Fos Expression and Promotes Apoptosis in Mature Osteoclast**
Hyun-Ju Kim*, Hye Jin Yoon, JungMin Hong, Shin-Yoon Kim. Kyungpook National University Hospital, South Korea
Disclosures: Hyun-Ju Kim, None

MO0248 **Magnesium Deficiency Results in an Increased Formation of Osteoclasts**
Marina Belluci[1], Ton Schoenmaker[2], Carlos Rossa-Junior[3], Silvana Orrico[3], Teun De Vries[4], Vincent Everts*[5]. [1]Department of Diagnosis & Surgery, School of Dentistry at Araraquara – UNESP-Univ. Estadual Paulista, Araraquara, Brazil, [2]Dept Periodontology, ACTA, Netherlands, [3]Department of Diagnosis & Surgery, School of Dentistry at Araraquara, Brazil, [4]ACTA, University of Amsterdam & VU University, The Netherlands, [5]Department of Oral Cell Biology, Academic Centre of Dentistry Amsterdam (ACTA), The Netherlands
Disclosures: Vincent Everts, None

MO0249 **Osteoclasts Support Angiogenesis in vitro**
Mohammad Islam*, Melissa Stemig. University of Minnesota School of Dentistry, USA
Disclosures: Mohammad Islam, None

MO0250 **PEDF Suppresses Osteoclast Differentiation, Bone Resorption Activity and Survival via Osteoprotegerin Induction**
Toru Akiyama*[1], Jonathan Clark[2], Peter Choong[2]. [1]Saitama Medical Center, Jichi Medical University, Japan, [2]Department of Orthopaedic Surgery, St. Vincent's Hospital Melbourne, Australia
Disclosures: Toru Akiyama, None

MO0251 **Pre-adipocytes Support Osteoclastogenesis through RANKL Expression**
Sunao Takeshita*, Toshio Fumoto, Kyoji Ikeda. National Center for Geriatrics & Gerontology, Japan
Disclosures: Sunao Takeshita, None

MO0252 **The Farnesoid X Receptor Negatively Regulates Osteoclast Formation**
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Disclosures: Ting Zheng, None

MO0253 **TMEM178 Is a Novel Negative Regulator of Inflammatory Cytokine Production and Osteoclastogenesis during Rheumatoid Arthritis**
Corinne Decker*[1], Deborah Novack[2], Roberta Faccio[3]. [1]Washington University in St. Louis, USA, [2]Washington University in St. Louis School of Medicine, USA, [3]Washington University in St Louis School of Medicine, USA
Disclosures: Corinne Decker, None

OSTEOCLASTS: INHIBITION OF RESORPTION

MO0254 **Dynasore Rapidly Disrupts Podosome Belts in Polarized Osteoclasts**
Shunsuke Uehara*[1], Takahiro Nakayama[1], Toshihide Mizoguchi[2], Teruhito Yamashita[3], Yasuhiro Kobayashi[2], Nobuyuki Udagawa[3], Naoyuki Takahashi[3]. [1]Department of Biochemistry, Matsumoto Dental University, Japan, [2]Institute for Oral Science, Matsumoto Dental University, Japan, [3]Matsumoto Dental University, Japan
Disclosures: Shunsuke Uehara, None

MO0255 **Effects of IL-12 on Mechanical Loading Induced Bone Resorption**
Masako Yoshimatsu*[1], Hideki Kitaura[2], Yuji Fujimura[1], Haruka Kohara[1], Yukiko Morita[1], Toshiko Eguchi[1], Noriaki Yoshida[1]. [1]Nagasaki University, Japan, [2]Tohoku University, Japan
Disclosures: Masako Yoshimatsu, None

MO0256 **Efficinet Blockade of NADPH Oxidase-mediated Osteolcastogenesis and Bone Resorption by Insect-derived Low Molecular Agenet 5-S-GAD**
Masakazu Kogawa[1], Nobuko Akiyama[2], Naoki Kato[3], Tsuyoshi Sato[3], Koji Hisatake[3], Masafumi Tsujimoto[4], Masahito Matsumoto*[3]. [1]University of Adlaide, Australia, [2]RIKEN Wako Institute, Japan, [3]Saitama Medical University, Japan, [4]RIKEN Advanced Science Institute, Japan
Disclosures: Masahito Matsumoto, None

MO0257 **Neutralization of Macrophage Colony-stimulating Factor Inhibits Lipopolysaccharide-induced Osteoclastogenesis I*n Vivo***
KEISUKE KIMURA*[1], Hideki Kitaura[2], Toshiya Fujii[3], Masahiko Ishida[4], Zaki Hakami[4], Teruko Takano-Yamamoto[2]. [1]Japan, [2]Tohoku University, Japan, [3]Division of Orthodontics & Dentofacial Orthopedics, Tohoku University Graduate School of Dentistry, Japan, [4]Division of Orthodontics & Dentofacial Orthopedics, Department of Translational Medicine, Tohoku University Graduate School of Dentistry, Japan
Disclosures: KEISUKE KIMURA, None

MO0258 **RANKL-mediated Lineage Commitment Dictates the Effect of Thiazolidinediones (TZDs) on Osteoclastogenesis**
Dongfeng Zhao*[1], Zhenqi Shi[2], Amy Warriner[3], yongjun wang[4], Xu Feng[3]. [1]The University of Alabama At Birmingham, USA, [2]University of Alabama, USA, [3]University of Alabama At Birmingham, USA, [4]Research Institute of Spine, Longhua Hospital, Shanghai University of Traditional Chinese Medicine, China
Disclosures: Dongfeng Zhao, None

MO0259 **Withdrawn**

OSTEOCLASTS: SIGNAL TRANSDUCTION

MO0260 **Detection of Adiponectin Receptors in Multinucleated Osteoclast-like Cells *in vitro* by Immunofluorescence and qPCR**
Elda Pacheco-Pantoja*[1], Victoria Waring-Green[2], Peter Wilson[3], Lakshminarayan Ranganath[3], William Fraser[4], James Gallagher[3]. [1]Universidad Anahuac Mayab, Mex, [2]Royal Veterinary College, United Kingdom, [3]University of Liverpool, United Kingdom, [4]University of East Anglia, United Kingdom
Disclosures: Elda Pacheco-Pantoja, None

MO0261 **Down-regulation of MicroRNA-21 Biogenesis by Estrogen Action Contributes to Osteoclastic Apoptosis**
Toshifumi Sugatani*, Keith Hruska. Washington University in St. Louis School of Medicine, USA
Disclosures: Toshifumi Sugatani, None

MO0262 **Isopsoralen Inhibits RANKL-Induced Osteoclastic Differentiation of RAW264.7 Cells by Suppressing c-fos-NFATc1**
Jin Zhang*[1], Shu Meng[1], Yuwei Wu[2], Liming Yu[1], Lan Zhang[1], Mengqi Huang[1], Qisheng Tu[1], Jake Jinkun Chen[1]. [1]Tufts University School of Dental Medicine, USA, [2]Tufts University, USA
Disclosures: Jin Zhang, None

MO0263 **Microgravity Control of Autophagy Modulates Osteoclastogenesis**
Yuvaraj Sambandam*[1], Molly Townsend[2], Srinivasan Shanmugarajan[3], Jason Pierce[2], Sakamuri Reddy[3]. [1]Medical University of South Carolina, USA, [2]MUSC, USA, [3]Charles P. Darby Children's Research Institute, USA
Disclosures: Yuvaraj Sambandam, None

MO0264 **T-reg/Th17 Cells and TGF-b/SOCS3 Signaling Regulate Dendritic Cell-derived Osteoclastogenesis and Bone Loss**
Andy Y-T Teng*[1], Yen-Chun Grace Liu[2]. [1]School of Dentistry, Kaohsiung Medical University, Kaohsiung, Taiwan, Taiwan, [2]Koahsiung Medical University, Taiwan
Disclosures: Andy Y-T Teng, None

OSTEOCYTES: REGULATION OF BONE FORMATION

MO0265 **ERK Signaling Protects Osteocytes against Oxidative Stress-induced Cell Death through the regulation of Connexin 43 Hemichannels**
Manuel Riquelme[1], Rekha Kar[2], Jean Jiang*[3]. [1]University of Texas Health Science Center, USA, [2]The University of Texas Health Science Center, USA, [3]University of Texas Health Science Center at San Antonio, USA
Disclosures: Jean Jiang, None

MO0266 **Osteocytes in situ Produce Nitric Oxide in Response to Mechanical Stimulation: A Novel *ex vivo* Mechanical Loading Model for Murine Fibulae**
Rishikesh Kulkarni[1], Leo van Ruijven[2], Rommel Bacabac[3], Jenneke Klein-Nulend[1], Astrid Bakker*[1]. [1]Department of Oral Cell Biology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & VU University Amsterdam, Research Institute MOVE, Netherlands, [2]Department of Functional Anatomy, Academic Centre for Dentistry Amsterdam, University of Amsterdam & VU University Amsterdam, Netherlands, [3]Medical Biophysics Group, Department of Physics, University of San Carlos, Philippines
Disclosures: Astrid Bakker, None

MO0267 **Osteocytes Inhibit Osteoblast Differentiation by Cell-cell Contact: Potential Implications for the Regulation of Bone Remodeling**
Koji Fujita*[1], David Monroe[2], Matthew Roforth[1], James Peterson[3], Sundeep Khosla[4]. [1]Mayo Clinic, USA, [2]Mayo Foundation, USA, [3]Endocrinology Research Unit, Mayo Clinic, USA, [4]College of Medicine, Mayo Clinic, USA
Disclosures: Koji Fujita, None

MO0268 **Parathyroid Hormone-Related Protein is Involved In Cell Protection Conferred By Hypotonic Shock In Osteocytic MLO-Y4 Cells**
Marta Maycas*[1], Luis Fernandez De Castro[2], Beatriz Bravo[3], Pedro Esbrit[2], Arancha Gortazar[4]. [1]Universidad San Pablo CEU, Spain, [2]Fundacion Jimenez Diaz, Spain, [3]Universidad San Pablo CEU School of Medicine, Spain, [4]Universidad San Pablo-CEU School of Medicine Madrid Spain, Spain
Disclosures: Marta Maycas, None

MO0269 **The Mineralization Kinetics of Endocortical Bone is Altered in *Sost* Knockout Mice**
Andreas Roschger*[1], Nadja Fratzl-Zelman[1], Barbara M. Misof[1], Ina Kramer[2], Klaus Klaushofer[1], Paul Roschger[1], Michaela Kneissel[2]. [1]Ludwig Boltzmann Institute of Osteology at Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling, 1st Medical Department; Hanusch Hospital Vienna, Austria, [2]Musculoskeletal Disease Area, Novartis Institutes for BioMedical Research, Basel, Switzerland
Disclosures: Andreas Roschger, None

OSTEOCYTES: REGULATION OF BONE MINERALIZATION

MO0270 **Nck, an Actin Cytoskeleton Modulator, Controls Expression of Osteocytic Genes, Phosphate Homeostasis by Regulating FGF 23 Expression in Bone and Maintains Bone Mass**
Smriti Aryal A.C*[1], Kentaro Miyai[2], Yoichi Ezura[3], Tadayoshi Hayata[4], Takuya Notomi[5], Tetsuya Nakamoto[2], Tony Pawson[6], Masaki Noda[2]. [1]Department of molecular pharmacology, Tokyo medical & dental university, Japan, [2]Tokyo Medical & Dental University, Japan, [3]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [4]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [5]GCOE, Tokyo Medical & Dental University, Japan, [6]Mount Sinai hospital, Samuel Lunenfield Research Institute, Canada
Disclosures: Smriti Aryal A.C, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: BONE MINERAL DENSITY

MO0271 **Association Study of Polymorphisms in the *OPG* Gene with BMD and Fractures in BARCOS Cohort**
Natalia Garcia-Giralt*[1], Laura De-Ugarte[2], Guy Yoskovitz[1], Maria Rodriguez-Sanz[2], Roser Urreizti[3], Susana Balcells[4], Robert Güerri[5], Leonardo Mellibovsky[6], Adolfo Diez-Perez[7], Daniel Grinberg[8], Xavier Nogues[6]. [1]IMIM, Spain, [2]IMIM-Parc de salut Mar, Spain, [3]Departament de genètica, Universitat de Barcelona, Spain, [4]University of Barcelona, Spain, [5]Hospital Universitario Del Mar.Institut Municipal D'Investigació Mèdica, Spain, [6]Internal medicine, Parc de salut Mar, Spain, [7]Parc De Salut Mar, Spain, [8]The University of Barcelona, Spain
Disclosures: Natalia Garcia-Giralt, None

MO0272 **Changes of microRNA Profile and microRNA-mRNA Regulatory Network in Ovariectomy-induced Bone Loss in Mice**
Jee Hyun An*[1], Jung Hun Ohn[2], Jung Ah Song[2], Jae-Yeon Yang[2], Hyung Jin Choi[3], Ae Kyung Park[4], Sang Wan Kim[5], Woong-Yang Park[6], Seong Yeon Kim[2], Chan Soo Shin[2]. [1]Department of Internal Medicine, Konkuk University Medical Center, South Korea, [2]Department of Internal Medicine, Seoul National University College of Medicine, South Korea, [3]Chungbuk National University Hospital, South Korea, [4]Sunchon National University College of Pharmacy, South Korea, [5]Seoul National University Boramae Hospital, South Korea, [6]Department of Biochemistry & Molecular Biology, Seoul National University College of Medicine, South Korea
Disclosures: Jee Hyun An, None

MO0273 **Greater Bone Density in Obese Individuals is Not a Result of DXA Artifact: a High Resolution Peripheral Quantitative Computed Tomography (HR-pQCT) Study**
Amy Evans*[1], Richard Eastell[2], Jennifer Walsh[2]. [1]Academic Unit of Bone Metabolism, University of Sheffield, United Kingdom, [2]University of Sheffield, United Kingdom
Disclosures: Amy Evans, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: BONE REMODELING

MO0274 **Adipose Tissue In OVX Animals Is Associated with Lower Osteocyte Density, Decreased Bone Formation And Trabecular Microarchitecture Deterioration**
Helder Fonseca*[1], Daniel Moreira-Gonçalves[2], Maria Fernandes[3], José Duarte[2]. [1]CIAFEL, Faculty of Sport Sciences, University of Porto, Portugal, [2]CIAFEL, Faculty of Sport, University of Porto, Portugal, [3]Faculty of Dental Medicine, University of Porto, Portugal
Disclosures: Helder Fonseca, None

MO0275 **qBSE-SEM Study of Femoral Midshaft Mineralization Density in People with HIV/AIDS**
BIN HU*[1], Tina Gulati[2], Yusuf M. Juwayeyi[3], John E. Chisi[4], Alan Boyde[5], Timothy Bromage[1]. [1]New York University College of Dentistry, USA, [2]NYU college of dentistry, USA, [3]Department of Anthropology, Long Island University, USA, [4]Department of Anatomy, University of Malawi College of Medicine, Malawi, [5]Institute of Dentistry, Barts & The London School of Medicine & Dentistry, Queen Mary University of London, United Kingdom
Disclosures: BIN HU, None

MO0276 **Relationship Between Serum Sclerostin and Sex Steroids in Prostate Cancer Patients**
Antonia Garcia-Martin*[1], Mariela Varsavsky[2], Rebeca Reyes-Garcia[1], Beatriz Garcia-Fontana[3], Sonia Morales-Santana[4], Manuel Muñoz-Torres[3]. [1]Bone Metabolic Unit. Endocrinology. Hospital Universitario San Cecilio., Spain, [2] Endocrinology Division, Hospital Sant Pau i Santa Tecla, Spain, [3]Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio, Spain, [4]Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio; Proteomic Research Service, Fundación para la Investigación Biosanitaria de Andalucía Oriental -Alejandro Otero- (FIBAO), Spain
Disclosures: Antonia Garcia-Martin, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: BONE STRUCTURE

MO0277 **Bone Microarchitecture Assessment by High-resolution Peripheral Quantitative Computed Tomography (HR-pQCT) in Pregnancy and Lactation-Associated Osteoporosis**
Maria Belen Zanchetta*[1], Armando Negri[2], Fernando Silveira[2], Rodolfo Guelman[3], Jose Ruben Zanchetta[1]. [1]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [2]MD, Argentina, [3]
Disclosures: Maria Belen Zanchetta, None

MO0278 **Caloric Restriction Attenuates Bone Loss during Hypothalamic Suppression**
Kathryn Mitchell, Megan Lunny, Vanessa Yingling*. Temple University, USA
Disclosures: Vanessa Yingling, None

MO0279 **Microfractures in the Femoral Head of Patients with Osteoporosis: Analysis of Microcallus by Synchrotron Radiation Micro-CT**
Narihiro Okazaki*[1], Ko Chiba[2], Kenji Taguchi[1], Nobuhito Nango[3], Masako Ito[1], Makoto Osaki[4]. [1]Nagasaki University Hospital, Japan, [2]University of California, San Francisco, USA, [3]Ratoc System Engineering Co., Ltd., Japan, [4]Nagasaki University, Japan
Disclosures: Narihiro Okazaki, None

MO0280 **The Impact of Low Activity Crohns Disease (CD) and Ulcerative Colitis (UC) in Calcium Metabolism, Bone Mass and Marrow Adiposity**
Clara Bastos[1], Marcello Nogueira-Barbosa[1], Carlos Salmon[2], Francisco Jose De Paula*[3], Luiz Troncon[1]. [1]School of Medicine of Ribeirao Preto, USP, Brazil, [2]University of Sao Paulo, Brazil, [3]School of Medicine of Ribeirao Preto - USP, Brazil
Disclosures: Francisco Jose De Paula, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: DIETARY FACTORS

MO0281 **Bone μCT and Histomorphometric Responses to a 19-week Obesogenic Diet Program in Growing and Mature Wistar Rats**
CEDRIC LAVET*[1], Norbert Laroche[2], Arnaud Vanden Bossche [2], Marie therese Linossier[2], Maude Gerbaix[3], Marie-Helene Lafage-Proust[4], Daniel Courteix[5], Laurence Vico[6]. [1]LBTO Inserm U1059, France, [2]Lyon University- INSERM U1059 -LBTO, France, [3]Clermont University, France, [4]INSERM Unit 890, France, [5]Universite Clermont Ferrand Laboratoire De Biologie Des APS, France, [6]University of St-Etienne, France
Disclosures: CEDRIC LAVET, None

MO0282 **Distal Radius and Tibia Bone Microstructure is Positively Correlated to Dietary Protein Intakes in both Women and Men Aged 65 Years**
Claire Durosier*[1], Thierry Chevalley[2], Fanny Merminod[3], Serge Ferrari[4], Rene Rizzoli[3]. [1]Hopitaux Universitaires De Geneve, Switzerland, [2]University Hospitals of Geneva Division of Bone Diseases, Switzerland, [3]University Hospital, Switzerland, [4]Geneva University Hospital & Faculty of Medicine, Switzerland
Disclosures: Claire Durosier, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: GLUCOCORTICOIDS

MO0283 **Evaluation of Semiquantitative Analysis (SQ) for Vertebral Fractures in Glucocorticoid-Induced Osteoporosis (GIO)**
Ikuko Tanaka*[1], Shigenori Tamaki[2], Mari Ushikubo[3], Harumi Kuda[3], Keisuke Izumi[3], Kumiko Akiya[3], Hisaji Oshima[4]. [1]National Center for Geratrics & Gerontology, Japan, [2]Nagoya Rheumatology Clinic, Japan, [3]Department of Connective Tissue Diseases, Tokyo Medical Center, Japan, [4]Tokyo Medical Center, Japan
Disclosures: Ikuko Tanaka, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: GONADAL STEROIDS

MO0284 **Associations between pQCT Derived Bone and Muscle Properties and FSH, LH, AMH, Inhibin A and B, Estradiol and Progesterone Concentrations during one Interovulatory Interval in Women**
Saija Kontulainen*[1], Heidi VandenBrink[2], Chizen Donna[2], David Robertson[3], Georgina Hale[4], Angela Baerwald[2]. [1]University of Saskatchewan, Canada, [2]Department of Obstetrics, Gynecology, Reproductive Sciences, University of Saskatchewan, Canada, [3]Prince Henry's Institute of Medical Research, Monash Medical Centre, Australia, [4]Department of Obstetrics & Gynecology, University of Sydney, Austria
Disclosures: Saija Kontulainen, None

OSTEOPOROSIS – PATHOPHYSIOLOGY: MISCELLANEOUS

MO0285 **Association between Low Bone Mass with Arterial Stiffness in Healthy Korean Adult Males**
Hee-Jeong Choi*[1], Byung-yeon Yu[2], Han Jin Oh[3]. [1]Department of Family Medicine, Eulji University School of Medicine, South Korea, [2]Konyang University Hospital, Republic of Korea, [3]Kwandong University, College of Medicine, South Korea
Disclosures: Hee-Jeong Choi, None

