Funding for this conference was made possible (in part) by (1R13AR074882-01) from the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) and all co-funding support provided by National Institute On Aging (NIA). The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention by trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

GENERAL MEETING INFORMATION

Organizing Committee
Claire M. Edwards, Ph.D.
Theresa A. Guise, M.D.
G. David Roodman, M.D, Ph.D.

Co-Sponsored:
The Cancer and Bone Society (CABS)

Support
This activity is supported by educational funding donations provided by:

Scanco Medical

CONTINUING MEDICAL EDUCATION

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

AMA PRA Statement
Creighton University Health Sciences Continuing Education designates this live activity for a maximum of 5.75 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity

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

Online Evaluation to Receive CME
The online evaluation to receive CME will be available beginning Friday, September 11. You will receive an email from ASBMR with instructions on how to claim credit.

Target Audience
This meeting will bring together national and international investigators currently working in the field of cancer and bone, as well as young and established investigators, industry scientists, NIH intramural scientists and program staff, clinicians, endocrinologists and basic and translational researchers.
Learning Objectives

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

1. Provide an understanding of the major advances that have been made in the understanding of the symbiotic relationship between tumor cells and cells within the bone microenvironment that drive both tumor growth and survival and development of the associated bone disease.
2. Clarify the complex relationship within the tumor-bone niche has revealed key mechanisms that drive disease progression, including metabolic dysregulation, immune dysfunction and dormancy.
3. Share and exchange ideas of facilitation of the translation of basic science advances into clinical concepts.

ASBMR Expectations of Authors and Presenters

Through ASBMR meetings, the Society promotes excellence in bone and mineral research. Toward that end, ASBMR expects that all authors and presenters affiliated with the ASBMR Symposium: The Seed and Soil: Therapeutic Targets for Cancer and Bone will provide informative and fully accurate content that reflects the highest level of scientific rigor and integrity.

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

Furthermore, ASBMR expects that:

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

Disclosure Policy

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

Disclosure should include any affiliation that may bias one’s presentation or which, if known, could give the perception of bias. This includes relevant financial affiliations of a spouse or partner. If an affiliation exists that could represent or be perceived to represent a conflict of interest, this must be reported in the abstract submission program by listing the name of the commercial entity and selecting the potential conflict(s) by clicking in the box next to the relationship type. Disclosures will be printed in the program materials. These situations may include, but are not limited to: (1) Grant/Research Support; (2) Consultant; (3) Speakers’ Bureau; (4) Major Stock Shareholder; (5) Other Financial or Material Support.
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ASBMR expects that attendees respect each presenter's willingness to provide free exchange of scientific information without the abridgement of his or her rights or privacy and without the unauthorized copying and use of the scientific data shared during his or her presentation. In addition, ASBMR expects that attendees will respect exhibitors' desires not to have their products or booths photographed or video-recorded.

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Meeting Evaluation

An online evaluation form for the ASBMR Symposium: The Seed and Soil: Therapeutic Targets for Cancer and Bone will be available on the ASBMR Website at www.asbmr2020.org after the meeting and sent to you via email. Your participation in this evaluation is extremely important to us. Please take a moment to complete the evaluation of this meeting to aid in planning future meetings. Thank you in advance for your feedback.

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

Future ASBMR Annual Meeting Dates

ASBMR 2021 Annual Meeting
Metro Toronto Convention Centre, Toronto, Ontario, Canada
October 1-4, 2021

ASBMR 2021 Annual Meeting
Austin Convention Center, Austin, TX USA
September 9-12, 2022
WEDNESDAY, SEPTEMBER 9

TUMOR DORMANCY

10:00 am – 11:15 am ET

Co-Chairs:
Eric Hesse, MD, PhD, University Medical Centre Hamburg-Eppendorf, Germany
and Julie Sterling, PhD, Vanderbilt University, United States

10:00 am  Tumor Dormancy - Lessons Learnt from the HSC Niche
Russell Taichman, DMD, The University of Alabama at Birmingham, United States
Disclosures: None

10:20 am  Imaging Tumor Cell Dormancy in Bone
Michelle McDonald, PhD, Garvan Institute, Australia
Disclosures: None

10:40 am  Hypoxic Control of Tumor Dormancy
Rachelle Johnson, PhD, Vanderbilt University, United States
Disclosures: None

11:00 am  Panel Discussion

BREAK

11:15 am – 11:30 am ET

METABOLISM & ADIPOSY IN THE TUMOR-BONE ENVIRONMENT

11:30 am – 12:45 pm ET

Co-Chairs:
Theresa Guise, MD, Indiana University, United States
Larry Suva, PhD, Texas A&M College of Veterinary Medicine, United States

11:30 am  Fueling Cancer in Bone - Adiposity and Metabolism in the Tumor-bone Microenvironment
Claire Edwards, PhD, University of Oxford, United Kingdom
Disclosures: None

11:50 am  3D Study of Marrow Adipose Tissue and Cancer
Michaela Reagan, Maine Medical Centre Research Institute, United States
Disclosures: None

12:10 pm  Osteocyte Regulation of Tumor Growth and Bone Metabolism in multiple myeloma
Jesus Delgado-Calle, PhD, Indiana University, United States
Disclosures: None

12:30 pm  Panel Discussion

BREAK

12:45 pm – 1:15 pm ET
MICROENVIRONMENT

1:15 pm – 2:30 pm ET

Co-Chairs:
Kathy Weilbaecher, MD, Washington University School of Medicine in St Louis, United States
Hanna Taipaleenmaki, PhD, University Medical Centre Hamburg-Eppendorf, Germany

1:15 pm  Immune Control of Myeloma Development
Madhav Dhodapkar, Emory University, United States
Disclosures: None

1:35 pm  Advances in Targeting Tumor-bone Crosstalk
Yibin Kang, PhD, Princeton University, United States
Disclosures: None

1:55 pm  Tumor associated macrophages and skeletal metastasis
Laurie McCauley, PhD, University of Michigan, United States
Disclosures: None

2:15 pm  Panel Discussion

PRESENTATION LIGHTNING VIEWING

Abstracts, Disclosures, and full author listing for Presenting Lightning Viewing can be found in the Online Itinerary Builder and ASBMR Abstracts Book.

2:45 pm – 3:15 PM

Myeloma-modified adipocytes exhibit metabolic dysfunction and a senescence-associated secretory phenotype (SASP)
Michaela Reagan, Maine Medical Center Research Institute, United States

Integrin alpha-5 in human breast cancer is a mediator of bone metastasis and a therapeutic target for the treatment of osteolytic lesions
Philippe Clezardin, INSERM, UMR_S1033, University of Lyon, France

HDAC inhibitors rescue LIFR repression driven by the bone microenvironment
Courtney Edwards, Vanderbilt University Medical Scientist Training Program, United States

Low Magnitude Mechanical Signals Enhance the Effects of Zoledronic Acid to Reduce Osteolytic Lesion Area and Improve Cardiac Function in a Murine Model of Breast Cancer Bone Metastases
Gabriel M. Pagnotti, Indiana University, United States

Stromal cell-guided transformation of MDS to AML
Álvaro Cuesta-Domínguez, Department of Physiology and Cellular Biophysics, Vagelos College of Physicians & Surgeons, Columbia University Irving Medical Center., United States
Prostate Cancer-derived Extracellular Vesicles Negatively Affect Osteoblast Function
Giulia Furesi, Department of Medicine III and Center for Healthy Aging, Dresden, Germany, Technische Universität Dresden, Germany, Germany

Non-activated T cells Increase Osteoclastogenesis and Breast Cancer Bone Metastases
Danna L. Arellano, Biomedical Innovation Department, CICESE, Posgrado de Ciencias de la Vida, CICESE, Mexico

THURSDAY, SEPTEMBER 10

ORAL PRESENTATIONS
Abstracts, Disclosures, and full author listing for Oral Presentations can be found in the Online Itinerary Builder and ASBMR Abstracts Book.

10:00 am – 10:40 am ET

Co-Chairs:
Conor Lynch, PhD, Moffitt Cancer Center, United States
Penny Ottewell, PhD, University of Sheffield, United Kingdom

10:00 am  Osteocyte Vegf-a Contributes to Myeloma-associated Angiogenesis and Is Regulated by Fgf23
Patrick Mulcrone, Indiana University, United States
Disclosures: None

10:05 am  Differential Pathway Activation by GP130 Cytokines in Breast Cancer
Tolu Omokenhinde, Vanderbilt University, United States
Disclosures: None

10:10 am  Autocrine and paracrine Notch receptor 3 signaling in the myeloma niche stimulates tumor growth and bone destruction.
Hayley Sabol, Indiana University, United States
Disclosures: None

10:15 am  FOXP1 Drives Osteosarcoma Development by Repressing P53 Signaling
Hanjun Li, Shanghai Jiao Tong University School of Medicine, China

10:20 am  Macrophage Efferocytosis of Apoptotic Prostate Cancer Cells Activates TIM-3/CEACAM1/SHP-2 Signaling to Support Bone Metastatic Progression
Veronica Mendoza-Reinoso, University of Michigan School of Dentistry, United States
Disclosures: None

10:25 am  Panel Discussion

BREAK

10:40 am – 11:00 am ET
# BONE-TARGETED THERAPIES IN CANCER

**11:00 am – 12:20 pm ET**

**Co-Chairs:**
Cathy Van Poznack, MD, University of Michigan, United States  
G. David Roodman, MD, PhD, Indiana University, United States