MO0286 **Blood Flow and Vascular Conductance to Bone and Marrow of the Hindlimb Are Reduced in Obese Zucker Diabetic Fatty Rats**
John Stabley*, Robert Davis, Bradley Behnke, Michael Delp. University of Florida, USA
Disclosures: John Stabley, None

MO0287 **Nocturnal Oxytocin Secretion Is Lower in Young Female Athletes Compared with Non-athletes and Is Associated with Bone Microarchitecture Parameters**
Elizabeth Lawson*[1], Kathryn Ackerman[2], Nara Mendes Estella[3], Gabriela Guereca[3], Lisa Pierce[3], Mary Bouxsein[4], Anne Klibanski[1], Madhusmita Misra[3]. [1]Massachusetts General Hospital, Harvard Medical School, USA, [2]Brigham & Women's Hospital, USA, [3]Massachusetts General Hospital, USA, [4]Beth Israel Deaconess Medical Center, USA
Disclosures: Elizabeth Lawson, None

MO0288 **Polyethylene Particles Placed Over the Calvarium Reduce Cancellous Bone Formation in the Femur**
Kenneth Philbrick*, Lindsay Wagner, Dawn Olson, Russell Turner, Urszula Iwaniec. Oregon State University, USA
Disclosures: Kenneth Philbrick, None

MO0289 **Subclinical Hyperthyroidism in the Postmenopause may not Influence Bone Mineral Density and Soft Tissue Composition**

Ana Paula Barbosa*[1], Mário Rui Mascarenhas[2], António M. Gouveia Oliveira[3], Vera Simões[4], Ana Gonçalves[5], David Santos Pinto[6], Manuel Bicho[7], Isabel Do Carmo[5]. [1]Endocrine & Metabolic Diseases, Metabolism & Endocrinology Centre - Genetics Lab (Lisbons Faculty of Medicine), Osteoporosis Unit - CEDML, Lda, Endocrinology, Diabetes & Metabolism Department, Santa Maria University Hospital, CHLN-EPE, Portugal, [2]Lisbon's Faculty of Medicine, Santa Maria University Hospital, CHLN,EPE, Portugal, [3]Biostatistics Department, FCMUNL, Portugal, [4]Metabolism & Endocrinology Centre (Genetics Lab) of Lisbons Faculty of Medicine, CEDML - Lisbon's Endocrinology, Diabetes & Metabolism Clinic (Osteoporosis Unit), Portugal, [5]Endocrinology, Diabetes & Metabolism Department, Santa Maria University Hospital, CHLN-EPE, Portugal, [6]CEDML - Lisbon's Endocrinology, Diabetes & Metabolism Clinic (Osteoporosis Unit), Portugal, [7]Metabolism & Endocrinology Centre (Genetics Lab) of Lisbons Faculty of Medicine, Portugal

Disclosures: Ana Paula Barbosa, None

MO0290 **The Influence of Mechanical Stress to the Osteoporotic Pain-related Property in Osteoporotic Rats with Compressed Caudal Vertebrae**

Miyako Suzuki*[1], Gen Inoue[2], Seiji Ohtori[2], Sumihisa Orita[2], Masayuki Miyagi[2], Tetsuhiro Ishikawa[2], Hiroto Kamoda[2], Yoshihiro Sakuma[2], Yasuhiro Oikawa[2], Go Kubota[2], Kazuyo Yamauchi[2], Kazuhisa Takahashi[2]. [1]Japan, [2]Department of Orthopaedic Surgery, Graduate school of medicine, chiba university, Japan

Disclosures: Miyako Suzuki, None

OSTEOPOROSIS - ASSESSMENT: BIOCHEMICAL MARKERS

MO0291 **Development of Point of Care Testing for N-telopeptide and C-telopeptide using Nanotechnology**

Kyoung Min Lee*[1], Chin Youb Chung[1], Ki Hyuk Sung[1], Min Ho Lee[2], Moon Seok Park[1]. [1]Seoul National University Bundang Hospital, South korea, [2]Korea Electronics Technology Institute, South korea

Disclosures: Kyoung Min Lee, None

MO0292 **Is Urinary Pentosidine Level a Predictive Marker for the Severity of Osteoporotic Vertebral Fracture?**

Koji Nozaka*[1], Naohisa Miyakoshi[2], Michio Hongo[2], Yuji Kasukawa[2]. [1]Akita City Hospital, Japan, [2]Akita University Graduate School of Medicine, Japan

Disclosures: Koji Nozaka, None

MO0293 **Measurement of Sclerostin in the Circulation: Validation and Comparison of Two Commercially Available ELISAS for Circulating Sclerostin.**

Aline Costa*[1], Serge Cremers[1], Elzbieta Dworakowski[1], Thomas Nickolas[2], Mishaela Rubin[1], Marcella Walker[1], Emily Stein[3], Marise Lazaretti Castro[4], Shonni Silverberg[1], John Bilezikian[3]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA, [3]Columbia University College of Physicians & Surgeons, USA, [4]Escola Paulista de Medicina, Brazil

Disclosures: Aline Costa, None

MO0294 **Prognostic Value of Serum Osteocalcin and Undercarboxylated Osteocalcin Levels on Vascular Complications in Type 2 Diabetes**

Megumi Shibata*[1], Atsushi Suzuki[2], Junnichi Ishii[3], Fumihiko Kitagawa[3], Toshiaki Sakuishi[3], Takashi Fujita[3], Takashi Ishikawa[3], Ikuko Tanaka[3], Hiroyuki Hirai[4], Yoshiteru Maeda[5], Sahoko Sekiguchi-Ueda[2], Yasumasa Yoshino[6], Shogo Asano[7], Masaki Makino[8], Nobuki Hayakawa[9], Mitsuyasu Itoh[10]. [1]Fujita Health University Division of Endocrinology, Japan, [2]Fujita Health University, Division of Endocrinology, Japan, [3]Department of Joint Research Laboratory of Clinical Medicine Fujita Health University, Japan, [4]Fujita Health University Division of Endocrinology, Japan, Japan, [5]Fujita Health University Division of Endocrinology, Japan, [6]Toyokawa City Hospital, Japan, [7]Division of Endocrinogy Toyokawa City Hospital, Japan, [8]Division of Endocrinology Fujita-health University, Japan, [9]Faculty of Pharmacy, Meijo University, Japan, [10]Fujita Health Univeristy Division of Endcrinology, Japan

Disclosures: Megumi Shibata, None

MO0295 **Reference Intervals for Bone Turnover Markers in Younger and Older Women: the OPUS Study**
Fatma Gossiel*[1], Judith Finigan[2], Richard Jacques[3], David Reid[4], Dieter Felsenberg[5], Christian Roux[6], Claus-C Glueer[7], Richard Eastell[2]. [1]The University of Sheffield, United Kingdom, [2]University of Sheffield, United Kingdom, [3]School of Health & Related Research, University of Sheffield, United Kingdom, [4]University of Aberdeen, United Kingdom, [5]Charité - Campus Benjamin Franklin, Germany, [6]Hospital Cochin, France, [7]Christian Albrechts Universitaet zu Kiel, Germany
Disclosures: Fatma Gossiel, None

OSTEOPOROSIS - ASSESSMENT: BONE MINERAL DENSITY

MO0296 **A Descriptive Study of Adult Patients with Idiopathic Hypercalciuria**
Vidhya Illuri*[1], Alicia Stapleton[2], Pauline Camacho[1]. [1]Loyola University of Chicago, USA, [2]Loyola University Medical Center, USA
Disclosures: Vidhya Illuri, None

MO0297 **Withdrawn**

MO0298 **Comparison of 3D-CT Images for Osteoporotic vertebra and Lumbar BMD in Elderly Women**
Sumiaki Okamoto*[1], Hitoshi Noguchi[2], Hiroyuki Suzuki[3], Sumitada Okamoto[1], Akira Itabashi[4]. [1]Okamoto Clinic SORF, Japan, [2]Noguchi Thyroid Clinic & Hospital Foundation, Japan, [3]Suzuki Orthodontic office, Japan, [4]Saitama Center for Bone Research, Japan
Disclosures: Sumiaki Okamoto, None

MO0299 **CTXA Hip - An Extension of Classical DXA Measurements Using QCT**
Christopher Cann[1], Judith Adams[2], Keenan Brown[3], Alan Brett*[4]. [1]University of California, San Francisco, USA, [2]Manchester Royal Infirmary, United Kingdom, [3]Mindways Software, USA, [4]Mindways Software, Inc., USA
Disclosures: Alan Brett, Mindways Software, Inc., 1

MO0300 **Differences in Mineralization between Cortical and Trabecular Bone in Human Proximal Femur**
Xiutao Shi*, Bin Zhou, Ji Wang, X Guo. Columbia University, USA
Disclosures: Xiutao Shi, None

MO0301 **Evaluation of Norland Illuminatus Applications Software When Operating Under a Windows XP or Windows Seven System**
Tom Sanchez*[1], Chad Dudzek[2], Mark Thomas[3], Terry Schwalenberg[2], Rick Olsezewshi[4], Debbie Thomas[3]. [1]Norland - A Cooper Surgical Company, USA, [2]Norland–a CooperSurgical Company, USA, [3]SouthTech Medical Electronics, USA, [4]CooperSurgical Company, USA
Disclosures: Tom Sanchez, None

MO0302 **Femoral Neck Buckling Ratio, Gender Differences and Associations to Proximal Femoral Fractures**
Arne Hoiseth*[1], Knut Strømsøe[2]. [1]Curato Rtg., Norway, [2]none, Norway
Disclosures: Arne Hoiseth, None

MO0303 **Has Primary Care Physicians' (PCPs') Understanding and Use of the 2010 Osteoporosis Canada Clinical Practice Guidelines (OC CPG) Increased Since Publication?**
Suzanne Morin*[1], Alan Bell[2], Daniel Ngui[3], Robert Josse[4], Heather Frame[5], Jacques Brown[6], Angela Cheung[7], Bridget Burns[8], Alexandra Papaioannou[9]. [1]McGill University, Canada, [2]University of Toronto, Canada, [3]University of British Columbia, Canada, [4]St. Michael's Hospital, University of Toronto, Canada, [5]Assiniboine Medical Clinic, Canada, [6]CHUQ Research Centre, Laval University, Canada, [7]University Health Network, Canada, [8]Amgen Canada, Canada, [9]Hamilton Health Sciences, Canada
Disclosures: Suzanne Morin, Amgen, 2; Amgen, Novartis, 8; Amgen, Novartis, Eli Lily, Wamer-Chilcott,5

MO0304 **Sensitivity of Locating Routines in Identifying the Ward's Region in a DXA Hip Scan**
Jing Mei Wang*[1], Jiachang Liu[2], Tom Sanchez[3]. [1]Norland–a CooperSurgical Company, Peoples Republic of China, [2]304 PLA Hospital, China, [3]Norland - A Cooper Surgical Company, USA
Disclosures: Jing Mei Wang, None

MO0305 **The Influence of Type 2 Diabetes on Bone Health in Native American Women**
Misti Leyva*[1], Yan Wang[2], Stephens Lancer[1], Mary Zoe Baker[3], Mark Payton[2], Brenda Smith[2]. [1]University of Oklahoma Health Sciences Center, USA, [2]Oklahoma State University, USA, [3]University of Oklahoma College of Medicine, USA
Disclosures: Misti Leyva, None

OSTEOPOROSIS - ASSESSMENT: BONE STRUCTURE

MO0306 **Assessing Efficacy of Osteoporosis Drugs: A Three-Year Finite Element Analysis Study of the Femoral Neck**
Taeyong Lee, Anitha D*. National University of Singapore, Singapore
Disclosures: Anitha D, None

MO0307 **fineSA, a New Magnetic Resonance Technique, can Accurately Distinguish Normal from Osteopenic or Osteoporotic Trabecular Bone Structure in a Clinical Trial**
Amanda Cox*[1], Michael Stone[2], Jane Turton[2], Irene Debiram[3], Kristin James[4], Juliet Compston[3]. [1]Acuitas Medical, United Kingdom, [2]University Hospital Llandough, United Kingdom, [3]University of Cambridge School of Clinical Medicine, United Kingdom, [4]OsteoTronix Ltd., United Kingdom
Disclosures: Amanda Cox, Acuitas Medical, 3

MO0308 **Short-term *in vivo* Precision of Bone Density and Microarchitecture at the Distal Radius and Tibia Using HR-pQCT: A Comparison Between Young and Older Aged Adults**
Chantal Kawalilak*[1], James D Johnston[2], David Leswick[3], Saija Kontulainen[2]. [1]College of Kinesiology, Canada, [2]University of Saskatchewan, Canada, [3]University of Saskatchewan & Saskatoon Health Region, Canada
Disclosures: Chantal Kawalilak, None

MO0309 **The Impact of Glucocorticoid Therapy on Trabecular Bone Score in Older Women**
Margaret Paggiosi[1], Richard Eastell*[2]. [1]Sheffield Teaching Hospitals NHS Foundation Trust, United Kingdom, [2]University of Sheffield, United Kingdom
Disclosures: Richard Eastell, Med-Imaps, 9

MO0310 **The Impact of TBS in the Analysis of Gender Specific Differences in Bone Microarchitecture in Females and Males with Fragility Fractures**
Heinrich Resch*[1], Angela Trubrich[2], Christian Muschitz[3], Roland Kocijan[4], Judith Haschka[4], Afrodite Zendeli[2], Philippe Zysset[5], Didier Hans[6]. [1]Medical University Vienna, Austria, [2]Austria, [3]St. Vincent's Hospital, Austria, [4]St. Vincent Hospital Vienna, Austria, [5]University of Bern, Switzerland, [6]Lausanne University Hospital, Switzerland
Disclosures: Heinrich Resch, None

MO0311 **Validation of an Automatic Vertebral Prevalent Fracture Classifier Based Upon Full Vertebral Shape**
Jane Haslam[1], Joes Staal[2], Klaus Engelke[3], Bernd Stampa[4], Harry Genant[5], Thomas Fuerst[6], Peter Steiger*[7]. [1]Optasia Medical Ltd, United Kingdom, [2]Optasia Medical, United Kingdom, [3]University of Erlangen, Germany, [4]Synarc A/S, Germany, [5]UCSF/Synarc, USA, [6]Synarc Inc, USA, [7]Optasia Medical, USA
Disclosures: Peter Steiger, Optasia Medical Ltd., 3

MO0312 **Vertebral Microarchitecture and Fragility Fracture in Men: a Trabecular Bone Score (TBS) study**
Edward Leib*[1], Berengere Aubry-rozier[2], Renaud Winzenrieth[3], Didier Hans[2]. [1]University of Vermont, USA, [2]Lausanne University Hospital, Switzerland, [3]Med-Imaps, PTIB, France
Disclosures: Edward Leib, None

OSTEOPOROSIS - ASSESSMENT: ULTRASOUND

MO0313 **Ultrasound Based Tomographic Imaging Device for Musculoskeletal Health**
Shiva Kotha, James Macione*. Rensselaer Polytechnic Institute, USA
Disclosures: James Macione, None

OSTEOPOROSIS - EPIDEMIOLOGY: BONE MINERAL DENSITY

MO0314 **Age-related Loss of Cortical Bone Mass and Fragility Fractures in Women from Roman Britain**
Simon Mays*. English Heritage, United Kingdom
Disclosures: Simon Mays, None

MO0315 **Improvement in Femoral Neck BMD in Older Women between 2002 and 2010**
Kirsti Uusi-Rasi*, Saija Karinkanta, Harri Sievänen. UKK Institute for Health Promotion Research, Finland
Disclosures: Kirsti Uusi-Rasi, None

MO0316 **Psychological Well-Being is Positively Associated with Adult Bone Mineral Density. Findings from the Study of Midlife in the United States (MIDUS)**
Arun Karlamangla*[1], Carolyn Crandall[1], Carol Ryff[2], Neil Binkley[3], Dana Miller-Martinez[4], Gail Greendale[1], Teresa Seeman[4]. [1]University of California, Los Angeles, USA, [2]University of Wisconsin, USA, [3]University of Wisconsin, Madison, USA, [4]University of California, USA
Disclosures: Arun Karlamangla, None

MO0317 **The Relationship between Nonalcoholic Fatty Liver Disease and Metabolic Bone Disease in Korean Men**
Eun Jung Rhee*[1], Hyung-Geun Oh[2]. [1]Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine, South korea, [2]2Department of Neurology, Soonchunhyang University College of Medicine, Cheonan, Korea, South korea
Disclosures: Eun Jung Rhee, None

MO0318 **The Worldwide Impact of Osteoporosis on the Burden of Hip Fractures**
Helena Johansson*[1], Anders Oden[1], Eugene McCloskey[2], John Kanis[3]. [1]University of Gothenburg, Sweden, [2]University of Sheffield, United Kingdom, [3]University of Sheffield, Belgium
Disclosures: Helena Johansson, None

MO0319 **Three Dimensional Structural Analysis of the Proximal Femur Reveals Differing Patterns of Age-related Changes in Trabecular Versus Cortical Bone in Women**
Kristy Nicks*[1], Shreyasee Amin[1], L. Joseph Melton[1], Sara Achenbach[1], Louise Mccready[1], B. Lawrence Riggs[1], Klaus Engelke[2], Sundeep Khosla[3]. [1]Mayo Clinic, USA, [2]University of Erlangen, Germany, [3]College of Medicine, Mayo Clinic, USA
Disclosures: Kristy Nicks, None

OSTEOPOROSIS - EPIDEMIOLOGY: DIET AND ENVIRONMENTAL FACTORS

MO0320 **25-OH Vitamin D and PTH Levels in Patients Population at Bone Centre in Southwest Bohemia Region of the Czech Republic**
Richard Pikner*[1], Zlata Fejfarkova[2], Michaela Heidenreichova[1], Miroslav Zabransky[1]. [1]Department of Clinical Laboratories & Bone Metabolism, Klatovska nemocnice, Czech Republic, [2]Klatovská Nemocnice, A.s., Czech Republic
Disclosures: Richard Pikner, None

MO0321 **Associations among Total and Food Additive Phosphorus Intake, Forearm Bone Mineral Density and Bone Mineral Content in 37-to-47-Year-Old Population – the PHOMI Study**
Suvi Itkonen*[1], Virpi Kemi[1], Elisa Saarnio[2], Merja Kärkkäinen[1], Heini Karp[1], Minna Pekkinen[3], Harri Sievanen[4], Kalevi Laitinen[5], Christel Lamberg-Allardt[1]. [1]University of Helsinki, Finland, [2]University of Helsinkl, Finland, [3]Folkhälsan Institute of Genetics, University of Helsinki, Finland, [4]UKK Institute, Finland, [5]Helsinki University Central Hospital, Finland
Disclosures: Suvi Itkonen, None

MO0322 **Positive Association of Dairy Intake with Bone Mineral Density (BMD) Depends on Vitamin D Intake: The Framingham Original Cohort**
Shivani Sahni*[1], Katherine Tucker[2], Douglas Kiel[3], Lien Quach[4], Virginia Casey[4], Marian Hannan[5]. [1]Hebrew SeniorLife, Institute for Aging Research, USA, [2]Northeastern University, USA, [3]Hebrew SeniorLife, USA, [4]IFAR, Hebrew SeniorLife, USA, [5]HSL Institute for Aging Research & Harvard Medical School, USA
Disclosures: Shivani Sahni, The General Mills Bell Institute of Health and Nutrition, 2

MO0323 **The Effects of Low-methionine Diets and Endurance Exercise on Bone Metabolism, Histomorphometry and Biomaterial Properties in Growing Male Rats**
Tsang-hai Huang*[1], Liang-tong Kuo[2], Shen-Yu Hsieh[3], Ming-Shi Chang[2], Rong-Sen Yang[4]. [1]National Cheng-Kung University, Taiwan, [2]National Cheng Kung University, Taiwan, [3]National Taiwan Normal University, Taiwan, [4]National Taiwan University Hospital, Taiwan
Disclosures: Tsang-hai Huang, None

OSTEOPOROSIS - EPIDEMIOLOGY: FRACTURE OUTCOME

MO0324 **A 12-year Longitudinal Study of the Influence of Vertebral Fracture on Spinal Configuration and Vice Versa**
Tetsuya Kobayashi*. Asahikawa Medical University, Japan
Disclosures: Tetsuya Kobayashi, None