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<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
<th>Institution</th>
<th>Location</th>
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<tbody>
<tr>
<td>11:00</td>
<td>History of Bone-targeted Therapies in Cancer</td>
<td>Graham Russell, MD, PhD</td>
<td>University of Oxford, United Kingdom</td>
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<tr>
<td>11:15</td>
<td>Targeting Prostate Cancer Bone Disease</td>
<td>Kenneth Pienta, MD</td>
<td>Johns Hopkins School of Medicine, United States</td>
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<tr>
<td>11:30</td>
<td>Advances in Treatment of Breast Cancer Bone Metastasis</td>
<td>Rob Coleman, MD</td>
<td>University of Sheffield, United Kingdom</td>
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<tr>
<td>11:45</td>
<td>New Approaches in Myeloma Bone Disease</td>
<td>Noopur Raje, MD</td>
<td>Harvard Medical School, United States</td>
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<tr>
<td>12:00</td>
<td>Panel Discussion</td>
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**COLLABORATION BREAK**

**12:20 pm – 2:00 pm ET**

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<th>Location</th>
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<tr>
<td>12:25</td>
<td>The New Normal – Room 1</td>
<td>Julie Rhodes</td>
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<td>12:45</td>
<td>Breakout into Collaboration Rooms</td>
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This talk will focus on pandemic-related topics such as learning to teach over Zoom, how to give interviews and be professional online, lab communications, mental health, and productivity during the pandemic.

Note you will be able to switch into different rooms at the break out times (every 15 minute) to participate in the chat discussion of each topic listed below:

- **Room 1: Maintaining the mentor/mentee relationship**  
  Moderator: Julie Rhodes

- **Room 2: Finding your next position**  
  Moderator: Rachelle Johnson

- **Room 3: Maintaining productivity in the age of Zoom**  
  Moderator: Patricia Juarez

- **Room 4: Keeping up virtual appearances: Online professionalism**  
  Moderator: Connor Lynch
All posters presented at the ASBMR Symposium: The Seed and Soil: Therapeutic Targets for Cancer and Bone will also be presented at the ASBMR 2020 Annual Meetin Virtual Event, September 11-15, 2020. Abstracts, disclosures, and full author listing for poster presentations can be found in the Online Itinerary Builder and ASBMR Abstracts Book.

The Stem Cell Basis of Bifurcation between Adipogenic versus Osteogenic Lineages
Shawon Debnath, Department of Pathology and Laboratory Medicine, Weill Cornell Medicine, United States

Treatment with zoledronate subsequent to denosumab in osteoporosis: a randomized trial
Anne Sophie Sølling, Department of Endocrinology and Internal Medicine, Aarhus University Hospital, Denmark

Blocking of osteocyte Toll-like receptor signaling uncouples bone resorption from inflammation
Tetsuya Yoshimoto, Indiana University School of Dentistry, Indiana Center for Musculoskeletal Health, Indiana University School of Medicine, United States

Single cell analysis reveals transient expansion of marrow adipogenic lineage precursors as the mechanism for bone marrow recovery after radiation
Lutian Yao, University of Pennsylvania, United States

Bone marrow adipogenic lineage precursors (MALPs) promote osteoclastogenesis in bone remodeling and pathologic bone loss
Wei Yu, Department of Orthopaedic Surgery, Perelman School of Medicine, University of Pennsylvania, United States

Garetosmab, an Inhibitor of Activin-A, Reduces Formation of Heterotopic Bone and Soft Tissue Flare-Ups in Patients with Fibrodysplasia Ossificans Progressiva
Eduardo Forleo-Neto, Regeneron Pharmaceuticals, United States

Myeloma-modified adipocytes exhibit metabolic dysfunction and a senescence-associated secretory phenotype (SASP)
Michaela Reagan, Maine Medical Center Research Institute, United States

TAF12, a Member of TFIID Transcription Factor Complex, Contributes to Osteoclast Differentiation and Bone Resorption In Vivo
Kazuaki Miyagawa, Division of Hematology and Oncology, Department of Medicine, Indiana University, United States

Lactobacillus reuteri prevents Early Stages of Glucocorticoid-induced Avascular Necrosis of Femoral Head.
Ho Jun Kang, Michigan State University, United States

TNFR2 signaling pathway mediated by 14-3-3e instructs macrophage plasticity in inflammatory arthritis
Wenyu Fu, New York University Medical Center, United States

Bone Tissue and Osteoblasts from X-linked type XVIII OI with defects in Regulated Membrane Proteolysis have Distinct Features
Allahdad Zarei, Section on Heritable Disorders of Bone and Extracellular Matrix, National Institute of Child Health and Human Development, National Institutes of Health, United States
A self-amplifying, self-propagating loop of Yap and Shh drives formation and expansion of heterotopic ossification
Qian Cong, Department of Developmental Biology, Harvard School of Dental Medicine, Harvard Stem Cell Institute, United States

LepR-expressing stem cells are essential for alveolar bone regeneration
Shiwen Zhang, State Key Laboratory of Oral Diseases & National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu, China, China

Horizontal fissuring at the osteochondral interface: a novel and unique pathological feature in patients with obesity-related osteoarthritis
Lianzhi Chen, University of Western Australia, Australia

Intestinal Vitamin D Receptor in Adult Mice is Essential to Maintain Bone Mass When Calcium Intake is Low but Dispensable When Calcium Intake is Adequate
Heng Jiang, Dept. of Nutrition Science, Purdue University, United States

NaQuinate: A drug that Selectively Synergizes with Mechanical Loading Stimuli In Vivo to Generate Greater Cortical Bone Mass and Architectural Modifications
Behzad Javaheri, Royal Veterinary College, United Kingdom

Phlpp1 Is Induced By Estrogen In Osteoclasts And Its Loss In Ctsk-Expressing Cells Does Not Protect Against Ovx-Induced Bone Loss
Ismael Karkache, University of Minnesota, United States

Differential iron requirements of osteoblast and adipocyte differentiation
Erica Clinkenbeard, Indiana University School of Medicine, United States

HIF Signaling Prevents Outgrowth of Breast Cancer Cells in Lung but not Bone
Vera Todd, Vanderbilt University, United States

Risk Factors for the Development of Heterotopic Ossification After Hip Arthroplasty: A Retrospective Review
Sukhmani Singh, UCSF, United States

Saturated and Unsaturated Bone Marrow Lipids Have Distinct Effects on Bone Density and Fracture Risk in Older Adults
Gina Woods, University of California, San Diego, United States

aE-catenin Deletion in Skeletal Stem and Progenitor Cells (SSPCs) Increases their Adipogenic Potential and Protects Against Diet- or Age-induced Obesity and Hyperglycemia
Karen De Samblancx, Laboratory of Skeletal Cell Biology and Physiology (SCEBP), Skeletal Biology and Engineering Research Center (SBE), Department of Development and Regeneration, KU Leuven, Belgium

STAT3 controls osteoclast differentiation and bone homeostasis by regulating NFATc1 transcription
Yang Yiling, Shanghai Jiaotong University School of Medicine, China

CD10: A novel marker of bone marrow adipocyte progenitors
Abbas Jafari, Department of Cellular and Molecular Medicine, University of Copenhagen, Denmark
PTH protects osteocytes from oxidative stress-induced death and senescence
Yuhei Uda, Henry M. Goldman School of Dental Medicine, Boston University, United States

Macrophage Efferocytosis of Apoptotic Prostate Cancer Cells Activates TIM-3/CEACAM1/SHP-2 Signaling to Support Bone Metastatic Progression
Veronica Mendoza-Reinoso, Department of Periodontics and Oral Medicine, University of Michigan School of Dentistry, United States

Hypophosphatemia Associated with Intravenous Ferric Carboxymaltose Complicated by Multiple Insufficiency Fractures
Christie Turin, University of Pennsylvania, United States

Bone marrow adipocytes induce multiple myeloma cell adipomimicry and dexamethasone resistance
Mariah Farrell, Maine Medical Center Research Institute, United States

Feasibility, safety and effectiveness of a pilot 16-week home-based, high-impact exercise intervention in post-menopausal women with low bone mineral density
Carrie-Anne Ng, Department of Medicine, School of Clinical Sciences at Monash Health, Monash University, Australia

Aberrant DNA methylation and gene expression profiles in the bone marrow stroma of AML patients carrying IDH1 or IDH2 mutations
Paraskevi Vgenopoulou, Department of Physiology and Cellular Biophysics, Columbia University Irving Medical Center, United States

Inhibition of Activin A with Garetosmab Improved Parameters of Lung Function in Patients with FOP
Cynthia Portal-Celhay, Regeneron Pharmaceuticals, United States

Treatment of established bone metastases can be achieved by combinatorial osteoclast blockade and depletion of Gr1+ cell subsets
Seunghyun Lee, Washington University in St.Louis, United States

PPARG in Osteocytes Regulates Sclerostin Expression, Bone Mass and Marrow Adiposity
Sudipta Baroi, University of Toledo, College of Medicine and Life Sciences, United States

The Wnt-Inhibitor DKK-1 as a Prognostic Marker and Molecular Target in Human Triple-Negative Breast Cancer
Teresa Stefania Dell'Endice, Division of Endocrinology, Diabetes and Bone Diseases, Department of Medicine III, TU Dresden Medical Center, Fetscherstraße 74, D-01307 Dresden, Germany, Germany

Denosumab is Non-inferior to Zoledronic Acid as Bone Protection in Post-menopausal Breast Cancer: A 2-year Prospective Follow-up Study
Kristian Buch-Larsen, Department of Endocrinology, Rigshospitalet, Denmark