MO0325 **Withdrawn**

MO0326 **Association of Plasma Vitamin D or Vitamin K Concentration with Fracture Incidence in Elderly Women; 10 Years Cohort Study**
Naoko Tsugawa*[1], Masataka Shiraki[2], Yuri Uchino[1], Maya Kamao[1], Toshio Okano[1]. [1]Kobe Pharmaceutical University, Japan, [2]Research Institute & Practice for Involutional Diseases, Japan
Disclosures: Naoko Tsugawa, None

MO0327 **Bisphosphonate Treatment and Mortality Rate after a Hip Fracture in Patients Participating in a Secondary Prevention Program**
Maria Diehl*[1], Andrea Beratarrechea[2], Natalia Pace[3], Javier Saimovici[4], Adriana Trossero[2], Gaston Perman[2], Luisa Plantalech[5]. [1]Metabolic Bone Disease Unit, Endocrinology Department, Argentina, [2]Medical Programs Area,Internal Medicine Department, Argentina, [3]Medical Program Area, Internal Medicine Departments, Argentina, [4]Home Medicine Section, Internal Medicine Department, Argentina, [5]Metabolic Bone Disease Unit,Endocrinology Department, Hospital Italiano de Buenos Aires, Argentina
Disclosures: Maria Diehl, None

MO0328 **Differences in Fracture Associated Complications in Men and Women**
Hans-Christof Schober*[1], Kathrin Baessgen[2], Patrick Haar[3], Thomas Westphal[3], Thomas Mittlmeier[4]. [1]Klinikum Südstadt RostockKlinik Für Innere Medizin I, Germany, [2]klinikum Suedsstadt Rostock, Germany, [3]Dept. trauma & orthopaedic surgery, Germany, [4]Dept. trauma & orthopaedic surgery Univ. Rostock, Germany
Disclosures: Hans-Christof Schober, None

MO0329 **Does Accounding for Bone Mineral Density Alter the Association between Body Mass Index and Fracture?**
Nicole Wright*[1], Silvina Levis[2], Jennifer Bea[3], Laura Carbone[4], Jane Cauley[5], Zhao Chen[3], Carolyn Crandall[6], Jeffrey Curtis[1], Rebecca Jackson[7], Karen Johnson[8], Andrea Lacroix[9], John Robbins[10], Marcia Stefanick[11], Nelson Watts[12], Jean Wactawski-Wende[13]. [1]University of Alabama at Birmingham, USA, [2]University of Miami School of Medicine, USA, [3]University of Arizona, USA, [4]University of Tennessee Health Science Center, USA, [5]University of Pittsburgh Graduate School of Public Health, USA, [6]University of California, Los Angeles, USA, [7]The Ohio State University, USA, [8]University of Tennessee, USA, [9]Fred Hutchinson Cancer Research Center, USA, [10]University of California, Davis Medical Center, USA, [11]Stanford University, USA, [12]Mercy Health Osteoporosis & Bone Health Services, USA, [13]University at Buffalo, USA
Disclosures: Nicole Wright, Amgen, 2

MO0330 **Micro Finite Element Analysis Derived Biomechanical Properties of the Trabecular Bone, and Not Cortical Porosity, Is Associated with Prevalent X-ray Verified Fractures In Young Adult Men**
ROBERT RUDANG*[1], Anna Darelid[2], Martin Nilsson[3], Dan Mellstrom[4], Claes Ohlsson[5], Mattias Lorentzon[6]. [1]INSTITUTE OF MEDICINE, SAHLGRENSKA ACADEMY, Sweden, [2]Gothenburg University, Sweden, [3]Centre for Bone & Arthritis Research At the Sahlgrenska Academy, Sweden, [4]Sahlgrenska University Hospital, Sweden, [5]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [6]Center for Bone Research at the Sahlgrenska Academy, Sweden
Disclosures: ROBERT RUDANG, None

MO0331 **Mortality Following Lower Extremity Fractures in Men with Spinal Cord Injury**
Laura Carbone*[1], Amy Chin[2], Stephen Burns[3], Jelena Svircev[3], Helen Hoenig[4], Michael Heggeness[5], Frances Weaver[6]. [1]University of Tennessee Health Science Center, USA, [2]Edward J. Hines, Jr. VA Hospital, USA, [3]VA Puget Sound Health Care System / University of Washington-Rehabilitation Medicine, USA, [4]Durham Veterans Affairs Medical Center, USA, [5]Baylor College of Medicine, USA, [6]Edward J. Hines, Jr. VA Hospital / Stritch School of Medicine, Loyola University, USA
Disclosures: Laura Carbone, None

MO0332 **Obese and Overweight Patients Have Reduced Mortality after a Hip Fracture: the Latest Obesity Paradox**
Daniel Prieto-alhambra*[1], Melissa Premaor[2], Francesc Fina Aviles[3], Xavier Nogues[4], Muhammad Javaid[5], Nigel Arden[5], Cyrus Cooper[6], Juliet Compston[7], Adolfo Diez-Perez[8]. [1]Institut Municipal D'Investigació Mèdica, United Kingdom, [2]Federal University of Santa Maria, Brazil, [3]Institut Catala de la Salut; SIDIAP-IDIAP Jordi Gol, Spain, [4]Institut Municipal D'Investigació Mèdica, Spain, [5]University of Oxford, United Kingdom, [6]University of Southampton, United Kingdom, [7]University of Cambridge School of Clinical Medicine, United Kingdom, [8]Parc De Salut Mar, Spain
Disclosures: Daniel Prieto-alhambra, None

MO0333 **Prevalence and Risk Factors for Vertebral Fractures among Asian Indians >50 Years of Age-Delhi Vertebral Osteoporosis (DEVOS) Study**
Raman Marwaha[1], Nikhil Tandon[2], Yashdeep Gupta[2], Kunal Bhadra[1], Archana Narang[3], Kalaivani Mani[4], Ambrish Mithal[5], Subhash Kukreja*[6]. [1]Institute of Nuclear Medicine & Allied Sciences, India, [2]AII India Institute of Medical Sciences, India, [3]Dr B.R.Sur Homeopathic Medical College Hospital & Research Centre, India, [4]AII Institute of Medical Sciences, India, [5]Medanta Medicity, India, [6]University of Illinois, USA
Disclosures: Subhash Kukreja, None

OSTEOPOROSIS - EPIDEMIOLOGY: GENETIC STUDIES

MO0334 **Identification of New MicroRNA Binding Site Polymorphisms for Bone Mineral Density in Meta-Analysis of Genome-Wide Association Studies**
Tianhua Niu*[1], Lei Zhang[2], Shu-Feng Lei[3], Jian Li[2], Yu-Fang Pei[2], Yongjun Liu[2], Hui Shen[4], Yaozhong Liu[4], Hong-Wen Deng[4]. [1]Tulane University School of Public Health & Tropical Medicine, USA, [2]Center for Bioinformatics & Genomics, Department of Biostatistics & Bioinformatics, Tulane University School of Public Health & Tropical Medicine, USA, [3]College of Life Sciences, Hunan Normal University, China, [4]Tulane University, USA
Disclosures: Tianhua Niu, None

MO0335 **Replication of European Loci Associated with Bone Mineral Density in Koreans**
Ye An Kim*[1], Hyung Jin Choi[2], Eu Jeong Ku[1], Sang Wan Kim[3], Jong-Young Lee[4], Bok-Ghee Han[4], Seong Yeon Kim[1], Chan Soo Shin[1], Nam H Cho[5]. [1]Department of Internal Medicine, Seoul National University College of Medicine, South Korea, [2]Chungbuk National University Hospital, South Korea, [3]Seoul National University Boramae Hospital, South Korea, [4]Center for Genome Science, National Institute of Health, Osong Health Technology Administration Complex, South Korea, [5]Department of Preventive Medicine, Ajou University School of Medicine, South Korea
Disclosures: Ye An Kim, None

MO0336 **Vitamin D Binding Protein Genotype Is Associated with Serum 25-hydroxyvitamin D Concentration and Bone Traits in Finnish Adults – the PHOMI study**
Elisa Saarnio*[1], Minna Pekkinen[2], Virpi Kemi[3], Suvi Itkonen[3], Outi Makitie[4], Heini Karp[3], Merja Kärkkäinen[3], Harri Sievanen[5], Christel Lamberg-Allardt[3]. [1]University of Helsinkl, Finland, [2]Folkhälsan Institute of Genetics, University of Helsinki, Finland, [3]University of Helsinki, Finland, [4]Hospital for Children & Adolescents, Helsinki University Hospital, Finland, [5]UKK Institute, Finland
Disclosures: Elisa Saarnio, None

OSTEOPOROSIS - EPIDEMIOLOGY: LIFESTYLE AND BONE (ALCOHOL, TOBACCO)

MO0337 **Physical Activity as Determinant of Femoral Neck Strength in Adult Women. Findings from the SWAN Hip Strength Across The Menopausal Transition Study.**
Takahiro Mori*[1], Shinya Ishii[2], Gail Greendale[3], Jane Cauley[4], Barbara Sternfeld[5], Weijuan Han[3], Arun S. Karlamangla[3]. [1]West Los Angeles Veterans Health Administration, USA, [2]University of Tokyo, Japan, [3]University of California, Los Angeles, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]Division of Research, Kaiser Permanente, USA
Disclosures: Takahiro Mori, NIH, 2

OSTEOPOROSIS - EPIDEMIOLOGY: RISK FACTORS

MO0338 **Age Modifies Hip Fracture Risk Associated with Risk Factors and Functional Status: The Global Longitudinal study of Osteoporosis in Women (GLOW)**
Frederick Hooven*[1], Julie Flahive[2], Steven Boonen[3], Stephen Gehlbach[4], Ethel Siris[5], Susan Greenspan[6]. [1]University of Massachusetts Medical School, USA, [2]UMass Medical School, USA, [3]Leuven University Center for Metabolic Bone Diseases, Belgium, [4]University of Massachusetts, USA, [5]Columbia University College of Physicians & Surgeons, USA, [6]University of Pittsburgh, USA
Disclosures: Frederick Hooven, None

MO0339 **C-Reactive Protein, Femoral Neck Strength, and Fracture Risk: Data from Study of Women's Health Across the Nation (SWAN)**
Shinya Ishii*[1], Jane Cauley[2], Gail Greendale[3], Carolyn Crandall[3], Michelle Danielson[4], Yasuyoshi Ouchi[5], Arun Karlamangla[6]. [1]Graduate School of Medicine, University of Tokyo, Japan, [2]University of Pittsburgh Graduate School of Public Health, USA, [3]University of California, Los Angeles, USA, [4]University of Pittsburgh, USA, [5]Department of Geriatrics, University of Tokyo, Japan, [6]Division of Geriatrics, David Geffen School of Medicine at UCLA, USA
Disclosures: Shinya Ishii, None

MO0340 **Withdrawn**

MO0341 **Different Cardiovascular Risk Factor Pattern for Osteoporotic Fractures in Middle Aged Icelandic and Swedish Women**
Anna Holmberg*[1], Kristin Siggeirsdottir[2], Thor Aspelund[3], Gunnar Sigurdsson[4], Kristina Akesson[5], Vilmundur Gudnason[2]. [1]Skane University Hospital, Malmö, Sweden, [2]Icelandic Heart Association Research Institute, Iceland, [3]Icelandic Heart Association, Iceland, [4]Landspitali, Iceland, [5]Skåne University Hospital, Malmö, Sweden
Disclosures: Anna Holmberg, None

MO0342 **Incident Fall Rate is Associated with Higher BMI In Older Men: The Osteoporotic Fractures in Men (MrOS) Study**
Smriti Shrestha*[1], Carrie Nielson[1], Melanie Abrahamson[1], Kristine Ensurd[2], Marcia L Stefanick[3], Tien Dam[4], Eric Orwoll[1]. [1]Oregon Health & Science University, USA, [2]University of Minnesota Medical School, USA, [3]Stanford University, USA, [4]Columbia University Medical Center, USA
Disclosures: Smriti Shrestha, None

MO0343 **Musculoskeletal Changes in Women Have Accompanied an Increase in BMI during the Obesity Epidemic**
Julie Pasco[1], Haslinda Gould[2], Sharon Brennan*[2], Mark Kotowicz[3]. [1]Deakin University, Australia, [2]The University of Melbourne, Australia, [3]Deakin University School of Medicine, Australia
Disclosures: Sharon Brennan, None

MO0344 **Predictive Value of Historical Height Loss and Current Height/knee Height Ratio for prevalent Vertebral Fracture**
Akiko Kuwabara*[1], Kiyoshi Tanaka[2], Kousei Yoh[3]. [1]Osaka Shoin Women's University, Japan, [2]Kyoto Women's University, Japan, [3]Hyogo Medical College, Sasayama Medical Center, Japan
Disclosures: Akiko Kuwabara, None

MO0345 **The Associations between Serum Lipids and Bone Turnover Markers in Men Aged 45 Years and Over: Analysis of NHANES 1999-2002 Data**
Maryam Hamidi*[1], Shabbir Alibhai[2], Moira Kapral[2], LIANNE TILE[3], Angela Cheung[2]. [1]University of Toronto/University Health Network-TGH, Canada, [2]University Health Network, Canada, [3]University of Toronto, Canada
Disclosures: Maryam Hamidi, None

MO0346 **The Fridex Model: High-Risk Patients Based on FRAX Cut-off Points From A Cohort of Spanish Women Followed For 10 Years**
Enrique Casado*[1], Rafael Azagra[2], Gloria Encabo[3], Amaya Aguyé[4], Jesús Pujol-Salud[5], Juan Carlos Martín-Sánchez[6], Emili Gené[7], Marta Zwart[8], Francesc López-Expósito[9], Genís Roca[10], Silvia Güell[11], Núria Puchol[12]. [1]University Institute Parc Taulí, Spain, [2]Clinical Pharmacology, Health Centre Badia del Vallés, Universitat Autònoma de Barcelona, USR MN-IDIAP Jordi Gol, Spain, [3]Nuclear Medicine, Hospital Vall d'Hebron, Spain, [4]Health Centre EAP Granollers Centre, Spain, [5]Health Centre EAP Balaguer, Universidad de Lleida, Spain, [6]Bioestatistics, Universitat Internacional de Catalunya, Spain, [7]Emergency, University Hospital Parc Taulí, Spain, [8]Health Centre, EAP Girona-2, Spain, [9]Health Centre, EAP Bon Pastor, Spain, [10]Health Centre EAP Sant Llàtzer, Spain, [11]Health Centre EAP Montcada, Spain, [12]Clinical Pharmacology, Health Centre Badia del Vallés, Spain
Disclosures: Enrique Casado, None

MO0347 **The Incorporation of Support Vector Machines and Hip Geometric Structure Assessments in the Development of Hip Fracture Risk Prediction Model**
Zhao Chen*[1], Peng Jiang[2], Chengcheng Hu[2], Leslie Arendell[3], John Robbins[4], Samy Missoum[2]. [1]University of Arizona College of Public Health, USA, [2]University of Arizona, USA, [3]University of Arizona Mel & Enid Zuckerman College of Public Health, USA, [4]University of California, Davis Medical Center, USA
Disclosures: Zhao Chen, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: ANOREXIA NERVOSA, ETC.

MO0348 **Prevalence of Low Bone Mineral Density (BMD) in 186 Swiss Women with Anorexia Nervosa**
Sigrid Jehle-Kunz*[1], Markus Wegmüller[2], Romain Perrelet[2], Kurt Lippuner[2]. [1]Osteoporosis Policlinic, University of Bern, Switzerland, Switzerland, [2]Osteoporosis Policlinic, University of Bern, Switzerland
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OSTEOPOROSIS IN SPECIAL POPULATIONS: MISCELLANEOUS

MO0349 **Bone Mass and Vitamin D Levels in Women with a Diagnosis of Fibromyalgia**
Francisco Mateos[1], Carmen Valero[2], Jose Manuel Olmos[2], Julio Castillo[3], Benigno Casanueva[4], Jesús González-Macías*[2]. [1]Department of Internal Medicine. University Hospital Marqués de Valdecilla. University of Cantabria. RETICEF. IFIMAV., Spain, [2]Department of Internal Medicine, Hospital Universitario Marqués de Valdecilla-IFIMAV, Universidad de Cantabria. RETICEF., Spain, [3]Centro de Salud "José Barros". Camargo. University of Cantabria., Spain, [4]Rheumatology, Santander, Spain
Disclosures: Jesús González-Macías, None

MO0350 **Cross Sectional Study of Bone Health in Children with Cystic Fibrosis in Quebec, Canada**
Isabelle Rousseau-Nepton*[1], Catherine St-Laurent Lemerle[2], Marc Fillion[3], Marcel Milot[4]. [1]Montreal Children's Hospital, Canada, [2]Centre Hospitalier Universitaire de Québec, Canada, [3]Hôpital Maisonneuve-Rosemont, Canada, [4]Centre de Santé et de Services Sociaux de Chicoutimi, Canada
Disclosures: Isabelle Rousseau-Nepton, None

MO0351 **Erythropoiesis Alters Mesenchymal Differentiation and Decreases Osteogenesis in a Thalassemia Mouse Model by Mechanisms that Involve Interactions with Hematopoietic Progenitors and Erythropoietin Signaling**
Maria Vogiatzi*[1], Zhiwei Yang[2], Adele Boskey[3], F. Patrick Ross[3]. [1]New York Presbyterian Hospital, Weill Cornell Medical College, USA, [2]Weill Cornell Medical College, USA, [3]Hospital for Special Surgery, USA
Disclosures: Maria Vogiatzi, None

MO0352 **Longitudinal Changes in Trabecular Bone Microarchitecture in Postmenopausal Women with and Without Type 2 Diabetes**
Janet Pritchard*[1], Lora Giangregorio[2], Stephanie Atkinson[1], Karen Beattie[1], Dean Inglis[1], George Ioannidis[1], Hertzel Gerstein[1], Zubin Punthakee[1], Jonathan Adachi[3], Alexandra Papaioannou[4]. [1]McMaster University, Canada, [2]University of Waterloo, Canada, [3]St. Joseph's Hospital, Canada, [4]Hamilton Health Sciences, Canada
Disclosures: Janet Pritchard, None

MO0353 **Renal Safety of 2-hour Pamidronate (PAM) Infusion for Osteogenesis Imperfecta (OI) Patientes**
Telma Oliveira*[1], Maria Cristina Andrade[2], Barbara Peters[1], Fernanda Reis[3], João Thomás Carvalhaes[2], Marise Lazaretti-Castro[1]. [1]Bone & Mineral Unit, Division of Endocrinology-UNIFESP, Brazil, [2]Department of Pediatric Nephrology-UNIFESP, Brazil, [3]Department of Radiology-UNIFESP, Brazil
Disclosures: Telma Oliveira, None

MO0354 **Serum 25 Hydroxyvitamin D and Bone Mineral Density in Patients with Erythropoietic Protoporphyria**
Gonzalo Allo*[1], Guillermo Martinez Diaz-Guerra[1], Rafael Enriquez de Salamanca[2], Federico Hawkins[3]. [1]University Hospital 12 Octubre, Spain, [2]Research Center, University Hospital 12 de Octubre, Spain, [3]Hospital Universitario, Spain
Disclosures: Gonzalo Allo, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: MOBILITY DISORDERS

MO0355 **Associations Between Bone Density and Geometry and Prevalent Fractures Among Individuals with Spinal Cord Injury**
Deena Lala[1], B. Catharine Craven[2], Lehana Thabane[3], Alexandra Papaioannou[4], Jonathan Adachi[5], Milos Popovic[6], Lora Giangregorio*[1]. [1]University of Waterloo, Canada, [2]Toronto Rehabilitation Institute, Canada, [3]McMaster University, Canada, [4]Hamilton Health Sciences, Canada, [5]St. Joseph's Hospital, Canada, [6]University of Toronto, Canada
Disclosures: Lora Giangregorio, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: TRANSIENT OSTEOPOROSIS, STRESS FRACTURES, ETC

MO0356 **The Proinflammatory Cytokine TNF-α Modifies the Resorptive Behaviour of Newly Generated Osteoclasts in vitro from Patients with Acute Charcot Foot**
Nina Petrova*[1], Peter Petrov[2], Michael Edmonds[1], Catherine Shanahan[3]. [1]Diabetic Foot Clinic, King's College Hospital, United Kingdom, [2]Department of Materials, Imperial College, United Kingdom, [3]King's College London, United Kingdom
Disclosures: Nina Petrova, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: TRANSPLANTATION

MO0357 **Osteoporosis and Osteopenia after the Solid Organ Transplantation**
Jana Brunova*[1], Simona Kratochvilova[2]. [1]Institute for Clinical & Experimental Medicine, Czech Republic, [2]IKEM, Czech Republic
Disclosures: Jana Brunova, None