PTHrP Overexpression in Mammary Tumors Causes Anorexia: A Possible Role of Lipocalin-2
Diego Grinman, Yale University, United States
Loss of Osteogenic Dickkopf-1 Ameliorates Cortical and Trabecular Bone Loss by Suppressing Bone Resorption in Male Mice With Type 1 Diabetes Mellitus
Souad Daamouch, Department of Medicine III and Center for Healthy Aging, Technische Universität, Germany

ABT263 attenuate irradiation-induced bone loss in mice through cleaning senescent osteocytes and inhibiting SASP production
Qinghe Geng, Central Lab, Pizhou Hospital, Xuzhou Medical University, China

A Simultaneous Bone and Muscle Surgical Injury Model Reveals Age/Gender Differences in Musculoskeletal Healing
Claudia Cristina Biguetti, Bone-Muscle Research Center, CONHI, The University of Texas at Arlington, United States

A natural small molecule targeting miR487b-Wnt5a interaction to promote myogenic potential in vitro
Zhenjian Zhuo, The Chinese University of Hong Kong, Hong Kong

Dyrk1a-Related Down Syndrome Bone Defects Abrogated by Temporally-Targeted Pharmacological Intervention
Jonathan LaCombe, IUPUI, United States

Inhibition of PAD4 Mediated Neutrophil Extracellular Traps Prevents Fibrotic Osseointegration Failure in a Murine Model of Tibial Implantation
Emile-Victor Kuyl, Hospital for Special Surgery, United States

Low doses of the bone-targeted Notch inhibitor BT-GSI exhibit higher anti-myeloma activity and preserve bone compared to unconjugated GSI or zolendronic acid.
Tania Amorim, Indiana University School of Medicine, United States

Quantitative histone acetylation analysis of GATA3 and PAX1 transcription factor genes in primary hyperparathyroidism
PRIYANKA SINGH, PhD, India

Zoledronic Acid Improves Bone Quality and Muscle Function in High Bone-Turnover State
Trupti Trivedi, Indiana University School of Medicine, United States

Semaphorin-3F, a potential biomarker for Lymphatic Anomalies and Bone Cell Function
Ernesto Solorzano, NEOMED, United States

Syngeneic Murine Bladder Cancer Growing in Bone Responds to Anti-PD-1 Treatment
Mari I. Suominen, Pharmatest Services, Finland

Glutamine Metabolism in Cartilage Tumors
Hongyuan Zhang, Department of Orthopaedic Surgery, Duke University, United States

Elevated mature osteoblastic 11ß-HSD1 contributes to high-fat-diet induced obesity
Chuanxin Zhong, Law Sau Fai Institute for Advancing Translational Medicine in Bone and Joint Diseases, School of Chinese Medicine, Hong Kong Baptist University, Hong Kong SAR, People’s Republic of China., Hong Kong
Musculoskeletal and cardiac defects in the Presenilin-1 (PSEN1) L166P KI mouse model of Alzheimer Disease.
Vidyani Suryadevara, Indiana Center for Musculoskeletal Health, Department of Pathology & Laboratory Medicine, Indiana University School of Medicine, Indianapolis, IN 46202, United States

A patient-derived in vitro disease model for Muenke Syndrome reveals defects in neural crest development.
Fahad Kidwai, NIH, United States

Osteocytic Wnt protects unloading-induced bone loss via increased endochondral ossification
Xiaolin Tu, Chongqing Medical University, China

Prrx1-CreAlplfl/fl mice, a model for further investigations into the pathophysiological changes in hypophosphatemia
Victoria DeMambro, Maine Medical Center Research Institute, United States

Transcriptomic analysis of aged mouse bone identifies novel genes enriched for genetic associations with bone fracture and bone mineral density in human
Serra Kaya, University of California San Francisco, United States

Partial Depletion of Ccr2+ Myeloid Cells Reduces Endochondral Heterotopic Ossification without Inhibiting Muscle Repair in Fibrodyplasia Ossificans Progressiva Mice
Cody M Elkins, Emory University, United States

Predicting Mortality and Re-fracture Following an Initial Fracture
Thao P. Ho-Le, Healthy Aging Theme, Garvan Institute of Medical Research, Australia

Runx2 Regulates Cytoskeletal Dynamics in Bone Metastatic Breast Cancer Cells
Ahmad Othman, Rush University Medical Center, United States

Musculoskeletal and cardiac defects in the microtubule associated protein Tau (MAPT) P301S Tg+ mouse model of Frontotemporal Dementia.
Anuradha Valiya Kambrath, Indiana Center for Musculoskeletal Health, Department of Pathology & Laboratory Medicine, Indiana University School of Medicine, Indianapolis, IN 46202, United States