OSTEOPOROSIS - TREATMENT (CLINICAL): ANABOLIC AGENTS

MO0358 **^{18}F-fluoride PET as a Non-invasive Imaging Biomarker Tool for Determining Treatment Efficacy at the Hip: a Prospective, Randomised, Controlled Clinical Study**
Michelle Frost*[1], Amelia Moore[1], Muhammad Siddique[1], Glen Blake[1], Didier Laurent[2], Babul Borah[2], Ursula Schramm[2], Theodore Pellas[2], Paul Schleyer[1], Paul Marsden[1], Ignac Fogelman[3]. [1]King's College London, United Kingdom, [2]Novartis Pharma AG, Switzerland, [3]Guy's Hospital, United Kingdom
Disclosures: Michelle Frost, Novartis Pharma, 2

MO0359 **Change in Serum Sclerostin after 24 Months of Teriparatide or Alendronate**
Elaine Yu*, Elizabeth Schindler, Jason Wyland, Robert Neer, Joel Finkelstein. Massachusetts General Hospital, USA
Disclosures: Elaine Yu, None

MO0360 **Effects of Baseline Status of Bone Turnover Markers and Vitamin D Sufficiency on Efficacy of Teriparatide Once-a-day Subcutaneous Injection in Japanese Patients with Osteoporosis**
Takanori Yamamoto*[1], Mika Tsujimoto[2], Etsuro Hamaya[1], Hideaki Sowa[3]. [1]Eli Lilly, Japan, [2]Eli Lilly Japan K.K., Japan, [3]Lilly Research Laboratories Japan, Eli Lilly Japan K.K., Japan
Disclosures: Takanori Yamamoto, Eli Lilly Japan K.K., 3

MO0361 **P1NP as an Aid for Monitoring Patients Treated with Teriparatide: Canadian Pilot Study**
Jacques Brown*[1], Louis-Georges Ste-Marie[2]. [1]CHUQ Research Centre, Laval University, Canada, [2]CHUM, Canada
Disclosures: Jacques Brown, Eli Lilly, 2; Eli Lilly, 5; Eli Lilly, 8

MO0362 **Supplemental Collagen with Calcium Improves Bone Health in Part by Attenuating Sclerostin**
Marcus Elam*[1], Shirin Hooshmand[2], Jennifer Gu[3], Bahram Arjmandi[1]. [1]Florida State University, USA, [2]San Diego State University, USA, [3]AIDP Inc., USA
Disclosures: Marcus Elam, None

OSTEOPOROSIS - TREATMENT (CLINICAL): BISPHOSPHONATES

MO0363 **Atypical Femoral Fractures: Radiographic and Histomorphometric Features in 12 Patients**
Aliya Khan*[1], Angela Cheung[2], Adil Zaidi[1], Nazir Khan[1], Ken Pritzker[3], Bryan Lentle[4]. [1]McMaster University, Canada, [2]University Health Network, Canada, [3]University of Toronto, Canada, [4]University of British Columbia, Canada
Disclosures: Aliya Khan, None

MO0364 **Atypical Femoral Fractures-a Single Center Data**
Elena Segal*, Daniela Militianu, Marina Nodelman, Doron Norman, Michael Soudry, Sophia Ish-Shalom. Rambam Health Care Campus, Israel
Disclosures: Elena Segal, None

MO0365 **Atypical Subtrochanteric and Diaphyseal Femoral Fractures Associated with Long-term Bisphosphonate use in Postmenopausal Osteoporosis – A Case Study**
Oliver Bock*, Uta Stege, Dieter Felsenberg. Charité - Campus Benjamin Franklin, Germany
Disclosures: Oliver Bock, None

MO0366 **Beneficial Effect of Strontium Ranelate Compared to Alendronate on Trabecular Bone Score in Post Menopausal Osteoporotic Women: A 2 Year Study**
Didier Hans*[1], Marc-Antoine Krieg[2], Olivier Lamy[3], Dieter Felsenberg[4]. [1]Lausanne University Hospital, Switzerland, [2]University Hospital, Switzerland, [3]Chief of the Bone Unit, Switzerland, [4]Charité - Campus Benjamin Franklin, Germany
Disclosures: Didier Hans, medimaps, 4; medimaps, 1

MO0367 **Comparative Effectiveness and Safety of Generic Versus Branded Alendronate Among Medicare Beneficiaries**
Huifeng Yun*[1], Elizabeth Delzell[1], Jeffrey Curtis[1], Lingli Guo[1], Pradeep Sharma[1], Meredith Kilgore[2], Paul Muntner[1], Amy Warriner[1], Kenneth Saag[1]. [1]University of Alabama at Birmingham, USA, [2]University of Alabama At Birmingham School of Public Health, USA
Disclosures: Huifeng Yun, Amgen, 2

MO0368 **Effects of Combined Treatment with Alendronate and Alfacalcidol Comparing with other Bisphosphonates and Alfacalcidol in BMD Changes at Postmenopausal Osteoporotic Women**
Corina Galesanu*[1], Alexandru Florescu[2], Andra Iulia Loghin[2], Ilinka Grozavu[2], Petronela Ancute[2], Valentin Zaharia[2], Veronica Mocanu[2]. [1]University of Medicine & Pharmacy, Romania, [2]University of Medicine & Pharmacy "Gr.T.Popa", Romania
Disclosures: Corina Galesanu, None

MO0369 **Effects of Denosumab on Bone Turnover Markers Compared to Zoledronic Acid in Severe Osteoporotic Women: A Randomized Head to Head Study**
Marco Invernizzi*[1], Alessio Baricich[2], Maurizio Bevilacqua[3], Stefano Carda[4], Carlo Cisari[2]. [1]University of Eastern Piedmont, Novara, Italy, [2]Department of Health Sciences, University of Eastern Piedmont "A. Avogadro", Italy, [3]Department of Medicine, Luigi Sacco Hospital, University of Milan, Italy, [4]Centre Hospitalier Universitaire Vaudois, Switzerland
Disclosures: Marco Invernizzi, None

MO0370 **Effects of Vitamin D Therapy on Bone Turnover Markers and PTH Levels in Postmenopausal Osteoporotic Women Treated with Alendronate**
Jose Olmos*[1], José L. Hernández[2], Javier Llorca[3], Josefina Martínez[2], Daniel Nan[2], Carmen Valero[4], Jesus Gonzalez-Macias[5]. [1]Hospital Universitario M. Valdecilla, Spain, [2]Hospital Universitario Marqués de Valdecilla, Spain, [3]Epidemiology Unit, Medical School, Universidad de Cantabria, Spain, [4]Hospital Universitario Marqués De Valdecilla (HUMV), Spain, [5]Universidad De Cantabria, Spain
Disclosures: Jose Olmos, None

MO0371 **Fracture Prevention in Patients with Cognitive Impairment Presenting with a Hip Fracture: Secondary Analysis of Data from the HORIZON Recurrent Fracture Trial**
Muhammad Javaid*[1], Daniel Prieto-alhambra[2], Nigel Arden[1], Andrew Judge[1], Cyrus Cooper[3]. [1]University of Oxford, United Kingdom, [2]Institut Municipal D'Investigació Mèdica, United Kingdom, [3]University of Southampton, United Kingdom
Disclosures: Muhammad Javaid, Novartis, 5

MO0372 **Withdrawn**

MO0373 **Prevalence of Renal Impairment among Osteoporotic Women in the US: Analysis of NHANES survey 2005-2008.**
Robert Lubwama[1], Allison Nguyen*[2], Ankita Modi[3], Paul Miller[4]. [1]Merck, USA, [2]Merck & Co., Inc., USA, [3]Merck & Company, USA, [4]Colorado Center for Bone Research, USA
Disclosures: Allison Nguyen, Merck & Co Inc, 3

MO0374 **Prevention of Postmenopausal Osteoporosis with Two Intermittent Alendronate Regimens: Bone Mineral Density and Bone Markers Changes After 24 Months**
Yves Boutsen*[1], Jacques Jamart[2], Catherine Vynckier[3], Thierry Vander Borght[3], Jean-Pierre Devogelaer[4]. [1]Cliniques Universitaires De Mont-Godinne, Belgium, [2]Department of Biostatistics University Hospital in Mont-Godinne, Belgium, [3]Department of Nuclear Medicine University Hospital in Mont-Godinne, Belgium, [4]St. Luc University Hospital, Belgium
Disclosures: Yves Boutsen, None

MO0375 **Relationship between Response to Treatment with Risedronate and Baseline Characteristics Including Age, BMD, and Vitamin D Level -Subanalyses of Japanese Risedronate Phase III Trials-**
Taro Mawatari*[1], Ryoichi Muraoka[2], Yukihide Iwamoto[1]. [1]Kyushu University, Japan, [2]Ajinomoto Phamaceuticals Co, Ltd., Japan
Disclosures: Taro Mawatari, None

OSTEOPOROSIS - TREATMENT (CLINICAL): COMPLIANCE AND PERSISTENCE

MO0376 **Are There Differences in Those Sustaining Humeral Shaft Fragility Fractures with a Prior Osteoporosis Diagnosis?**
Debra Sietsema*[1], Martin Hoffmann[2], Theresa Bacon-Baguley[3], Clifford Jones[1]. [1]Orthopaedic Associates of Michigan; Michigan State University, USA, [2]Grand Rapids Medical Education Partners, USA, [3]Grand Valley State University, USA
Disclosures: Debra Sietsema, Eli Lilly, 5; Eli Lilly, 8

MO0377 **Burden of Gastrointestinal Events on Osteoporosis Treatment Compliance: Administrative Claims Analysis of a Managed Care Population**
Ethel Siris*[1], Shiva Sajjan[2], Jackson Tang[3], Shuvayu Sen[4], Ankita Modi[2]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Merck & Company, USA, [3]USA, [4]Merck & Co., Inc., USA
Disclosures: Ethel Siris, Amgen, Lilly, 8

MO0378 **Characterizing Gastrointestinal Events Among Patients Initiating Osteoporosis Therapy: A Retrospective Administrative Claims Database Analysis**
Ethel Siris*[1], Tao Fan[2], Chun-Po Steve Fan[3], Shiva Sajjan[4], Shuvayu Sen[5], Ankita Modi[4]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Merck, USA, [3]AsclepiusJT LLC, USA, [4]Merck & Company, USA, [5]Merck & Co., Inc., USA
Disclosures: Ethel Siris, Amgen, Lilly, 8; Amgen, Lilly, Merck, 5

MO0379 **Reported Medication Initiation Rates are not Directly Comparable across Secondary Fracture Prevention Programs: Findings from a Systematic Review**
Joanna Sale*[1], Dorcas Beaton[2], Josh Posen[1], Earl Bogoch[1]. [1]St. Michael's Hospital, Canada, [2]Keenan Research Centre, St Michael's Hospital, Canada
Disclosures: Joanna Sale, None

MO0380 **Substantial Under-treatment among Women Diagnosed with Osteoporosis in a United States Managed Care Population**
Ethel Siris*[1], Shiva Sajjan[2], Srinivasan Rajagopalan[3], Shuvayu Sen[4], Ankita Modi[2]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Merck & Company, USA, [3]Meddata Analytics, USA, [4]Merck & Co., Inc., USA
Disclosures: Ethel Siris, Amgen, Lilly and Merck, 5; Amgen, Lilly, 8

OSTEOPOROSIS - TREATMENT (CLINICAL): GONADAL STEROIDS AND SERMS

MO0381 **The Effects of Bazedoxifene on Bone Structural Strength Evaluated by Hip Structure Analysis**
Thomas Beck*[1], Thomas Fuerst[2], Kenneth Gaither[3], Santosh Sutradhar[4], Amy Levine[5], Teresa Hines[4], Robert Williams[4], Arkadi Chines[6]. [1]Quantum Medical Metrics, LLC, USA, [2]Synarc Inc, USA, [3]Synarc, Inc., USA, [4]Pfizer Inc., USA, [5]Pfizer, Primary Care Business Unit, USA, [6]Amgen Inc., USA
Disclosures: Thomas Beck, Quantum Medical Metrics, 4

OSTEOPOROSIS - TREATMENT (CLINICAL): HEALTH ECONOMICS

MO0382 **A Cost Effectiveness Analysis of a Fracture Liaison Service**
Daniel Solomon*[1], Amanda Patrick[2], John Schousboe[3], Elena Losina[2]. [1]Harvard Medical School, USA, [2]Brigham & Women's Hospital, USA, [3]Park Nicollet Clinic, University of Minnesota, USA
Disclosures: Daniel Solomon, Lilly, 2; Amgen, 2

MO0383 **Osteoporosis-Related Cost and Healthcare Utilization among Women Newly Initiated on Zoledronic Acid**
Joice Huang*[1], Brad Stolshek[2], Emily Durden[3], Elnara Eynullayeva[3]. [1]Amgen, USA, [2]Amgen Inc, USA, [3]Thomson Reuters, USA
Disclosures: Joice Huang, Amgen Inc, 3

MO0384 **The Correlations between Heel Quantitative Ultrasound and DXA Parameters - a Study in 336 Postmenopausal Women with Normal and Low BMD**
Mara Carsote[1], Catalina Poiana*[1], Carmen Barbu[2], Crisitina Ene[1], Mihaela Popescu[3], Valentin Radoi[4], Gabriela Voicu[5]. [1]UMP DAVILA, Romania, [2]Carol Davila University, Romania, [3]Parhon, Romania, [4]UMPh Davila, Romania, [5]I.Parhon, Romania
Disclosures: Catalina Poiana, None

MO0385 **Unmet Need for Osteoporosis Treatment in Real World Kyphoplasty/Vertebroplasty Patients**
Yang Zhao*[1], Stephen Johnston[2], Donna McMorrow[2], Kelly Krohn[3], John Krege[4]. [1]Eli Lilly, USA, [2]Thomson Reuters, USA, [3]Lilly USA, LLC, USA, [4]Eli Lilly & Company, USA
Disclosures: Yang Zhao, Eli Lilly and Company, 1

OSTEOPOROSIS - TREATMENT (CLINICAL): OTHER AGENTS

MO0386 **Denosumab - Identification of Patients and Tolerability in an Irish Bone Health Clinic Population**
Rosaleen Lannon*, Victoria Robinson, Conall Fitzgerald, Georgina Steen, Miriam Casey, JB Walsh. St James's Hospital, Ireland
Disclosures: Rosaleen Lannon, None

MO0387 **Effects of Denosumab on Bone Mineral Density (BMD) and Bone Resorption Marker in Men with Low BMD Compared with Men with Prostate Cancer Receiving Androgen Deprivation Therapy and Women with Postmenopausal Osteoporosis (PMO)**

Michael McClung*[1], Jean-Pierre Devogelaer[2], David Kendler[3], Edward Czerwinski[4], Osten Ljunggren[5], Michael Bolognese[6], Henry Bone[7], E. Michael Lewiecki[8], Paul Miller[9], Ugis Gruntmanis[10], Matthew Smith[11], Yuqing Yang[12], Andrea Wang[12], Carsten Goessl[12], Rachel Wagman[13], Jesse Hall[14], Steven Boonen[15]. [1]Oregon Osteoporosis Center, USA, [2]St. Luc University Hospital, Belgium, [3]Associate Professor, University of British Columbia, Canada, [4]Medical College Jagiellonian University, Poland, [5]Uppsala University Hospital, Sweden, [6]Bethesda Health Research, USA, [7]Michigan Bone & Mineral Clinic, USA, [8]University of New Mexico School of Medicine, USA, [9]Colorado Center for Bone Research, USA, [10]University of Texas Southwestern Medical Center, Dallas, USA, [11]Massachusetts General Hospital, USA, [12]Amgen Inc, USA, [13]Amgen, Incorporated, USA, [14]Amgen, Inc., USA, [15]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Belgium

Disclosures: Michael McClung, Merck, 2; Merck, 5

MO0388 **Evaluating the Effect of Yogurt Fortified with Calcium, Vitamin D and Milk Basic Protein on Bone Remodelling in Early Postmenopausal Women**

Claudia Beaudoin*[1], Sonia Jean[2], Emilie Laurin[3], Jonathan Adachi[4], Susan I. Barr[5], Jacques Brown[6]. [1]Crchuq Research Centre-chul, Canada, [2]INSTITUT NATIONAL DE SANTÉ PUBLIQUE DU QUÉBEC, Canada, [3]Les Aliments Ultima Foods inc., Canada, [4]St. Joseph's Hospital, Canada, [5]University of British Colombia, Canada, [6]CHUQ Research Centre, Laval University, Canada

Disclosures: Claudia Beaudoin, None

MO0389 **Lycopene Supplementation Improved Bone Resorption and Oxidative Stress Markers in Men ⩾ 50-65 Years: The CEOR Study**

Mohammed-Salleh Ardawi*[1], Mohammed Qari[2], Abdulraheem Rouzi[3]. [1]Center of Excellence for Osteoporosis Research & Faculty of Medicine, Saudi Arabia, [2]Center of Excellence for Osteoporosis Research & Department of Hematology, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi Arabia, [3]Center of Excellence for Osteoporosis Research & Department of Obstetrics & Gynecology & KAU Hospital,Faculty of Medicine, King Abdulaziz University, Saudi Arabia

Disclosures: Mohammed-Salleh Ardawi, None

MO0390 **Odanacatib, a Cathepsin-K Inhibitor, Has Similar Clinical Concentration-response Relationships for Urinary N-terminal Telopeptide (uNTx) and Deoxypyridinoline (uDPD)**

Stefan Zajic*[1], David Hreniuk[2], Rose Witter[2], Deborah Panebianco[2], Julie Stone[2], Aubrey Stoch[3]. [1]Merck Research Laboratories, USA, [2]Merck Research Labs, USA, [3]Merck & Co., Inc., USA

Disclosures: Stefan Zajic, Merck & Co., Inc., 3; Merck & Co., Inc., 1

MO0391 **Osteoporosis-Related Trials in the ClinicalTrials.gov Dataset**

Karen Barnard*[1], Wanda Lakey[2], Bryan Batch[3], Karen Chiswell[3], Asba Tasneem[3], Jennifer Green[3]. [1]Duke University Medical Center, Durham VAMC, USA, [2]Duke University Medical Center, USA, [3]Duke University, USA

Disclosures: Karen Barnard, None

MO0392 **Phase 3 Fracture Trial of Odanacatib for Osteoporosis – Baseline Characteristics and Study Design**

Socrates Papapoulos*[1], Henry Bone[2], David Dempster[3], John Eisman[4], Susan Greenspan[5], Michael McClung[6], Toshitaka Nakamura[7], Joseph Shih[8], Albert Leung[9], Arthur Santora[9], Nadia Verbruggen[10], Elizabeth Rosenberg[11], Antonio Lombardi[11]. [1]Leiden University Medical Center, The Netherlands, [2]Michigan Bone & Mineral Clinic, USA, [3]Columbia University, USA, [4]Garvan Institute of Medical Research, Australia, [5]University of Pittsburgh, USA, [6]Oregon Osteoporosis Center, USA, [7]University of Occupational & Environmental Health, Japan, [8]Robert Wood Johnson Medical School, USA, [9]Merck Research Laboratories, USA, [10]Merck Sharpe & Dohme, Belgium, [11]Merck & Co., Inc., USA

Disclosures: Socrates Papapoulos, Merck Sharp & Dohme Corp,, 5

OSTEOPOROSIS - TREATMENT (CLINICAL): QUALITY OF LIFE

MO0393 **Risk Factors for Developing Vertebral Fractures after Vertebroplasty (VP)**
Angels Martinez-Ferrer[1], Jordi Blasco[2], Jose Luis Carrasco[3], Antonio López-Rueda[2], Ana Monegal[4], Nuria Guanabens[5], Pilar Peris*[6]. [1]Hospital Clinic of Barcelona, Spain, [2]Neurointerventional Department. Hospital Clinic Barcelona, Spain, [3]Public Health Department. University of Barcelona, Spain, [4]Rheumatology Department. Hospital Clinic Barcelona, Spain, [5]Universitat De Barcelona, Spain, [6]Hospital Clínic of Barcelona, Spain
Disclosures: Pilar Peris, None

MO0394 **The Impact of Different Health Dimensions on Overall Quality of Life Related to Kyphoplasty and Non-surgical Management**
Fredrik Borgström*[1], Oskar Ström[2], Steven Boonen[3], Douglas Wardlaw[4], Carolin Miltenburger[5]. [1]Karolinska Institutet, Sweden, [2]Quantify Research, Sweden, [3]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Belgium, [4]Orthopaedic Department,Woodend Hospital, NHS Grampian, United Kingdom, [5]Medtronic International Trading SARL, Switzerland
Disclosures: Fredrik Borgström, Medtronic, 5

OSTEOPOROSIS - TREATMENT (CLINICAL): VITAMIN D AND METABOLITES

MO0395 **Different Bioavailability After a Single Oral or Intramuscular Administration of 600,000 IU of Cholecalciferol or Ergocalciferol in Elderly People: Implications for Treatment and Prophylaxis**
Cristiana Cipriani*[1], Stefania Russo[2], Luciano Carlucci[3], Alessandro Ragno[4], Donald MacMahon[5], SARA PIEMONTE[6], Antonella D'Angelo[3], Claudia Castro[3], Federica De Lucia[7], Jessica Pepe[3], Elisabetta Romagnoli[8], Salvatore Minisola[9]. [1]University of Rome, Italy, [2]Sapienza, University of Rome, Italy, [3]"Sapienza" University of Rome, Italy, [4]"Regina Apostolorum" Hospital, Italy, [5]Columbia University, USA, [6]POLICLINICO UMBERTO I-II CLINICA MEDICA, Italy, [7]Universita Di Roma Sapienza, Italy, [8]Dpt of Internal Medicine & Medical Specialties, University "Sapienza", Rome, Italy, [9]"Sapienza", University of Rome, Italy
Disclosures: Cristiana Cipriani, None

MO0396 **Skeletal & Non-Skeletal Beneficial Effects of Vitamin D**
Sunil Wimalawansa*. Robert Wood Johnson Medical School, USA
Disclosures: Sunil Wimalawansa, None

MO0397 **The Effect of Different Doses of Vitamin D3 on Calcium Absorption in Older Women**
Vinod Yalamanchili*[1], Lynette Smith[2], J. Christopher Gallagher[1]. [1]Creighton University Medical Center, USA, [2]University of Nebraska Medical Center, USA
Disclosures: Vinod Yalamanchili, None

MO0398 **Vitamin D Status and Effect of Food Supplementation in Rural White and American Indian Women**
Irina Haller*[1], Diane Krueger[2], Jessie Libber[2], Ellen Fidler[2], Neil Binkley[2]. [1]Essentia Institute of Rural Health, USA, [2]university of Wisconsin, Madison, USA
Disclosures: Irina Haller, None

MO0399 **Vitamin D3 Dose Response on Serum 25 Hydroxyvitamin D: A Comparison of Caucasian and African American Women**
J. Christopher Gallagher*[1], Vinod Yalamanchili[1], Munro Peacock[2], Lynette Smith[3]. [1]Creighton University Medical Center, USA, [2]Indiana University Medical Center, USA, [3]University of Nebraska Medical Center, USA
Disclosures: J. Christopher Gallagher, None

MO0400 **What Organizational Factors Influence Vitamin D use in Nursing Homes? Baseline Data from the ViD*OS* Cluster Randomized Controlled Trial**
George Ioannidis*[1], Alexandra Papaioannou[2], Courtney Kennedy[1], Lora Giangregorio[3], Lehana Thabane[1], Jacob Eappen[1], Sharon Marr[1], Robert Josse[4], Lynne Lohfeld[1], Laura Pickard[1], Anna Sawka[5], Lynn Nash[1], Jonathan Adachi[6]. [1]McMaster University, Canada, [2]Hamilton Health Sciences, Canada, [3]University of Waterloo, Canada, [4]St. Michael's Hospital, University of Toronto, Canada, [5]Toronto General Hospital, Canada, [6]St. Joseph's Hospital, Canada
Disclosures: George Ioannidis, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): ANABOLIC AGENTS

MO0401 **BA058, a Novel Human PTHrP Analog, Restores Bone Mass in the Aged Osteopenic Ovariectomized Cynomolgus Monkey**
Nancy Doyle[1], Aurore Varela*[2], Susan Y. Smith[2], Gary Hattersley[3]. [1]Charles River, Canada, [2]Charles River Laboratories, Canada, [3]Radius, USA
Disclosures: Aurore Varela, None

MO0402 **PTH Delivered Orally using a Novel Drug Delivery Technology -**
Ed Arbit[1], Phillip Schwartz[2], Hillel Galizer*[3], Naifang Wang[4]. [1]NYU-Poly, USA, [2], [3]EnteraBio, Israel, [4]New York Medical College, USA
Disclosures: Hillel Galizer, EnterBio, 3

MO0403 **Rapid Transdermal Delivery of BA058 by sMTS Microneedle Arrays; Pharmacokinetics in Rats and Monkeys, and Reversal of Bone Loss in Osteopenic Rats**
Gary Hattersley*[1], Amy Determan[2], Kris Hansen[2], C. Richard Lyttle[3]. [1]Radius, USA, [2]3M Drug Delivery Systems, USA, [3]Radius Health Inc, USA
Disclosures: Gary Hattersley, Radius Health, 3

MO0404 **Salvianolate Stimulates Bone Formation and Increases Bone Mass in SLE Mice**
Liao Cui*[1], Yanzhi Liu[2], Yang Cui[3], Xiao Zhang[3], Bilian Xu[2], Tie Wu[2]. [1]Guangdong Medical College, Peoples Republic of China, [2]Guangdong Medical College, China, [3]Guangdong General Hospital, China
Disclosures: Liao Cui, None

MO0405 **Single Dose Pharmacokinetics of PTH(1-34) and PTH-CBD, a Long-Acting Parathyroid Hormone Analog, in Sprague Dawley Rats**
Robert Gensure*[1], Ranjitha Katikaneni[2], Joshua Sakon[3], Robert Stratford[4], Tulasi Ponnapakkam[5]. [1]Children's Hospital at Montefiore, Albert Einstein College of Medicine, USA, [2]Childrens Hospital at Montefiore/Albert Einstein College of Medicine, USA, [3]University of Arkansas, USA, [4]Xavier University of Louisiana, USA, [5]Childrens Hospital at Montefiore, New York/Albert Einstein College of Medicine, USA
Disclosures: Robert Gensure, BiologicsMD, 3

MO0406 **Tailoring Drug - Loading Interactions to Rescue Periosteal Bone Formation at Senescence**
Sundar Srinivasan*[1], Dewayne Threet[1], Brandon Ausk[1], Leah Worton[2], Ronald Kwon[1], Edith Gardiner[1], Steven Bain[1], Ted Gross[1]. [1]University of Washington, USA, [2]The University of Washington, USA
Disclosures: Sundar Srinivasan, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): BISPHOSPHONATES

MO0407 **Effect of Sequential Treatment with Bisphosphonates after Teriparatide in Ovariectomized Rats: Comparison between Risedronate and Alendronate**
Tetsuo Yano*[1], Mei Yamada[1], Makoto Shiozaki[1], Daisuke Inoue[2]. [1]Ajinomoto Pharmaceuticals Co., LTD, Japan, [2]Teikyo University Chiba Medical Center, Japan
Disclosures: Tetsuo Yano, Ajinomoto Pharmaceuticals, 3

MO0408 **High Doses of Zoledronic Acid Induce Persistent Osteonecrosis of the Jaw-Like Lesions in Rice Rats (*Oryzomys palustris*) with Periodontitis**
Jose Aguirre*[1], Donald Kimmel[2], Alicia Leeper[3], Kathleen Neuville[3], Marda Jorgensen[4], Lakshmyya Kesavalu[5], Thomas Wronski[1]. [1]University of Florida, USA, [2]Kimmel Consulting Services, USA, [3]1Department of Physiological Sciences, University of Florida, USA, [4]Cell & Tissue Analysis Core, McKnight Brain Institute, University of Florida, USA, [5]Department of Periodontology & Oral Biology, College of Dentistry, University of Florida, USA
Disclosures: Jose Aguirre, None

MO0409 **Mucosal Irritative and Healing Impairment Effects of Risedronate, a Nitrogen-Containing Bisphosphonate, in Rats- Comparison with Alendronate and Minodronate -**
Kikuko Amagase*, Toshiko Murakami, Kaho Imanishi, Koji Matsumoto, Koji Takeuchi. Kyoto Pharmaceutical University, Japan
Disclosures: Kikuko Amagase, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): CALCIUM AND DIETARY FACTORS

MO0410 **Rheumatologists Underestimate Daily Calcium Intake in Patients with Osteoporosis**
Linda Rasch[1], Marian van Bokhorst - de van der Schueren[2], Lilian van Tuyl[2], Irene Bultink[1], Willem Lems*[3]. [1]VU University Medical Center, The Netherlands, [2]VU University Medical Center, Netherlands, [3]Vrije Universiteit Medical Centre, The Netherlands
Disclosures: Willem Lems, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): GONADAL STEROIDS AND SERMS

MO0411 **Carborane BA321, One of The Carbon-containing Polyhedral Boron-cluster Compounds, is A New Type of Selective Androgen Receptor Modulator.**
Chiho Matsumoto[1], Masaki Inada[1], Michiko Hirata[1], Shinya Fujii[2], Tokuhito Goto[3], Kiminori Ohta[3], Yasuyuki Endo[3], Chisato Miyaura*[1]. [1]Tokyo University of Agriculture & Technology, Japan, [2]Tokyo Medical & Dental University, Japan, [3]Tohoku Pharmaceutical University, Japan
Disclosures: Chisato Miyaura, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): OTHER AGENTS

MO0412 **(-)-epigallocatechin-3-gallate (EGCG) Alleivates Deterioration of Bone Microarchitecture in Ovariectomized Rats**
Chung-Hwan Chen*[1], Lin Kang[2], Yin-Chih Fu[3], Yi-Shan Lin[1], Mei-Ling Ho[1], Je-Ken Chang[3]. [1]Kaohsiung Medical University, Taiwan, [2] National Cheng Kung University Medical College & Hospital, Taiwan, [3]Kaohsiung Medical University & Hospital, Taiwan
Disclosures: Chung-Hwan Chen, None

MO0413 **A 6/12-month Toxicity Study of Denosumab in Cynomolgus Monkeys**
Jeanine Bussiere*[1], Ian Pyrah[2]. [1]Amgen Inc., USA, [2]Amgen Inc, USA
Disclosures: Jeanine Bussiere, Amgen Inc., 3

MO0414 **Efficacy of ONO-5334, a Cathepsin K Inhibitor, on Bone Mineral Density, Geometry and Bone Strength in the Distal Radius in Ovariectomized Cynomolgus Monkeys**
Hiroshi Mori*[1], Hiroyuki Yamada[2], Satoshi Nishikawa[1], Yasuaki Hashimoto[1], Yasutomo Nakanishi[1], Yasuo Ochi[1], Masafumi Sugitani[1], Yutaka Shichino[1], Kazuhito Kawabata[1]. [1]Ono Pharmaceutical Co., Ltd., Japan, [2]ONO PHARMA UK LTD., United Kingdom
Disclosures: Hiroshi Mori, None

MO0415 **Evaluation of MS-275 Skeletal Efficacy *In Vitro* and *In Vivo***
Ajit Regmi*[1], Masahiko Sato[2], Matthew Hamang[1], Lowell Gibson[1], Manuel Sanchez-Felix[1], Rachelle Galvin[3], Timothy Richardson[1]. [1]Eli Lilly & Company, USA, [2]Lilly Research Labs, USA, [3]Lilly Research Laboratories, USA
Disclosures: Ajit Regmi, Eli Lilly and Company, 3

MO0416 **Nigella Sativa Shows Bone Protective Properties Against Postmenopausal Bone Loss in an Animal Model**

Juan Guerra*[1], Erika Varela[1], Sara Reyna[2], Jameela Banu[3]. [1]Medical Research Division - Edinburg Regional Academic Health Center, University of Texas Health Science Center at San Antonio, USA, [2]Department of Medicine, Medical Research Division - Edinburg Regional Academic Health Center, University of Texas Health Science Center at San Antonio, USA, [3]University of Texas Health Science Center at San Antonio, USA

Disclosures: Juan Guerra, None

MO0417 **Osteocyte Apoptosis Induced by Glucocorticoids Is Prevented and Reversed by Anti-sclerostin Antibody in a Male Rat Model**

Zahra Achiou*[1], Delphine Benaitreau[2], carine tournier[2], Eric Dolleans[2], Eric Lespessailles[3], Michael Ominsky[4], Stephane Pallu[5], Claude Laurent Benhamou[1]. [1]CHR ORLEANS, France, [2]I3MTO, France, [3]Centre Hospitalier Regional, France, [4]Amgen Inc., USA, [5]EA 4708 - I3MTO Orléans, France

Disclosures: Zahra Achiou, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): VITAMIN D AND METABOLITES

MO0418 **Combination Treatment with Eldecalcitol (ED-71) and Raloxifene Improves Bone Mechanical Strength by Suppressing Bone Turnover and Increasing Bone Mineral Density in Ovariectomized Rats**

Koichi Endo*[1], SATOSHI TAKEDA[2], Ayako Shiraishi[3], Nobuo Koike[4], Masahiko Mihara[4]. [1]Chugai Pharmaceutical Co., Ltd., Japan, [2]CHUGAI PHARMACEUTICAL CO.,LTD, Japan, [3]Chugai Pharmaceutical Co.,Ltd., Japan, [4]Chugai, Japan

Disclosures: Koichi Endo, Chugai Pharmaceutical, 3

PAGET'S DISEASE: GENERAL

MO0419 **Identification of Rare Genetic Variants on 1p13 and 8q22 Loci in Paget's Disease of Bone**

Mariejka Beauregard*[1], Edith Gagnon[1], Jean Morissette[1], Jacques Brown[2], Laetitia Michou[3]. [1]CHUQ (CHUL) Research Centre, Canada, [2]CHUQ Research Centre, Laval University, Canada, [3]Centre De Recherche Du CHUQ - CHUL, Canada

Disclosures: Mariejka Beauregard, None

MO0420 **Interaction Between OPTN And TNFRSF11A Gene Variants In Sporadic Paget's Disease of Bone**

Daniela Merlotti*[1], Fernando Gianfrancesco[2], Luigi Gennari[1], Domenico Rendina[3], Marco Di Stefano[4], Salvatore Gallone[5], Teresa Esposito[6], Giovanna Morello[6], Valentina D'Alessio[6], Riccardo Muscariello[3], Pasquale Strazzullo[3], Giancarlo Isaia[7], Ranuccio Nuti[1]. [1]University of Siena, Italy, [2]Institute of Genetics & Biophysics - National Research Council of Italy, Italy, [3]Department.of Clinical & Experimental Medicine, University of Naples Federico II, Naples, Italy, [4]Surgical & Medical Disciplines, Section of Gerontology & Bone Metabolic Diseases, University of Turin, Italy, [5]Department of Neuroscience, University of Turin, Italy, [6]Institute of Genetics & Biophysics, CNR, Naples, Italy, [7]University of Torino, Italy

Disclosures: Daniela Merlotti, None

STEROID HORMONES AND RECEPTORS: GLUCOCORTICOIDS

MO0421 **Glucocorticoids Act Directly on Osteocytes to Reduce Bone Vascularity and Strength**

Robert Weinstein*[1], Erin Hogan[2], Charles O'Brien[3], Stavros Manolagas[3]. [1]University of Arkansas for Medical Sciences, USA, [2]Central Arkansas VA Healthcare System, University of Arkansas for Medical Sciences, USA, [3]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA

Disclosures: Robert Weinstein, None

MO0422 **Selective Glucocorticoid Receptor Modulation Maintains Bone Mineral Density In Mice**
Sylvia Thiele*[1], Elena Tsourdi[2], Karolien De Bosscher[3], Jan Tuckermann[4], Katrin Peschke[5], Lorenz Hofbauer[6], Martina Rauner[7]. [1]Dresden University Medical Center, Germany, [2]Division of Endocrinology & Metabolic Bone Diseases, Department of Medicine III, Technical University, Dresden, Germany, Germany, [3]Department of Medical Protein Research, VIB, Ghent, Belgium; Department of Biochemistry, Faculty of Medicine & Health Sciences, Ghent University, Ghent, Belgium, Belgium, [4]Institute of Aging Research - Fritz-Lipmann Institute, Germany, [5]Institute for Immunology, Technical University, Dresden, Germany, Germany, [6]Dresden University Medical Center, Germany, [7]Medical Faculty of the TU Dresden, Germany
Disclosures: Sylvia Thiele, None

STEROID HORMONES AND RECEPTORS: SEX STEROIDS

MO0423 **Anabolic Effects of Icariin in Osteoblasts are Mediated through ERK and JNK Pathways that Interact with Estrogen Receptor Signaling**
Lige Song*[1], Xiuzhen Zhang[2], Yun Zhou[2]. [1]Tongji Hospital, Tongji University School of Medicine, Peoples Republic of China, [2]Tongji Hospital, Tongji University School of Medicine, China
Disclosures: Lige Song, None

MO0424 **Estrogen Signaling to Bone Is not Amplitude–Modulated in Adult Rats**
Ingrid Kantner*[1], Hartmut Blode[2], Reinhold Erben[3]. [1]Vetmeduni Vienna, Austria, [2]Bayer Pharma AG, China, [3]University of Veterinary Medicine, Austria
Disclosures: Ingrid Kantner, None

MO0425 **Genetic Inactivation of the G-Protein Coupled Estrogen Receptor 1 Enhances Fracture Healing in Mice**
Orhan Oz*[1], Rahul Banerjee[2], Sagar Patel[2], Christopher Chen[2]. [1]University of Texas Southwestern Medical Center, Dallas, USA, [2]UT Southwestern Medical Center at Dallas, USA
Disclosures: Orhan Oz, None

MO0426 **Transsexual Women have Low Bone Mass before Cross-sex Hormonal Treatment and Gonadectomy**
Eva Van Caenegem*[1], Youri Taes[2], Stefan Goemaere[3], Hans Zmierczak[4], Katrien Wierckx[5], Jean-Marc Kaufman[6], Guy T'Sjoen[5]. [1]Ghent University, Belgium, [2]Dept. Endocrinology, Ghent University Hospital Ghent, De Pintelaan 185, 9000 Gent, Belgium, [3]University Hospital, Belgium, [4]Ghent Univeristy Hospital, Belgium, [5]Ghent Univeristy, Belgium, [6]University Hospital of Ghent, Belgium
Disclosures: Eva Van Caenegem, None

STEROID HORMONES AND RECEPTORS: VITAMIN D AND ITS ANALOGS

MO0427 **A Liquid Chromatography Tandem Mass Spectrometric (LC-MS/MS) Method for the Quantification of 24,25-dihydroxyvitamin D_3 and 24,25-dihydroxyvitamin D_2 in Human Serum**
Hemamalini Ketha*[1], Ravinder Singh[1], Rajiv Kumar[2]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA
Disclosures: Hemamalini Ketha, None

MO0428 **Ablation of CYP27B1 Accelerates Early Development of Mammary Hyperplasia and Triggers a Major Shift in Activation/deactivation of Growth Related Signaling Pathways Independent of CYP24A1**
Jiarong Li*[1], Rene St-Arnaud[2], Timothy Reinhardt[3], Anne Camirand[4], william Muller[1], Richard Kremer[5]. [1]McGill University, Canada, [2]Shriners Hospital for Children & McGill University, Canada, [3]National Animal Disease Center, USDA, ARS, USA, [4]Mcgill, Canada, [5]McGill University, Royal Victoria Hospital, Canada
Disclosures: Jiarong Li, None

MO0429 **Influence of Seasonal Vitamin D Deficiency on Bone Metabolism Markers in Submariners Subjected to Prolonged Patrols**
Xavier Holy*[1], Laurent Bégot[1], Frédéric Labarthe[2], Nicolas Granger-Veyron[2], Jean-Marc Collombet[1]. [1]IRBA, France, [2]Centre médical ESNLE, France
Disclosures: Xavier Holy, None

MO0430 **Ligand-dependent Actions of the VDR are Required for Activation of TGF-b Signaling During the Inflammatory Response to Cutaneous Injury**
Hilary Luderer*[1], Rosalynn Nazarian[2], Eric Zhu[3], Marie Demay[4]. [1]Massachusetts General Hospital, USA, [2]Dermatopathology Unit, Pathology Service, Massachusetts General Hospital & Harvard Medical School, USA, [3]Massachusetts General Hospital, Harvard Medical School, USA, [4]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Hilary Luderer, None

MO0431 **RNA-sequencing Analysis Defines 1,25-Dihydroxyvitamin D_3- and Calcium-modulated Gene Expression Patterns in the Duodenum of *Cyp27b1* Null Mice on Normal and High Calcium/Phosphorus Rescue Diets**
Seong Min Lee*[1], Erin Riley[1], Mark Meyer[1], Nancy Benkusky[1], Lori Plum[1], Hector Deluca[2], J. Pike[1]. [1]University of Wisconsin-Madison, USA, [2]University of Wisconsin, Madison, USA
Disclosures: Seong Min Lee, None

MO0432 **The Membrane-Mediated Effect of $1\alpha,25(OH)_2D_3$ is Mediated by Ca^{2+}/CaM-Dependent Kinase II and Requires Caveolin-1 and PLAA**
Maryam Doroudi*, Zvi Schwartz, Barbara Boyan. Georgia Institute of Technology, USA
Disclosures: Maryam Doroudi, None