A simple-to-use nomogram for identifying individuals at high risk of denosumab-associated hypocalcemia in postmenopausal osteoporosis: a real-world cohort study
Kyoung Jin Kim, Department of Internal Medicine, Severance Hospital, Endocrine Research Institute, Yonsei University College of Medicine, Republic of Korea

Tibial Bone Quality in Former Bariatric Surgery Patients with Knee Osteoarthritis
Breanne S. Baker, Department of Orthopaedic Surgery and Thompson Laboratory of Regenerative Orthopaedics, Missouri Orthopaedic Institute – University of Missouri, Columbia, MO, United States

Aromatase Inhibitor Induced Bone Loss in Postmenopausal Women with Breast Cancer: A Systematic Review and Meta-analysis of Randomized Controlled Trials
Abir Bou Khalil, American University of Beirut, Lebanon
Bisphosphonate protects cortical bone at key locations of the femur in aromatase-inhibitor associated bone loss: a 3D cortical bone mapping study
Namki Hong, Yonsei University College of Medicine, Republic of Korea

Phagocytosis by mesenchymal stromal cells: A facultative process that induces senescence
Emily Quarato, University of Rochester, United States

Modulation of Bone Marrow Mesenchymal Stem Cell Differentiation by Osteocytic Connexin Hemichannels
Jingruo Zhang, Department of Biochemistry and structural biology, UT Health San Antonio, United States

Assessing the host inflammatory response to a novel 3D-printed hydroxyapatite (HA) and demineralized bone matrix (DBM) composite using a rodent posterolateral spinal fusion model
Chawon Yun, Northwestern University Feinberg School of Medicine, United States

Improved Bone Fracture Repair through Targeted Delivery of Angiogenic Agents
Jeffery Nielsen, Purdue University, United States

NaQuinate, a Vitamin K Catabolite, is Found in Blood after Oral Vitamin K1 Administration and Reduces Osteoclast Activity Without Effecting Osteoclast Number in Culture
Isabel Orriss, Royal Veterinary College, United Kingdom

Inhibition of Hypoxia Inducible Factor (HIF) Signaling Ameliorates Radiation Induced Marrow Adiposity
Colleen Wu, Duke University School of Medicine, United States

The influence of undercarboxylated osteocalcin on endothelial function in normal and high glucose conditions
Alexander Tacey, Victoria University, Australia

The Safety of Withdrawal from Denosumab Therapy in Fibrous Dysplasia and McCune Albright Syndrome
Maartje Meier, Leiden University Medical Center, Netherlands

Osteoblasts Derived from Mouse Mandible Enhance Tumor Growth of Prostate Cancer More Than Osteoblasts Derived from Long Bone
Yusuke Shiozawa, Wake Forest University Health Sciences, United States

The role of nonhuman primates as a model for diabetes pathophysiology
Roberto J. Fajardo, Clinical and Applied Science Education, University of the Incarnate Word School of Osteopathic Medicine, United States

The Changing Partners of FOXO1 Under High Serotonin Levels in Winnie Mouse Model of Spontaneous Chronic Colitis
Shilpa Sharma, Australian Institute for Musculoskeletal Science, The University of Melbourne and Western Health, Melbourne, Australia. Department of Medicine-Western Health, The University of Melbourne, Melbourne, Australia, Australia

Carlos Orces, Laredo Medical Center, United States
Serum total periostin is an independent marker of overall survival in non-small cell lung cancer
Cyrille Confavreux, Inserm UMR1033 - Hospices Civils de Lyon - Université de Lyon, France

Investigating the Effect of Yoda1 on Osteocytes Mechanoregulation of Breast Cancer Bone Metastasis
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Lipid Signaling Mediators regulates myogenesis with ageing
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Development of a New Therapeutic Modality for Bisphosphonate-Related Osteonecrosis of the Jaw
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Prediction of Cyclic Load from Strain Measurement in a Long Bone using an Artificial Neural Network Algorithm
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Sclerostin loop3: a potential target for developing a next generation sclerostin inhibitor for bone anabolic therapy with low cardiovascular concern
Yuanyuan Yu, Law Sau Fai Institute for Advancing Translational Medicine in Bone and Joint Diseases (TMBJ), School of Chinese Medicine, Hong Kong Baptist University, Hong Kong

Genome-wide association (GWAS) meta-analysis of skull bone mineral density identifies determinants of osteoporosis and craniostenosis
Carolina Medina Gomez, ErasmusMC, Netherlands

Novel use of Burosumab (Crysvita) in a girl with Fanconi syndrome.
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Vanessa Sherk, University of Colorado Anschutz Medical Campus, United States

Prevalence of Frailty and Associated Factors in a National Observational Cohort of Rheumatic Diseases.
Katherine D. Wysham, VA Puget Sound Health Care System/University of Washington, United States