MO0433 **The Synergistic Effects of $1\alpha,25(OH)_2D_3$ and BMP-2 on Osteoblast Mineralization Are Mediated through Both VDR and Pdia3**
Jiaxuan Chen*[1], Christopher Dosier[1], Jung Hwa Park[1], Subhendu De[1], Asia Bailey[1], Robert Guldberg[2], Barbara Boyan[1], Zvi Schwartz[1]. [1]Georgia Institute of Technology, USA, [2]Parker H. Petit Institute for Bioengineering & Bioscience, USA
Disclosures: Jiaxuan Chen, None

MO0434 **Vitamin D Supplementation as an Adjuvant Therapy for Saudi Patients with T2DM: an 18-month Interventional Study**
Nasser Al-Daghri*, Khalid Alkharfy, Omar Al-Attas, Abdulaziz Al-Othman. King Saud University, Saudi Arabia
Disclosures: Nasser Al-Daghri, None

MO0435 **Vitamin D_3 Supplementation Increases Intranuclear Vitamin D Receptor Expression in Human Skeletal Muscle**
Sathit Niramitmahapanya[1], Lisa Ceglia*[1], Susan Harris[1], Heike Bischoff-Ferrari[2], Roger Fielding[3], Bess Dawson-Hughes[1]. [1]Tufts University, USA, [2]University of Zurich, Switzerland, [3]Jean Mayer USDA HNRCA At Tufts University, USA
Disclosures: Lisa Ceglia, None

MO0436 **Vitamin D Supplementation Prevents Hypocalcemia and Cortical Bone Loss Associated with Chronic Alcohol Feeding in Female Mice**
Kelly Mercer*[1], Rebecca Wynne[2], Oxana Lazarenko[2], Charles Lumpkin[1], William Hogue[1], Larry Suva[1], Jin-Ran Chen[3], Thomas Badger[2], Martin Ronis[1]. [1]University of Arkansas for Medical Sciences, USA, [2]Arkansas Children's Nutrition Center, USA, [3]University of Arkansas for Medical Science, Arkansas Children's Nutrition Center, USA
Disclosures: Kelly Mercer, None

TUMORS AND BONE AND PAGET'S DISEASE (BASIC, TRANS. AND CLINICAL): BREAST AND PROSTATE

MO0437 **Characterization of the Alterations in Bone Composition Caused by Prostate Cancer Bone Metastasis Using Raman Spectroscopy**
Xiaohong Bi*[1], Julie Sterling[2], Alyssa Merkel[3], Barbara Rowland[3], Daniel Perrien[4], Jeffry Nyman[4], Florent Elefteriou[1], Anita Mahadevan-Jansen[5]. [1]Vanderbilt University, USA, [2]Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA, [3]Department of Medicine, Division of Clinical Pharmacology; Department of Veterans Affairs-Tennessee Valley Healthcare System (VISN9), USA, [4]Vanderbilt University Medical Center, USA, [5]Department of Biomedical Engineering, USA
Disclosures: Xiaohong Bi, None

MO0438 **CXCL14 in Bone and Prostate Cancer Tumor Interaction**
Alexander Dowell*, Gregory Clines. University of Alabama at Birmingham, USA
Disclosures: Alexander Dowell, None

MO0439 **Myeloid-Derived Suppressor Cells Promote Breast Cancer-Induced Bone Destruction**
Sabrina Danilin[1], Alyssa Merkel[2], Rachelle Johnson[3], Julie Sterling*[1]. [1]VANDERBILT UNIVERSITY MEDICAL CENTER, USA, [2]Vanderbilt Center for Bone Biology, USA, [3]St. Vincent's Institute of Medical Research, Australia
Disclosures: Julie Sterling, None

MO0440 **PTHrP(12-48) Is A Novel and Predictive Biomarker of Breast Cancer Bone Metastasis**
Charity Washam*[1], Archana Kamalakar[2], Nisreen Akel[3], Stephanie Byrum[3], Kim Leitzel[4], Suhail Ali[5], Alan Lipton[4], Dana Gaddy[3], Larry Suva[3]. [1]1Department of Orthopaedic Surgery, Center for Orthopaedic Research, Winthrop P. Rockefeller Cancer Institute, University of Arkansas for Medical Sciences, USA, [2]Department of Orthopaedic Surgery, Center for Orthopaedic Research, Winthrop P. Rockefeller Cancer Institute, University of Arkansas for Medical Sciences, USA, [3]University of Arkansas for Medical Sciences, USA, [4]Division of Oncology, Penn State Hershey Cancer Institute, Penn State Hershey Medical Center, USA, [5]Division of Oncology, Penn State Hershey Cancer Institute, Penn State & Lebanon VA Medical Center, USA
Disclosures: Charity Washam, None

MO0441 **ß2AR Stimulation of Host Osteoblasts Promotes Breast Cancer Bone Metastasis via RANKL**
J. Campbell*[1], Matthew R Karolak[2], Sameena Masood[2], Daniel Perrien[3], Julie Sterling[4], Florent Elefteriou[2]. [1]Vanderbilt Center for Bone Biology, USA, [2]Vanderbilt University, USA, [3]Vanderbilt University Medical Center, USA, [4]Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA
Disclosures: J. Campbell, None

MO0442 **The Role of RANK in Breast and Prostate Cancer Growth in a Murine Model of Bone Metastasis**
Yu Zheng*[1], Shu-Oi Chow[2], Sarah Kim[2], Julian Kelly[2], Colin Dunstan[3], Robert Sutherland[4], Hong Zhou[5], Markus Seibel[5]. [1]Bone Research Program, ANZAC Research Institute,The University of Sydney, Australia, [2]ANZAC Research institute, Australia, [3]University of Sydney, Australia, [4]Garvan Institute of Medical Research, Australia, [5]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia
Disclosures: Yu Zheng, None

PAGET'S DISEASE: GENERAL

MO0443 **Withdrawn**

MO0444 **DKK1 and Kremen Expression Predicts the Osteoblastic Response to Bone Metastasis**
Katrina Clines, Gregory Clines*. University of Alabama at Birmingham, USA
Disclosures: Gregory Clines, None

MO0445 **Identification of Small Molecule Activators and Inhibitors of the Mutated Gsα responsible for Fibrous Dysplasia of Bone by High-Throughput Screening**
Nisan Bhattacharyya*[1], Lesley A. Mathews[2], Catherine Z. Chen[2], Jeffrey TSAI[1], John K. Northup[3], Xin Hu[2], Noel T. Southall[2], Jaun J. Marugan[2], Wei Zheng[2], Marc Ferrer[2], Michael Collins[4]. [1]NIDCR, NIH, USA, [2]Division of Pre-Clinical Innovation, NCATS, NIH, USA, [3]Laboratory of Cell Biology, NIDCD, NIH, USA, [4]National Institutes of Health, USA
Disclosures: Nisan Bhattacharyya, None

MO0446 **Increased Sclerostin Levels in Osteosarcoma**
Avudaiappan Maran*[1], Scott Riester[1], Kristen Shogren[1], Glenda Evans[2], Michael Yaszemski[1]. [1]Mayo Clinic College of Medicine, USA, [2]Mayo Clinic, USA
Disclosures: Avudaiappan Maran, None

MO0447 **Myeloma Cells and Marrow Stromal Cells from Myeloma Patients Express Increased Levels of TAF12 which Increases their Sensitivity to 1,25-$(OH)_2D_3$.**
Noriyoshi Kurihara, Jumpei Teramachi*, G. David Roodman. Indiana University, USA
Disclosures: Jumpei Teramachi, None

MO0448 **Pim-2 Suppresses BMP-2 Signaling as a Common Inhibitory Mediator of Osteoblastogenesis in Myeloma**
Masahiro Hiasa*[1], Ryota Amachi[1], Keiichiro Watanabe[2], Takeshi Harada[3], Shirou Fujii[3], Shingen Nakamura[3], Hirokazu Miki[3], Kumiko Kagawa[3], Kenzo Asaoka[1], Itsuro Endo[3], Toshio Matsumoto[3], Masahiro Abe[4]. [1]University of Tokushima Graduate School, Japan, [2]Tokushima University Hospital, Japan, [3]University of Tokushima Graduate School of Medical Sciences, Japan, [4]University of Tokushima, Japan
Disclosures: Masahiro Hiasa, None

MO0449 **The ETS domain of FLI1 is Required for EWS-FLI-Mediated Repression of RUNX2 in Ewing's Sarcoma Family Tumors**
Krista Bledsoe*[1], Jennifer Westendorf[2]. [1]Mayo Graduate School, USA, [2]Mayo Clinic, USA
Disclosures: Krista Bledsoe, None

MO0450 **The IRE1α/XBP1s Signaling in Bone Marrow Stromal Cells Is Critical for the Stromal Cell Support of Myeloma Cell Growth and Osteoclast Formation**
Guoshuang Xu[1], Kai Liu[2], Judy Anderson[3], Kenneth Patrene[2], Suzanne Lentzsch[4], G. David Roodman[5], Hong-Jiao Ouyang*[2]. [1]The VA Pittsburgh Healthcare System, USA, [2]University of Pittsburgh, USA, [3]IUPUI, USA, [4]Columbia University, USA, [5]Indiana University, USA
Disclosures: Hong-Jiao Ouyang, None

MO0451 **Treatment of Chemotherapy Induced Alopecia in Mice with a Collagen Targeted Parathyroid Hormone Analog: Prophylaxis vs. Therapy**
Ranjitha Katikaneni*[1], Tulasi Ponnapakkam[2], Joshua Sakon[3], Robert Gensure[4]. [1]Childrens Hospital at Montefiore/Albert Einstein College of Medicine, USA, [2]Childrens Hospital at Montefiore, New York/Albert Einstein College of Medicine, USA, [3]University of Arkansas, USA, [4]Children's Hospital at Montefiore, Albert Einstein College of Medicine, USA
Disclosures: Ranjitha Katikaneni, None

MO0452 **α-CaMKII-induced VEGF Expression Is Critical for the Growth of Human Osteosarcoma**
Paul Daft*[1], Majd Zayzafoon[2]. [1]The University of Alabama At Birmingham, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Paul Daft, None

LATE-BREAKING POSTERS III

11:30 am - 1:30 pm **Discovery Hall-Hall B**

LB-MO01 **Alendronate Protects against Articular Cartilage Erosion by Inhibiting Subchondral Bone Loss in Ovariectomized Rats**
Songsong Zhu*[1], Kan Chen[1], Yu Lan[2], Nan Zhang[1], Rulang Jiang[2], Jing Hu[1]. [1]State Key Laboratory of Oral Diseases & Center of Orthognathic & Temporomandibular Joint Surgery, West China College of Stomatology, Sichuan University, China, [2]Cincinnati Children's Hospital Medical Center, USA
Disclosures: Songsong Zhu, None

LB-MO02 **Bone Health Determinants in Spinal Muscular Atrophy**
Natascia Di Iorgi*[1], Giorgia Brigati[2], Irene Olivieri[3], Marta Ferretti[2], Claudio Bruno[2], Mohamad Maghnie[3]. [1]IRCCS, Giannina Gaslini-University of Genoa, Italy, [2]Unit of Muscular & Neurodegenerative Disease, IRCCS Giannina Gaslini, Genoa, Italy, [3]Department of Pediatrics, IRCCS Giannina Gaslini, University of Genoa, Italy
Disclosures: Natascia Di Iorgi, None

LB-MO03 Large-scale Population Imaging with Radiographic Assessment to Investigate the Genetic Epidemiology of Scheuermann's Disease: the Rotterdam Study
Ater Makurthou[1], Salih El Saddy*[2], Ling Oei[3], Edwin Oei[1], Martha Castano-Betancourt[3], Karol Estrada[3], Albert Hofman[4], Joyce Van Meurs[3], Andre Uitterlinden[5], Fernando Rivadeneira[3]. [1]Erasmus MC, The netherlands, [2]Erasmus University Medical Center, [3]Erasmus University Medical Center, The netherlands, [4]Netherlands, [5]Rm Ee 575, Genetic Laboratory, The netherlands
Disclosures: Salih El Saddy, None

LB-MO04 Mir-34a Regulates Cytodifferentiation and Targets Multi-signaling Pathways in Human Dental Papilla Cells
Liwei Zheng*[1], Mian Wan[2], Bo Gao[2], Yin Tang[2], Feifei Sun[2], Yi Fan[2], Xin Zhou[2], Ling Ye[2], Xuedong Zhou[3]. [1]State Key Laboratory of Oral Diseases; West China School of Stomatology, Sichuan University, Peoples republic of china, [2]State Key Laboratory of Oral Diseases, China, [3]West China School of Stomatology, Sichuan University, Peoples republic of china
Disclosures: Liwei Zheng, None

LB-MO05 Potential Roles for MAPK Signaling in Osteogenesis by Human Adipose-derived Stem Cells
Eric Tsang[1], Benjamin Wu[1], Patricia Zuk*[2]. [1]UCLA, USA, [2]University of California, Los Angeles, USA
Disclosures: Patricia Zuk, None

LB-MO06 Comparative Study of *Pth* null and WT Mice Reveal that FGF23 is Unresponsive to Substantial Changes in PTH, Calcitriol, Phosphorus, or Calcium that Occur Naturally During the Reproductive Cycle
Beth J. Kirby*[1], Yue Ma[1], Heather M. Martin[1], Andrew Karaplis[2], Christopher Kovacs[1]. [1]Memorial University of Newfoundland, Canada, [2]McGill University, Canada
Disclosures: Beth J. Kirby, None

LB-MO07 Measurement of Serum Sclerostin by an Enzyme-Linked Sandwich Assay in *Sost* Wild type and Knock-out Mice
Xiaobo Dai[1], Zachary Ryan*[2], Kelly Doering[1], Bethany Salerni[1], Chris Wisherd[1], Rajiv Kumar[3]. [1]ALPCO Diagnostics, USA, [2]Mayo Clinic, USA, [3]Mayo Clinic College of Medicine, USA
Disclosures: Zachary Ryan, ALPCO Diagnostics, 99

LB-MO08 Tissue-Specific Developmental Regulation of Allelic Gαs Silencing As a Plausible Explanation For Lack of Early Postnatal PTH-Resistance in Pseudohypoparathyroidism-Ia
Serap Turan[1], Eduardo Fernandez-Rebollo[2], Teuta Zoto[3], Monica Reyes[4], George Bounoutas[4], Min Chen[5], Lee Weinstein[6], Reinhold Erben[7], Vladimir Marshansky[3], Murat Bastepe*[8]. [1]Massachusetts General Hospital, Harvarda Meical School, USA, [2]Hospital Clinic de Barcelona, Spain, [3]Massachusetts General Hospital & Harvard Medical School, USA, [4]Massachusetts General Hospital, USA, [5]NIH/NIDDK, USA, [6]National Institute of Diabetes & Digestive & Kidney Diseases, USA, [7]University of Veterinary Medicine, Austria, [8]Massachusetts General Hospital, Harvard Medical School, USA
Disclosures: Murat Bastepe, None

LB-MO09 Influenced Calvarial Bone Healing in the Absence of TLR2 and TLR4
Gregory Cooper, Dan Wang*, James Gilbert, Melissa Shaw, Adam Kubala, Lauren Zammerilla, Sameer Shakir, Joseph Losee, Timothy Billiar. University of Pittsburgh, USA
Disclosures: Dan Wang, None

LB-MO10 Dexamethasone-Induced Lipolysis Enhances the Lipotoxic Effect of Adipocytes on Osteoblasts
Dongqing Wang*[1], Azeb Haile[2], Lynne Jones[3]. [1]Johns hopkins university, USA, [2]johns hopkins univeristy, USA, [3]Johns Hopkins University School of Medicine, USA
Disclosures: Dongqing Wang, None

LB-MO11 PKCδ Is Required for Jagged-1 Induction of Osteoblast Differentiation
Fengchang Zhu*[1], Mariya Sweetwyne[1], Hailu Shitaye[2], Kurt Hankenson[1]. [1]University of Pennsylvania, USA, [2]Univesrity of Pennsylvania, USA
Disclosures: Fengchang Zhu, None

LB-MO12 Role of Zinc During Osteogenesis in Human Mesenchymal Stem Cells
Kwang Hwan Park*, Dong Suk Yoon, Jin Woo Lee, Jae Myun Lee. Yonsei University College of Medicine, South korea
Disclosures: Kwang Hwan Park, None

LB-MO13 Gene Array Analyses Reveal Distinct Expression Patterns in the Osteoclast and Chondroclast Populations within a Fracture Callus.
Kari Clifton[1], Do Soung[2], Jason Gibson[3], Joseph Lorenzo[2], Marc Hansen[2], Hicham Drissi*[2]. [1]University of Connecticut, USA, [2]University of Connecticut Health Center, USA, [3]UConn Health Center, USA
Disclosures: Hicham Drissi, None

LB-MO14 A Balance Between Osteoporosis and Osteopetrosis is Determined by the Interaction of TRPC1 and I-mfa
E-Ching Ong*[1], Leonidas Tsiokas[2], Vasyl Nesin[2], Chang-Xi Bai[2], Jan Guz[2], Ivaylo Ivanov[3], Joel Abramowitz[4], Lutz Birnbaumer[4], Mary Beth Humphrey[5]. [1]The University of Oklahoma Health Sciences Center, USA, [2]OUHSC, USA, [3]University of Utah, USA, [4]NIEHS, USA, [5]University of Oklahoma Health Sciences Center, USA
Disclosures: E-Ching Ong, None

LB-MO15 Observing In Situ Intracellular Calcium Signaling of Osteocytes and Osteoblasts in Intact Mouse Tibiae under Cyclic Mechanical Loading
Da Jing*[1], Bin Zhou[1], Xin Lu[1], Liyun Wang[2], X Guo[1]. [1]Columbia University, USA, [2]University of Delaware, USA
Disclosures: Da Jing, None

LB-MO16 Utility of Testing for Monoclonal Bands in Serum of Patients referred to a Bone Health Clinic.
Lorraine O'Keeffe[1], Niamh Murphy[1], Rosaleen Lannon*[1], Nessa Fallon[1], MC Casey[1], James Bernard Walsh[2]. [1]St James's Hospital, Ireland, [2]Trinity College Dublin, The University of Dublin, Ireland
Disclosures: Rosaleen Lannon, None

LB-MO17 One Year Use of Oral Recombinant Salmon Calcitonin is Not Associated with Increased Risk of Cancer
David Krause*[1], Nigel A.S. Hernandez[2], Matthew Vitagliano[2], James Gilligan[2], Christine Buben[2]. [1]Tailsa Therapeutics Inc., USA, [2]Tarsa Therapeutics, USA
Disclosures: David Krause, Tarsa, 1; Tarsa, 3

LB-MO18 Missing a Window of Opportunity: Surgical Management of Hip Fracture as a Sentinel Event to Identify and Treat Osteoporosis
Matthew Wolfson[1], Brian Kincaid[2], Sara Merwin[3], Lewis Collins[4], Ariel Goldman[5], Stuart Weinerman*[6]. [1]University of Central Florida, USA, [2]North Shore-LIJ Health System, USA, [3]North Shore-LIJ Health System, Hofstra North Shore LIJ School of Medicine, USA, [4]University Orthopaedic Associates, USA, [5]North Shore-LIJ Health System, Hofstra North Shore, LIJ School of Medicine, USA, [6]Division of Endocrinology, USA
Disclosures: Stuart Weinerman, None

LB-MO20 Efficacy and Safety of Zoledronic Acid in Chinese Patients With Paget's Disease of Bone: A Phase IV Study
ou wang*[1], Hao Zhang[2], Yingying Hu[1], Zhenlin Zhang[2], Xiaoping Xing[1], XUNWU MENG[3], Xun Liu[4]. [1]Department of Endocrinology, Peking Union Medical College Hospital, China, [2]Shanghai Jiao Tong University Affiliated Sixth People's Hospital, China, [3]PEKING UNION MEDICAL COLLEGE HOSPITAL, China, [4]The Sun Yat-Sen Memorial Hospital, Peoples republic of china
Disclosures: ou wang, None

MEET-THE-PROFESSOR SESSIONS

1:30 pm - 2:30 pm **Mezzanine Level-Rooms M100 – M101**

Meet-the-Professor Session: Medication-induced Osteoporosis
Mezzanine Level-Room M100B

Cyrus Cooper, D.M., FRCP, MedSci
University of Southampton, United Kingdom
Disclosures: Cyrus Cooper, Servier 5; Amgen 5; Novartis 5; Merck 5; Medtronic 5; Eli Lilly 5