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Fahima Munmun, Duquesne University Graduate School of Pharmaceutical, Administrative and Social Sciences, United States

Oxylipins Mediate Radiation-induced Marrow Adipose Tissue Expansion
Jason A Horton, Upstate Medical University, United States

Leveraging data from bivariate genome-wide association meta-analysis to unravel novel pleiotropic pathways of bone-muscle crosstalk
Katerina Trajanoska, Department of Internal Medicine, Erasmus MC University, Netherlands, Netherlands
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Kisoo Pahk, Korea University Anam Hospital, Republic of Korea

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Mahdi Imani, Department of Medicine, Western Health and the Australian Institute for Musculoskeletal Science (AIMSS), Melbourne Medical School, The University of Melbourne, St Albans, Melbourne, VIC, Australia.

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Vladimir Kenis, H.Turner National Medical Research Center for ?hildren's Orthopedics and Trauma Surgery, Russian Federation

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L. Adam Sherman, International FOP Association, United States

Assessing The Impact Of Calcitonin In Management Of Hypercalcemia
Malik Faheem, Division of Endocrinology, Stanford University, United States

Multicentric Carpotarsal Osteolysis Syndrome (MCTO) Has a Generalized High Turnover Bone Phenotype, High s RANKL and Responds to Denosumab
Ravit Regev, The Hospital for Sick Children, University of Toronto, Canada

Longitudinal Evaluation of Saturated and Unsaturated Vertebral Marrow Adipose Tissue (MAT) Over 3 Years in Older Men and Women
Trisha Hue, University of California, San Francisco, United States

Sodium Benzoate (NaB) attenuates osteoporosis and enhances bone health via modulating host osteoimmune system
Rupesh K. Srivastava, All India Institute of Medical Sciences (AIIMS), India

Role of Senescence in Age- and Radiation- Associated Bone Marrow Adiposity
Abhishek Chandra, Mayo Clinic, United States

Sex differences in skeletal development and maintenance mediated by the osteoblastic glucocorticoid receptor
Anuj Sharma, Augusta University, United States

GNAS product XLas, but not Gsa, exhibits variable allele-specific expression in bone marrow stromal samples: “next-generation” sequencing (NGS) to determine parental contribution.
Qiuxia Cui, Endocrine Unit, Department of Medicine, Massachusetts General Hospital and Harvard Medical School; Zhongnan Hospital, Wuhan University, United States

Preclinical evaluation of a novel 3D-printed composite scaffold using a rodent posterolateral spinal fusion model
Chawon Yun, Northwestern University Feinberg School of Medicine, United States
BIOCHEMICAL ALGORITHM TO IDENTIFY INDIVIDUALS WITH ALPL VARIANTS BETWEEN SUBJECTS WITH PERSISTENT HYPOPHOSPHATASAEIMIA
C. Tornero, Department of Rheumatology. La Paz University Hospital., Spain

Deep learning-based image segmentation performs well when trained and tested on similar, dissimilar, and combined image data
Emilie N. Henning, Department of Mechanical and Aerospace Engineering, University of Colorado Colorado Springs, United States

Long-term effectiveness of Asfotase Alfa in adults with pediatric-onset Hypophosphatasia in routine clinical practice
Franca Genest, 1Orthopaedic Clinic King-Ludwig-Haus, University of Würzburg, Würzburg, Germany

Clinical characteristics, therapeutic outcome and follow up of 66 patients of Paget Disease from South India
Krishna Mori, Sri Ramchandra Medical College, India

Dose-dependent Effect of Zolendronic Acid on the Development of Medication-associated Jaw Osteonecrosis (MRONJ) Like-lesion in C57Bl/6 Mice – A Histological Preliminary Study
Nataira Momesso, Department of Basic Sciences, School of Dentistry, São Paulo State University (UNESP), Araçatuba, SP, Brazil

Effects of Infigratinib, a Selective FGFR1-3 Tyrosine Kinase Inhibitor, on Dentoalveolar Development
Sarah Aitken, National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), National Institutes of Health (NIH), United States

Improved prediction of fracture risk leveraging a genome-wide polygenic risk score
Tianyuan Lu, McGill University, Canada

Effect of vitamin D supplementation on hip structural geometry in the elderly
Aya Bassatne, American University of Beirut, Lebanon

Incidence and predictors of fractures in older adults with and without obesity defined by body mass index versus body fat percentage
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A Clinically Handy Novel Mechanical Parameter to Quantify the Microarchitecture Effect on Apparent Modulus of Trabecular Bone
Yongqiang Jin, The University of Hong Kong, Hong Kong

ENDOTHELIAL CELL PHYSIOLOGY IN A MICROFLUIDIC DEVICE AND THEIR RESPONSE TO MESENCHYMAL STROMAL CELLS
Shuang Zhang, Internal Medicine, Erasmus University Medical Center, Netherlands