Meet-the-Professor Session: Mechanical Sensor and Osteocytes
Mezzanine Level-Room M100C

Jean X. Jiang, Ph.D.
University of Texas Health Science Center at San Antonio, USA
Disclosures: Jean Jiang, None

Meet-the-Professor Session: Fibrocytes and Marrow Fibrosis
Mezzanine Level-Room M100D

Ernestina Schipani, M.D., Ph.D.
Indiana University School of Medicine, USA
Disclosures: Ernestina Schipani, None

Meet-the-Professor Session: Genetic Skeletal Diseases
Mezzanine Level-Room M100E

Brendan Lee, M.D., Ph.D.
Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Brendan Lee, Biomarin 5

Meet-the-Professor Session: Breast and Prostate Cancer & Osteoporosis
Mezzanine Level-Room M101A

Catherine H. Van Poznak, M.D.
University of Michigan Comprehensive Cancer Center, USA
Disclosures: Catherine Van Poznak, Amgen 2; Novartis 2

Pamela Taxel, M.D.
University of Connecticut Health Center, USA
Disclosures: Pamela Taxel, None

Meet-the-Professor Session: Paget's Disease
Mezzanine Level-Room M101B

Ethel S. Siris, M.D.
Columbia University College of Physicians and Surgeons, USA
Disclosures: Ethel Siris, Merck 6

Meet-the-Professor Session: Imaging Measures of Fat and Muscle and their Relations to Vitamin D
Mezzanine Level-Room M101C

Richard Kremer, M.D., Ph.D.
McGill University, Royal Victoria Hospital, Canada
Disclosures: Richard Kremer, Amgen, Eli Lilly, Novartis, Merck and Derbies 5

Vicente Gilsanz, M.D.
Children's Hospital Los Angeles, USA
Disclosures: Vicente Gilsanz, None

SYMPOSIUM: OSTEOARTHRITIS AND THE SKELETON

Co-sponsored with The Osteoarthritis Research Society International (OARSI)

1:30 pm - 2:30 pm **Minneapolis Convention Center**

Room 101C

Co-Chairs
Marc C. Hochberg, M.D., MPH
University of Maryland School of Medicine, USA
Disclosures: Marc Hochberg, None

Mary B. Goldring, Ph.D.
Hospital for Special Surgery, USA
Disclosures: Mary Goldring, None

1:30 pm **The Role of Subchondral Bone in Osteoarthritis**
David B. Burr, Ph.D.
Indiana University School of Medicine, USA
Disclosures: David Burr, None

1:50 pm **New Directions in Treatment of Osteoarthritis: Mouse Models**
Edward M. Schwarz, Ph.D.
University of Rochester, USA
Disclosures: Edward Schwarz, None

2:10 pm **Hip Shape, Genetics and Osteoarthritis**
Nancy E. Lane, M.D.
University of California, Davis Medical Center, USA
Disclosures: Nancy Lane, None

CLINICAL ROUNDTABLE/CASE CONFERENCE - PARATHYROID HORMONE, HYPERPARATHYROIDISM, AND HYPOPARATHYROIDISM

1:30 pm - 2:30 pm **Minneapolis Convention Center**

Auditorium-Main

Chair
John T. Potts Jr., M.D.
Massachusetts General Hospital, USA
Disclosures: John Potts, None

Response to PTH in Hypoparathyroidism
Mishaela R. Rubin, M.D.
Columbia University, USA
Disclosures: Mishaela Rubin, NPS Pharmaceuticals 2

Spectrum of Hyperparathyroidism
Leif Mosekilde, M.D., DMSc
Aarhus University Hospital, Denmark
Disclosures: Leif Mosekilde, NPS pharmaceuticals 2

2:45 pm
1217 **Overexpression of PTHrP- related miRNA in Human Bone Marrow Derived Stem Cells Enhances Chondrogenesis and Inhibits Hypertrophy**
Gunil Im*[1], Jong-Min Lee[2], Jung-Min Ahn[2], Jun-Ho Joe[2]. [1]Dongguk University Ilsan Hospital, Rok, [2]Dongguk University Ilsan Hospital, South korea
Disclosures: Gunil Im, None

3:00 pm
1218 **XBP1S is Required for Chondrocyte Hypertrophy Through Associated with RUNX2**
Fengjin Guo*[1], Yanna Liu[2], Jinghua Zhou[2], Wenjun Zhao[2], Xiaofeng Han[2], Peng Zhang[2]. [1]Chongqing Medical University, Peoples republic of china, [2]Department of Cell Biology & Genetics, China
Disclosures: Fengjin Guo, None

3:15 pm
1219 **"Phosphatase inhibition" - A Dual Drug Target Approach to Suppressing Calcification by Vascular Smooth Muscle Cells**
Tina Moreira*[1], Manisha Yadav[2], Dongxing Zhu[3], Sonoko Narisawa[4], Campbell Sheen[4], Vicky E. MacRae[5], Colin Farquharson[6], Marc Hoylaerts[7], Jose Luis Millan[1]. [1]Sanford-Burnham Medical Research Institute, USA, [2]Burnham Institute for Medical Research, USA, [3]The Roslin Institute & R(D)SVSUniversity of Edinburgh, United Kingdom, [4]Sanford Burnham Medical Research Institute, USA, [5]The University of Edinburgh, United Kingdom, [6]Roslin Institute, University of Edinburgh, United Kingdom, [7]Center for Molecular & Vascular Biology, University of Leuven, Belgium
Disclosures: Tina Moreira, None

3:30 pm
1220 **A Dominant Mutation of *IFITM5* in Severe Osteogenesis Imperfecta Implicates an Interaction between Bril and PEDF in Bone**
Charles Farber*[1], ADI REICH[2], Aileen Barnes[3], Wayne Cabral[4], Ryan Riddle[5], Douglas Digirolamo[6], Thomas Clemens[6], Joan Marini[2]. [1]University of Virginia, USA, [2]National Institute of Child Health & Human Development, USA, [3]NICHD/NIH, USA, [4]Bone & Extracellular Matrix Branch, NICHD, NIH, USA, [5]Johns Hopkins University School of Medicine, USA, [6]Johns Hopkins University, USA
Disclosures: Charles Farber, None

3:45 pm
1221 **Dkk1 and Msx2-Wnt7 Signaling Reciprocally Regulate The Endothelial-Mesenchymal Transition In Aortic Endothelial Cells**
Su-Li Cheng*[1], Jian Su Shao[1], Abraham Behrmann[2], Karen Krchma[2], Dwight Towler[2]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University in St. Louis, USA
Disclosures: Su-Li Cheng, None

4:00 pm
1222 **Exercise Strengthens Bone through Myokine Irisin**
Jin Zhang*[1], Yuwei Wu[2], Liming Yu[1], Shu Meng[1], Lan Zhang[1], Mengqi Huang[1], Qisheng Tu[1], Jake Jinkun Chen[1]. [1]Tufts University School of Dental Medicine, USA, [2]Tufts University, USA
Disclosures: Jin Zhang, None

LATE-BREAKING ABSTRACT PRESENTATIONS - CLINICAL I

2:45 pm - 4:15 pm **Minneapolis Convention Center**

Auditorium-Main

2:45 pm
1223 **Micro-MRI Based Biomechanics Indicates Strength and Stiffness of the Tibia are Improved by Brief Daily Exposure to Low Magnitude Mechanical Signals in Patients with End-Stage Renal Disease**

Chamith Rajapakse*[1], Felix Werner Wehrli[2], Clinton Rubin[3], Mary Leonard[4]. [1]University of Pennsylvania School of Medicine, USA, [2]University of Pennsylvania Medical Center, USA, [3]State University of New York at Stony Brook, USA, [4]Children's Hospital of Philadelphia, USA

Disclosures: Chamith Rajapakse, None

3:00 pm
1224 **Differential Bone Loss Following Gastric Surgery: Comparison of Different Modalities at 12 Months**

Malgorzata Brzozowska*[1], Nguyen Nguyen[2], John Jorgensen[3], Jacqueline Center[2], Paul Baldock[2]. [1]Garvan Institute of Medical Research, St Vincent's Hospital., Australia, [2]Garvan Institute of Medical Research, Australia, [3]St George Private Hospital, Australia

Disclosures: Malgorzata Brzozowska, None

3:15 pm
1225 **Too Fit To Fracture: A Consensus on Exercise Recommendations for Individuals with Osteoporosis and Osteoporotic Vertebral Fractures**

Lora Giangregorio*[1], Alexandra Papaioannou[2], Norma MacIntyre[3], Maureen Ashe[4], Ari Heinonen[5], Kathy Shipp[6], John Wark[7], Stuart McGill[1], Heather Keller[1], Ravi Jain[8], Judi Laprade[9], Micheal McLeod[1], Angela Cheung[10]. [1]University of Waterloo, Canada, [2]Hamilton Health Sciences, Canada, [3]McMaster University, Canada, [4]University of British Columbia, Canada, [5]Department of Health Sciences, University of Jyväskylä, Finland, [6]Duke University Medical Center, USA, [7]University of Melbourne Department of Medicine, Australia, [8]Osteoporosis Canada, Canada, [9]University of Toronto, Canada, [10]University Health Network, Canada

Disclosures: Lora Giangregorio, Merck Frosst, 2

3:30 pm
1226 **Diabetes Mellitus and Osteoporosis; Skeletal Effects of Diabetic Hyperglycemia and Glucose Lowering Anti-diabetic Therapies**

Beata Lecka-Czernik*. University of Toledo College of Medicine, USA

Disclosures: Beata Lecka-Czernik, None

3:45 pm
1227 **Associations of Long-term Dietary Calcium Intake with Fractures, Cardiovascular Events and Aortic Calcification in a Population-based, Prospective Cohort Study**

Belal Khan*[1], Dallas English[2], Caryl Nowson[3], Robin Daly[4], Peter Ebeling[5]. [1]University of Melbourne, Australia, [2]Melbourne School of Population Health, Australia, [3]School of Exercise & Nutrition Sciences, Deakin University, Australia, [4]Centre for Physical Activity & Nutrition Research, Deakin University, Australia, [5]The University of Melbourne, Australia

Disclosures: Belal Khan, None

4:00 pm
1228 **Denosumab Compared With Risedronate in Postmenopausal Women Suboptimally Adherent With Alendronate Therapy: Efficacy and Safety Results From a Randomized Open-label Study**

C Roux[1], A Fahrleitner-Pammer[2], PR Ho[3], F Hawkins[4], LC Hofbauer[5], M Micaelo[6], S Minisola[7], N Papaioannou[8], M Stone[9], J Wark[10], MC Zillikens[11], I Ferreira[3], S Siddhanti[3], RB Wagman[3], JP Brown*[12]. [1]Paris Descartes University, France, [2]Medizinische Universitaet Graz, Austria, [3]Amgen Inc., USA, [4]Hospital Universitario, Spain, [5]Dresden,University of Technology Medical Center, Germany, [6]Instituto Portugues de Reumatologia, Portugal, [7]Università di Roma, Italy, [8]Laboratory for the Research of Musculosceletal System University of Athens, Greece, [9]University Hospital of Llandough, United Kingdom, [10]The Royal Melbourne Hospital, The University of Melbourne, Australia, [11]University Hospital Rotterdam, Erasmus MC, Netherlands, [12]CHUQ-CHUL Research Centre, Canada

Disclosures: JP Brown, None

LATE-BREAKING ABSTRACT PRESENTATIONS - CLINICAL II

2:45 pm - 4:15 pm **Minneapolis Convention Center**
Room 101C

2:45 pm 1229 **Femur Stress Fractures in Children with Osteogenesis Imperfecta and Intramedullary Rods on Long-term Intravenous Pamidronate Therapy**
Abdelsalam Hegazy*[1], Andrew Howard[2], Etienne Sochett[3], LIANNE TILE[4], Angela Cheung[5]. [1]Canada, [2]The Hospital for Sick Children, Canada, [3]Hospital for Sick Children, Canada, [4]University of Toronto, Canada, [5]University Health Network, Canada
Disclosures: Abdelsalam Hegazy, None

3:00 pm 1230 **Predicting the Effects of Anti-Resorptive Drug Holiday on BMD and Tissue Age**
Christopher Hernandez*[1], Hellen Lopez[1], Joseph Lane[2]. [1]Cornell University, USA, [2]Hospital for Special Surgery, USA
Disclosures: Christopher Hernandez, Musculoskeletal Transplant Foundation, 2

3:15 pm 1231 **A Comparison of Parathyroid Hormone-related Protein (1-36) and Parathyroid Hormone (1-34) on Markers of Bone Turnover and Bone Density in Postmenopausal Women: The PrOP Study**
Mara Horwitz*[1], Marilyn Augustine[2], Susan Sereika[2], Emily Martin[2], Raquel Carneiro[3], Chrisitne Oakley[4], Angela Laslavic[2], Caren Gundberg[5], Mary Beth Tedesco[2], Jane Cauley[6], Andrew Stewart[7]. [1]University of PittsburghDiv of Endocrinology - EMRC, USA, [2]University of Pittsburgh, USA, [3]Universidade de Fortaleza, Brazil, [4]Marshall University, USA, [5]Yale University School of Medicine, USA, [6]University of Pittsburgh Graduate School of Public Health, USA, [7]University of Pittsburgh School of Medicine, USA
Disclosures: Mara Horwitz, None

3:30 pm 1232 **Transdermal Delivery of BA058, A Novel Analog of hPTHrP, with a Short Wear Time Microneedle Skin Patch in Post-Menopausal Women**
Gary Hattersley*[1], Kris Hansen[2], Amy Determan[2], Ken Brown[2], Kate Mckay[3], Jonathan Guerriero[3], Dan McCarthy[3], C. Richard Lyttle[3], Louis O'Dea[4]. [1]Radius, USA, [2]3M Drug Delivery Systems, USA, [3]Radius Health Inc, USA, [4]Radius Health Inc., USA
Disclosures: Gary Hattersley, Radius Health, 3

3:45 pm 1233 **Safety and Efficacy of Orally Administered Recombinant Salmon Calcitonin Tablets in the Prevention of Postmenopausal Osteoporosis in Women with Low Bone Mass: A Phase 2 Placebo-controlled Trial**
Neil Binkley*[1], Henry Bone[2], Michael Bolognese[3], David Krause[4]. [1]University of Wisconsin, Madison, USA, [2]Michigan Bone & Mineral Clinic, USA, [3]Bethesda Health Research, USA, [4]Tailsa Therapeutics Inc., USA
Disclosures: Neil Binkley, Tarsa, 2; Tarsa, 11

4:00 pm 1234 **Calcitonin Use and Risk of Malignancy: A Meta-Analysis of 17 RCTs in Patients with Osteoporosis**
Markus Heep*[1], Sylvia Lesperance[1], Juerg A. Gasser[2], Chien-Wei Chen[3], R. Paul Aftring[3]. [1]Novartis Pharma AG, Switzerland, [2]Novartis Institutes for Biomedical Research, Switzerland, [3]Novartis Pharmaceuticals, USA
Disclosures: Markus Heep, Novartis Pharma AG, 3

DISCOVERY HALL COFFEE BREAK

4:00 pm - 4:30 pm **Minneapolis Convention Center**
Discovery Hall-Hall B

CONCURRENT ORAL SESSION 31: GENETIC DISORDERS OF BONE AND MINERAL METABOLISM

4:30 pm - 6:00 pm **Minneapolis Convention Center**

Room 200DE

Moderators:
Florent Elefteriou, Ph.D.
Vanderbilt University, USA
Disclosures: Florent Elefteriou, None

Ryan C. Riddle, Ph.D.
Johns Hopkins University School of Medicine, USA
Disclosures: Ryan Riddle, None

4:30 pm
1181 **Familial Hypocalciuric Hypercalcemia Type 3 (FHH3) is Caused by Mutation in Adaptor Protein 2 Sigma 1 (*AP2S1*)**
M. Andrew Nesbit*[1], Fadil Hannan[2], Sarah A. Howles[2], Anita A.C. Reed[2], Treena Cranston[3], Clare E. Thakker[2], Lorna Gregory[4], Andrew J. Rimmer[4], Nigel Rust[5], Una Graham[6], Patrick J. Morrison[7], Steven J. Hunter[6], Michael Whyte[8], Gil McVean[4], David Buck[4], Rajesh Thakker[2]. [1]University of Oxford, United Kingdom, [2]Nuffield Department of Clinical Medicine, University of Oxford, United Kingdom, [3]Oxford Medical Genetics Laboratories, Oxford University Hospitals NHS Trust, United Kingdom, [4]Wellcome Trust Centre for Human Genetics, University of Oxford, United Kingdom, [5]Sir William Dunn School of Pathology, University of Oxford, United Kingdom, [6]Regional Centre for Endocrinology & Diabetes, Royal Victoria Hospital, United Kingdom, [7]Department of Medical Genetics, Queen's University Belfast, Belfast City Hospital, United Kingdom, [8]Shriners Hospital for Children-Saint Louis, USA
Disclosures: M. Andrew Nesbit, None

4:45 pm
1182 **Inactivation of SKI-1 in Osteocytes Leads to Obesity in Adult Mice and Suggests a New Bone to Brain Endocrine Pathway Regulating Body Mass**
Jeffrey Gorski*[1], Nichole T. Huffman [2], Anne C. Breggia[3], Clifford Rosen[3], Sridar Chittur[4], Amber Stern[1], Mark Dallas [2], Nabil G. Seidah[5], Lynda Bonewald[1]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri-Kansas City, USA, [3]Maine Medical Center, USA, [4]Center for Functional Genomics, Univ. at Albany, USA, [5]Institut de Recherches Cliniques de Montreal, Canada
Disclosures: Jeffrey Gorski, None

5:00 pm
1183 **Reverse Regulation of Ca^{2+} Signaling and NFATc1 Activity by TRPM4 Stimulates Osteoblast but Suppresses Osteoclast Differentiation and Increases Bone Mass**
Liesbet Lieben*[1], Barbara Colsoul[2], Sophie Torrekens[3], Grzegorz Owsianik[2], Rudi Vennekens[2], Geert Carmeliet[4]. [1]KU Leuven, Belgium, [2]Laboratory of Ion Channel Research, KU Leuven, Belgium, [3]Clinical & Experimental Endocrinology, KU Leuven, Belgium, [4]Katholieke Universiteit Leuven, Belgium
Disclosures: Liesbet Lieben, None

5:15 pm
1184 **Hypophosphatemic Rickets in Dentin Matrix Protein 4 (Dmp4) Knockout Mice**
Robert Brommage*[1], Jeff Liu[1], Sabrina Jeter-Jones[1], David Powell[1], Andrea Thompson[1], Thomas Wronski[2], Peter Vogel[1]. [1]Lexicon Pharmaceuticals, USA, [2]University of Florida, USA
Disclosures: Robert Brommage, Lexicon Pharmaceuticals, 3

5:30 pm
1185 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Pharmacological Inhibition of FGFR Signaling Ameliorates FGF23-mediated Hypophosphatemic Rickets
Simon Woehrle*[1], Christine Henninger[1], Olivier Bonny[2], Anne Thuery[1], Noemie Beluch[1], Nancy Hynes[3], Vito Guagnano[1], William Sellers[4], Francesco Hofmann[1], Michaela Kneissel[1], Diana Graus Porta[1]. [1]Novartis Institutes for BioMedical Research, Switzerland, [2]University of Lausanne, Department of Pharmacology & Toxicology, Switzerland, [3]Friedrich Miescher Institute for Biomedical Research, Switzerland, [4]Novartis Institutes for BioMedical Research, USA
Disclosures: Simon Woehrle, Novartis Institutes for BioMedical Research, 3

5:45 pm 1186 **Systems Genetics Identifies *Lhfp* as a Bone Mineral Density Candidate Gene and Regulator of Osteoblastogenesis**
Cheryl Ackert-Bicknell[1], Daniel Gatti[1], Rachel Madenjian[2], John Sundberg[1], Gary Churchill[1], Charles Farber*[2]. [1]The Jackson Laboratory, USA, [2]University of Virginia, USA
Disclosures: Charles Farber, None

CONCURRENT ORAL SESSION 32: OSTEOBLASTS

4:30 pm - 6:00 pm **Minneapolis Convention Center**
Auditorium-Main

Moderators:
Mei-Qing Wang
School of Stomatology, Fourth Military Medical University, Peoples Republic of China
Disclosures: Mei-Qing Wang, None

Raj Gopalakrishnan, Ph.D.
University of Minnesota, USA
Disclosures: Raj Gopalakrishnan, None