Assessment of bone mineral density, cortical bone thickness and bone marrow fat at the proximal femur in HIV-infected subjects
Julio Carballido-Gamio, Department of Radiology, University of Colorado Anschutz Medical Campus, United States
Possibilities of Trabecular Bone Score to Reflect Activity and Progression of Ankylosing Spondilitis in Young Patients
Konstantin Kolpakov, RICEL - Branch of IC&G SB RAS, Russian Federation

Synthesis and in vitro evaluation of a bispecific aptamer targeting both Sclerostin and Dickkopf-1
Zhenjian Zhuo, The Chinese University of Hong Kong, Hong Kong

C3H substrain variation results in decreased bone density and fat mass in C3H/HeJ mice
Kathleen Becker, University of New England, New York, United States

Pull out strength of the screw and compression force of vertebra gain with a 3-month course of romosozumab treatment: Prospective study using finite element analysis
Koji Ishikawa, Department of Orthopaedic Surgery, Showa University School of Medicine, Japan

Physiological And Nutrition-related Effects On Bone Marrow Adipocyte Formation
George Soultoukis, Leibniz Association, Germany

Atypical Parathyroid Adenoma Causing Parathyroid Crisis
Tammy Tavdy, Montefiore Medical Center/Albert Einstein College of Medicine, United States

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Débora Meira Ramos Amorim, Federal University of Sao Paulo, Brazil

The Dynamics of Mice and Human Bone Marrow Adipose Tissue in Response to Feeding and Fasting
Gisela Pachon-Pena, MMCRI, United States

NaQuinate Protects Against Ovariectomy-Induced Changes in Cortical Bone Mass and Architecture Through a Regionally Targeted Mechanism
Amy Lock, Royal Veterinary College, United Kingdom

Modulation of osteoclast behaviors by the immune microenvironment
Margaret Durdan, University of Michigan, United States

Higher diet quality score increases weight loss during moderate caloric restriction with no greater loss of bone mineral density.
Anna Ogilvie, Rutgers University, United States

Erdheim-Chester disease - Unusual presentation with isolated skeletal lytic lesions
Amulya Yalamanchi, Sri Ramachandra medical college, India

Kynurenine Promotes Age-Related Bone Loss via Upregulating RANKL–Induced Osteoclastogenesis and Inhibiting Bone Marrow Mesenchymal Stem Cells Osteogenesis
Nada Eisa, Dept. Pathology, Medical University of South Carolina, United States

RNA-binding protein Cpeb4 is required for osteoclastogenesis.
Masamichi Li, Department of Molecular Pharmacology, Graduate School of Pharmaceutical Sciences and Faculty of Pharmaceutical Sciences, Tokyo University of Science, Japan
Excessive mechanical strain accelerates intervertebral disc degeneration by disrupting the intrinsic circadian rhythm of nucleus pulposus cells
Li-Bo Jiang, Zhongshan Hospital, Fudan University, China

Pelvic Ring Fragility Fractures: A Debilitating Fracture Occurring in Elderly Ambulatory Patients with Monoclonal Gammapathy of Uncertain Significance, Pernicious Anemia, Hyponatremia, and Associated with High Mortality
Michael Lovy, Desert Oasis Healthcare, United States

Factors Contributing to Fracture in Pernicious Anemia Patients Presenting with Symptomatic Subacute Vertbral Compression Fractures
Michael Lovy, Desert Oasis Healthcare, United States

Bilateral Atypical Femur Fractures as a Presenting Manifestation of Unrecognized Hypophosphatasia.
Madhav Chittimalla, Henry Ford Health System, United States

Effect of Fucoidan, a Sulfated Polysaccharide, Extracted from the Algae Macrocystis pyrfera, Sargassum muticum, and Undaria pinnatifida on Bone Remodeling
Brenda Iduarte, CICESE, Mexico

Coracoid Stress Fracture in a Tennis Player – A Rare Sports Injury
Clay Larkin, University of Kentucky, United States

Parvathy Madhavan, University of Connecticut Health Center, United States

Aging delays epimorphic regeneration in mice
Regina Brunauer, Texas A&M University, United States

Results of a Multidisciplinary Clinic to Prevent Second Fragility Fracture
Nariman Saba Khazen, Carmel and Lin Medical Center, Haifa, Israel, Israel

Pregnancy associated Osteoporosis - Transient Osteoporosis of Hip
Krishna Mori, Sri Ramchandra Medical College, India

A Cross-sectional study for changes in proportion of bone mineral density after corticosteroid therapy in postmenopausal women with rheumatoid arthritis
Kwangyoon Kim, Ajou University hospital, Republic of Korea

Visceral Adipose Tissue and Major Adverse Cardio-vascular Events: A Systematic Review and Meta-analysis Protocol of Observational and Randomized Controlled Trials
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