4:30 pm 1187 **Targeted Disruption of Heparan Sulfate in Osteoblasts Leads to Severe Osteoporotic Phenotype in Mice**
Satoshi Nozawa*[1], Fumitoshi Irie[2], Shinji Iizuka[2], Thomas Clemens[3], Kazu Matsumoto[4], Yu Yamaguchi[2]. [1]USA, [2]Sanford-Burnham Medical Research Institute, USA, [3]Johns Hopkins University, USA, [4]Gifu University, School of Medicine, Japan
Disclosures: Satoshi Nozawa, None

4:45 pm 1188 **EphrinB2 Signaling in Osteoblasts and Chondrocytes is Required for their Differentiation and Support of Osteoclast Formation**
Stephen Tonna*[1], Farzin Takyar[2], Ingrid Poulton[3], Patricia Ho[3], Narelle McGregor[3], Carl Walkley[3], Brian Liddicoat [3], Liliana Tatarczuch[4], Eleanor Mackie[5], T. John Martin [6], Natalie Sims[7]. [1]St Vincent's Institute, Australia, [2]St. Vincent's Institute of Medical Research, Australia, [3]St Vincent's Institute of Medical Research, Australia, [4]Veterinary Science University of Melbourne, Australia, [5]University of Melbourne, Australia, [6]St Vincent's Institute of Medicine, Australia, [7]St. Vincent's Institute for Medical Research, Australia
Disclosures: Stephen Tonna, None

5:00 pm 1189 **Hypoxia-inducible Factor-1α Restricts PTH-induced Anabolic Signals by Sequestration of β-catenin**
Julie Leslie*[1], Thomas Clemens[1], Ryan Riddle[2]. [1]Johns Hopkins University, USA, [2]Johns Hopkins University School of Medicine, USA
Disclosures: Julie Leslie, None

5:15 pm 1190 **Serotonin Receptor 5-HT_{2B} Controls Osteoblast Cell-cell Adhesion and Mineralization by Multiple Pathways**
Yasmine Chabbi Achengli*[1], Jean Marie Launay[2], Luc Maroteaux[3], Marie-Christine De Vernejoul[4], Corinne Collet[1]. [1]INSERM U606, France, [2]Laboratoire de biochimie Hopital Lariboisière, France, [3]INSERM UMR S-839 Institut du Fer a Moulin, France, [4]Fédération De Rhumatologie Et INSERM U606, France
Disclosures: Yasmine Chabbi Achengli, None

5:30 pm 1191 **Gli1 Participates in the Indian Hedgehog-mediated Osteogenesis during Endochondral Ossification**
Hironori Hojo*[1], Shinsuke Ohba[2], Fumiko Yano[3], Taku Saito[4], Toshiyuki Ikeda[5], Keiji Nakajima[6], Yuske Komiyama[6], Naomi Nakagata[7], Kentaro Suzuki[7], Tsuyoshi Takato[8], Hiroshi Kawaguchi[9], Ung-Il Chung[10]. [1]The Center for Disease Biology & Integrative Medicine, Japan, [2]Division of Biotechnology, Center for Disease Biology & Integrative Medicine, Japan, [3]University of Tokyo, Japan, [4]University of Tokyo, Graduate School of Medicine, Japan, [5]Information Technology Services, Inc., Japan, [6]The University of Tokyo, Japan, [7]Kumamoto University, Japan, [8]Graduate School of Medicine The University of Tokyo, Japan, [9]University of Tokyo, Faculty of Medicine, Japan, [10]University of Tokyo Schools of Engineering & Medicine, Japan
Disclosures: Hironori Hojo, None

5:45 pm 1192 **Conditional Disruption of the Prolyl Hydroxylase 2 (PHD2) Gene Defines its Key Role in Skeletal Development**
Shaohong Cheng*[1], Weirong Xing[2], Sheila Pourteymoor[3], Subburaman Mohan[4]. [1]VA Loma Linda Health Care Systems, USA, [2]Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, [3]Jerry L Pettis VA Memorial Med Ctr, USA, [4]Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Shaohong Cheng, None

CONCURRENT ORAL SESSION 33: GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS

4:30 pm - 6:00 pm **Minneapolis Convention Center**
Auditorium Room 1

Moderators:
Sherry L. Abboud Werner, M.D.
University of Texas Health Science Center at San Antonio, USA
Disclosures: Sherry Abboud Werner, None

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

4:30 pm 1193 **Loss of the Wnt Inhibitor Tiki2 Results in a High Bone Mass Phenotype**
Bryan MacDonald*[1], Alexander Robling[2], Xi He[1]. [1]Children's Hospital Harvard Medical School, USA, [2]Indiana University, USA
Disclosures: Bryan MacDonald, None

4:45 pm 1194 **Selective deletion of the Soluble Colony Stimulating Factor 1 isoform *in vivo* eliminates estrogen-deficiency bone loss in mice.**
Gang-Qing Yao*[1], Benhua Sun[1], Jian Jun Wu[2], Karl Insogna[1]. [1]Yale University School of Medicine, USA, [2]Yale University, USA
Disclosures: Gang-Qing Yao, None

5:00 pm 1195 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Conditional Deletion of gp130 in Osteoblasts and Osteocytes has Divergent Effects on Trabecular and Cortical Bone
Rachelle Johnson*[1], Holly Brennan[1], Ingrid Poulton[1], Narelle McGregor[1], Tzen Koh[1], Muhammad Zainuddin[1], Emma Walker[1], T John Martin[1], Natalie Sims[2]. [1]St. Vincent's Institute of Medical Research, Australia, [2]St. Vincent's Institute for Medical Research, Australia
Disclosures: Rachelle Johnson, None

5:15 pm 1196 **2012 ASBMR FELIX BRONNER YOUNG INVESTIGATOR AWARD**
Macrophage Migration Inhibitory Factor (MIF) Promotes Osteoclastogenesis, RANKL Signaling and Arthritic Bone Erosion
Ran Gu*[1], Julian Quinn[2], Leilani Santos[3], Eric Morand[4], Devi Ngo[4], Huapeng Fan[4], Jiake Xu[5], Richard Bucala[6]. [1]Monash Medical Cenre, Australia, [2]Prince Henry's Institute of Medical Research, Australia, [3]Monash University, Australia, [4]Monash Medical Centre, Australia, [5]University of Western Australia, Australia, [6]Yale School of Medicine, USA
Disclosures: Ran Gu, None

5:30 pm 1197 **Osteoclast Specific Deletion of NEMO/IKKγ in Mice Leads to Osteopetrosis**
Kyuhwan Shim*[1], Manolis Pasparakis[2], Yousef Abu-Amer[3]. [1]Washington University school of medicine, USA, [2]Institute of Genetics, University of Cologne, Germany, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Kyuhwan Shim, None

5:45 pm 1198 **Ubiquitous and Osteo-chondroprogenitor Specific Activation of FGFR3 Affect Endochondral and Membranous Ossification during Craniofacial Formation**
Martin Biosse Duplan*[1], Federico Di Rocco[2], Catherine Benoist-Lasselin[2], Nabil Kaci[2], Nadhir Litim[2], EMILIE MUGNIERY[3], Klaus von der Mark[4], Arnold Munnich[2], Laurence Legeai-Mallet[5]. [1]Faculté de Chirurgie Dentaire, Université Paris Descartes, AP-HP, France, [2]INSERM U781, Université Paris Descartes - Sorbonne Paris Cité, Institut Imagine, Hôpital Necker-Enfants Malades, France, [3]INSERM U781, France, [4]University of Erlangen-Nürnberg, Germany, [5]INSERM U781 - Paris Descartes university, Necker hospital, Fra
Disclosures: Martin Biosse Duplan, None

CONCURRENT ORAL SESSION 34: OSTEOPOROSIS - PATHOPHYSIOLOGY

4:30 pm - 6:00 pm **Minneapolis Convention Center**
Auditorium Room 2

Moderators:
Matthew T. Drake, M.D., Ph.D.
College of Medicine, Mayo Clinic, USA
Disclosures: Matthew Drake, None

Dana Gaddy, Ph.D.
University of Arkansas for Medical Sciences, USA
Disclosures: Dana Gaddy, None

4:30 pm 1199 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Hypogonadism with Estrogen Removal (HER): Differential Effects of Androgens and Estrogens on Bone Microarchitecture in Adult Men
Elaine Yu*[1], Alex Taylor[1], Kendra Wulcyzn[1], Matthew Webb[1], Nicholas Perros[1], Mary Bouxsein[2], Joel Finkelstein[1]. [1]Massachusetts General Hospital, USA, [2]Beth Israel Deaconess Medical Center, USA
Disclosures: Elaine Yu, None

4:45 pm 1200 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
Cortical Porosity and Bone Loss Predate Menopause
Ashild Bjornerem*[1], Ali Ghasem-Zadeh[2], Roger Zebaze[2], Minh Bui[3], Xiaofang Wang[4], John L Hopper[3], Ego Seeman[2]. [1]University of Tromsø, Norway, [2]Austin Health, University of Melbourne, Australia, [3]Centre for MEGA Epidemiology, University of Melbourne, Australia, [4]Endocrine Centre, Austin Health, University of Melbourne, Australia
Disclosures: Ashild Bjornerem, None

5:00 pm 1201 **2012 ASBMR YOUNG INVESTIGATOR AWARD**
FSH Suppression in Eugonadal Men Does Not Change Bone Turnover Markers
Alexander Uihlein*[1], Ruchit Kumbhani[1], Erica Siwila-Sackman[1], Joel Finkelstein[1], Hang Lee[1], Benjamin Leder[2]. [1]Massachusetts General Hospital, USA, [2]Massachusetts General Hospital Harvard Medical School, USA
Disclosures: Alexander Uihlein, None

5:15 pm 1202 **Sclerostin/*SOST*, a Novel Serum and Genetic Biomarker Strongly Correlated to BMD and Fracture in Postmenopausal Women**
Sjur Reppe*[1], Agate Noer[2], Runa M. Grimholt[3], Bjarni V. Halldorsson[4], Vigdis T. Gautvik[2], Ole K. Olstad[3], Jens P. Berg[3], Philippe Collas[2], Kaare M. Gautvik[5]. [1]Oslo University Hospital, Ullevaal, Norway, [2]University of Oslo, Norway, [3]Oslo University Hospital, Norway, [4]Reykjavik University, Iceland, [5]University of Oslo, Oslo University Hospital, Lovisenberg Deacon Hospital, Norway
Disclosures: Sjur Reppe, None

5:30 pm 1203 **RANKL Derived from Mesenchymal but not Hematopoietic Cellular Sources Is Relevant for Bone Turnover in Mice**
Carmen Streicher*[1], Alexandra Heyny[2], Paul Kostenuik[3], Reinhold Erben[4]. [1]University of Veterinary Medicine Vienna, Austria, [2]inst. of Physiology, Pathophysiology & Biophysics, Austria, [3]Amgen Inc., USA, [4]University of Veterinary Medicine, Austria
Disclosures: Carmen Streicher, None

5:45 pm 1204 **The ERα of osteoblast progenitors is required for normal accrual of cortical bone mass independently of estrogens**

Srividhya Iyer*[1], Aaraon Warren[2], Martha Martin-Millan[2], Li Han[1], Shoshana Bartell[1], Elena Ambrogini[1], Jinhu Xiong[1], Julie Crawford[2], Robert Weinstein[1], Robert Jilka[1], Charles O'Brien[1], Maria Jose Almeida[1], Stavros Manolagas[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]Central Arkansas Veterans Healthcare System, University of Arkansas for Medical Sciences, USA

Disclosures: Srividhya Iyer, None

CONCURRENT ORAL SESSION 35: AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS

4:30 pm - 6:00 pm **Minneapolis Convention Center**

Room 101C

Moderators:

Denise L. Orwig, Ph.D.
University of Maryland, Baltimore, USA
Disclosures: Denise Orwig, None

Marian T. Hannan, DSc, MPH
HSL Institute for Aging Research and Harvard Medical School, USA
Disclosures: Marian Hannan, None

4:30 pm 1205 **Blood Circulated Catabolic and Anabolic Biomarkers Associated with Skeletal Muscle Mass in Hispanic and Non-Hispanic Postmenopausal women—an Ancillary Study of the Women's Health Initiative**

Zhao Chen*[1], Nicole Wright[2], Jennifer Bea[3], Walter Klimecki[3], Chengcheng Hu[3], Andriene Grant[3], Kamal Masaki[4], Lihong Qi[5], Jean Wactawski-Wende[6], Matthew Allison[7], Patricia Thompson[3]. [1]University of Arizona College of Public Health, USA, [2]University of Alabama at Birmingham, USA, [3]University of Arizona, USA, [4]University of Hawaii at Manoa, USA, [5]University of California at Davis, USA, [6]State University of New York at Buffalo, USA, [7]University of California at San Diego, USA

Disclosures: Zhao Chen, None

4:45 pm 1206 **Sarcopenia Diagnosis: Consideration of a "FRAX-like" Approach**

Bjoern Buehring*, Ellen Fidler, Jessie Libber, Jennifer Sanfilippo, Bryan Heiderscheit, Diane Krueger, Neil Binkley. University of Wisconsin, Madison, USA

Disclosures: Bjoern Buehring, None

5:00 pm 1207 **Radiographic Knee Osteoarthritis is Associated with Genetic Loci Previously Associated with Bone Mineral Density**

Rebecca Jackson*[1], Laura Yerges-Armstrong[2], Changwan Lu[2], Joanne Jordan[3], Youfang Liu[3], David Duggan[4], Braxton Mitchell[5], Marc Hochberg[6]. [1]The Ohio State University, USA, [2]University of Maryland, USA, [3]University of North Carolina, USA, [4]Tranlsational Genomics, USA, [5]University of Maryland, Baltimore, USA, [6]University of Maryland School of Medicine, USA

Disclosures: Rebecca Jackson, None

5:15 pm 1208 **Vitamin D status and knee pain severity in functionally intact older adults: The Health ABC Study**

Laura Tosi*[1], Robert Boudreau[2], Kent Kwoh[3], Tanushree Prasad[3], Hilsa Ayonayon[4], Tamara Harris[5], Denise Houston[6], Stephen Kritchevsky[6], Kushang Patel[7], Eleanor Simonsick[8], Jane Cauley[9]. [1]Children's National Medical Center, USA, [2]University of Pittsburgh - Dept of Epidemiology, USA, [3]University of Pittsburgh, USA, [4]University of California - San Francisco, USA, [5]National Institute of Aging, USA, [6]Wake Forest University, USA, [7]National Institutes of Health, USA, [8]National Institutes of Aging, USA, [9]University of Pittsburgh Graduate School of Public Health, USA

Disclosures: Laura Tosi, Society For Women's Health Research, 9

5:30 pm 2012 ASBMR YOUNG INVESTIGATOR AWARD

1209 Progranulin Growth Factor is Protective against Osteoarthritis through Interplay with TNFα and β-Catenin Signaling

Chuanju Liu, Yunpeng Zhao*, Qingyun Tian, Shuai Zhap, Brendon Richbourgh. New York University, USA

Disclosures: Yunpeng Zhao, None

5:45 pm 1210 Sclerostin Plays a Key Role in Abnormal Wnt/ß-catenin Signalling in Human Osteoarthritic Subchondral Osteoblasts Leading to Reduced Mineralization

Elie Abed*[1], Denis Couchourel[2], Aline Delalandre [3], Daniel Lajeunesse[4]. [1]Crchum-hôpital Notre-dame, Canada, [2]Danone, , [3]CRCHUM, Canada, [4]CHUM, Hôpital Notre-Dame, Canada

Disclosures: Elie Abed, None

CONCURRENT ORAL SESSION 36: OSTEOPOROSIS IN SPECIAL POPULATIONS

4:30 pm - 6:00 pm **Minneapolis Convention Center**

Auditorium Room 3

Moderators:

Howard A. Fink, M.D., MPH
GRECC, Minneapolis VA Medical Center, USA
Disclosures: Howard Fink, None

Bart L. Clarke, M.D.
Mayo Clinic College of Medicine, USA
Disclosures: Bart Clarke, None

4:30 pm 1211 Prevention of Bone Loss during Spaceflight by Bisphosphonate

Toshio Matsumoto*[1], Adrian LeBlanc[2], Jeffrey Jones[2], Jay Shapiro[3], Thomas Lang[4], Linda Shackelford[5], Scott Smith[6], Harlan Evans[7], Elisabeth Spector[7], Robert Ploutz-Snyder[2], Jean Sibonga[8], Toshitaka Nakamura[9], Kenjiro Kohri[10], Hiroshi Ohshima[11]. [1]University of Tokushima Graduate School of Medical Sciences, Japan, [2]Baylor College of Medicine, USA, [3]Kennedy Krieger Institute, Johns Hopkins, USA, [4]University of California, San Francisco, USA, [5]NASA JSC, USA, [6]Wyle/nasa Jsc, USA, [7]Wyel, USA, [8]NASA Johnson Space Center, USA, [9]University of Occupational & Environmental Health, Japan, [10]Nagoya City Univ, Japan, [11]JAXA, Space Biomedical Research Office, Japan

Disclosures: Toshio Matsumoto, MSD, 2; Astellas Pharma, 5; Ono Pharmaceuticals, 5; Teijin Pharma, 5

4:45 pm 1212 Cortical Porosity and Estimated Bone Strength in Healthy Postmenopausal Women Treated with Exemestane for the Primary Prevention of Breast Cancer: Analyses from the nested bone strength substudy of the MAP.3 trial (MAP3BSS)

Angela Cheung*[1], John Robbins[2], Sandhya Pruthi[3], Paul E. Goss[4], Savannah Cardew[5], Sharmila Majumdar[6], Sundeep Khosla[7], Steven Boyd[8], Andrew Burghardt[6], Louise Bordeleau[9], James Ingle[10], Eva Szabo[1], Marta Erlandson[5], Hanxian Hu[1], Judite Scher[11], Harriet Richardson[12], Karen Gelmon[13], LIANNE TILE[5], George Tomlinson[1]. [1]University Health Network, Canada, [2]University of California, Davis Medical Center, USA, [3]Mayo Clinic College of Medicine, USA, [4]Massachusetts General Hospital, USA, [5]University of Toronto, Canada, [6]University of California, San Francisco, USA, [7]College of Medicine, Mayo Clinic, USA, [8]University of Calgary, Canada, [9]McMaster University, Canada, [10]Mayo Clinic Rochester, USA, [11]University Health Network, Canada, Canada, [12]Queens University, Canada, [13]BC Cancer Agency, Canada

Disclosures: Angela Cheung, None

5:00 pm 1213 Determinants of Low Bone Mineral Density (BMD) in Young Women with Severe Anorexia Nervosa

Karine Briot*[1], Marie-Raphaele Thiebaud[2], Simon Paternotte[1], Sami Kolta[1], Nicole Barthe[3], Alain Daragon[4], Yves Maugars[5], Thierry Thomas[6], Nathalie Godart[2], Christian Roux[1]. [1]Cochin Hospital, France, [2]Inserm U669, Universités Paris 5 ; Psychiatry Unit, Institut Mutualiste Montsouris, France, [3]Médecine Nucléaire, Centre Hospitalier de Bordeaux & Université de Bordeaux 2-Victor Segalen, France, [4]INSERM U 905, France, [5]Hôpital Dieu Et Hme, France, [6]INSERM U1059, Service de Rhumatologie, CHU de St Etienne, France

Disclosures: Karine Briot, None

5:15 pm **Bone Loss After Bariatric Surgery: Not Just Skeletal Unloading**
1214 Emily Stein*[1], Angela Carrelli[2], Polly Young[3], Mariana Bucovsky[3], Donald McMahon[1], Chiyuan Zhang[3], Bin Zhou[3], Ji Wang[3], X Guo[3], Elizabeth Shane[1], Shonni Silverberg[3]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University Medical Center, USA, [3]Columbia University, USA
Disclosures: Emily Stein, None

5:30 pm **Evaluation of Bone Turnover During Lactation in African-Americans: A Comparison to**
1215 **Caucasian Lactation**
Mara Horwitz[1], Raquel Carneiro*[2], Linda Prebehala[3], Mary Beth Tedesco[3], Susan Sereika[3], Caren Gundberg[4], Andrew Stewart[5]. [1]University of Pittsburgh, Div of Endocrinology - EMRC, USA, [2]The University of Fortaleza, School of Medicine, Brazil, [3]University of Pittsburgh, USA, [4]Yale University School of Medicine, USA, [5]University of Pittsburgh School of Medicine, USA
Disclosures: Raquel Carneiro, None

5:45 pm **The Skeletal Effects of Reducing Inflammation in Type 2 Diabetes Mellitus**
1216 Daniel Donovan[1], Serge Cremers[1], Donald McMahon[2], Elzbieta Dworakowski[1], Allison Goldfine[3], Steven Shoelson[3], Mishaela Rubin*[1]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Joslin Diabetes Center, USA
Disclosures: Mishaela Rubin, None