

# 8<sup>th</sup> Annual Skeletal Research Symposium

## Poster Presentations

MGH Main Campus: Thier 1 Conference

11:15-12:45 (odd posters: 11:15-12:00; even posters: 12:00-12:45)

First Author	Abstract Title	Poster Number
Emily Moore	<i>The role of BMP signaling in appositional bone growth</i>	1
Maisa Da Silva	<i>"Mmp13 Deletion Modulates Osteocytic Perilacunar Remodeling and Prevents Lactation-Induced Bone Loss: Insights into Osteocytic Osteolysis and Bone Homeostasis"</i>	2
Alex Goraltchouk	<i>FGF18 Gene Therapy Treatment for Osteoarthritis Promotes Regenerative Chondroanabolic and Anti- Catabolic Activity</i>	3
Ignacio Portales-Castillo	<i>ALTERED DESENSITIZATION OF pthrp SIGNALING AS A NOVEL MECHANISM FOR DELAYED OSSIFICATION IN EIKEN SYNDROME.</i>	4
Tadatoshi Sato	<i>In vitro evaluation of CRISPR/Cas9-mediated gene therapy for Osteogenesis Imperfecta</i>	5
Nora Renthal	<i>Genome-wide CRISPR Screening of Chondrocyte Maturation Newly Implicates Multiple Genes in Longitudinal Skeletal Growth and Height-GWAS Associated Loci</i>	6
Brent Hawkins	<i>Vav2/Wasl signaling is a novel pathway regulating the vertebrate skeleton</i>	7
Prem Yadav	<i>Phosphate induced activation of VEGFR2 is required for Caspase 9 mediated apoptosis of hypertrophic chondrocytes during endochondral bone formation.</i>	8
Jakob Hoppner	<i>Skeletal phenotype in mice with a truncating PTH1R mutation resembles skeletal abnormalities in subjects with Eiken Syndrome</i>	9
Gabrielle Gallant	<i>Involvement of morphogenetic protein 2 in osteogenesis and angiogenesis during distraction osteogenesis</i>	10
Adina E. Draghici	<i>Mechanisms of tibial bone blood flow regulation in humans</i>	11
Vikram Khedgikar	<i>Mouse LGR6 regulates osteogenesis in vitro and in vivo through differential ligand use</i>	12

Katelyn DeMaio	<i>Cfp1 and chondrocyte maturation: analysis of phenotypic changes in the context of gene deletion in embryonic mice</i>	13
Jasmine M. Nutakki	<i>Effects of Increasing LRP5 Signaling During Chondrocyte Transdifferentiation to Osteoblast Development On Osteogenesis Imperfecta</i>	14
Yorihiro Iwasaki	<i>GNAS AS2 DMR Methylation Depends on STX16/NESP55 icrs and Has Diagnostic Potential in AD-PHP1B</i>	15
Christodoulos K. Constantinou	<i>In-Vitro Differentiation of Human Acetabular Mesenchymal Stem Cells as a Potential Model to Study Osteoarthritic Risk Factors</i>	16
Grace Jung	<i>Risk of Wrist Fracture in Gastric Bypass Compared to Gastric Banding as Estimated by the Load-to-Strength Ratio</i>	17
Shannon R. Emerzian	<i>Total body irradiation results in long-term deficits in vertebral but not femoral bone structure in male rhesus macaques</i>	18
David E. Maridas	<i>Smad1/5/8 signaling in osteoblasts: early observations from a triple knockout mouse model</i>	19
Yaser Peymanfar	<i>Roles of osteoblast dopamine D2 receptor in type 1 diabetes-induced bone loss</i>	20
Jingting Yao	<i>Characterization of Bone Mineralization and Vascular Calcification Using Ion-Selective Phosphorus-31 Solid State Magnetic Resonance Spectroscopy</i>	21
Kira Fagerstrom	<i>Developing genetic tools to analyze skeletal homeostasis in aging</i>	22
Yiwei Kong	<i>Bony bar formation v. Cartilage healing in a vertical Salter-Harris type4 (SH4) GP fracture</i>	23
Sara Monaci	<i>Role of Tyrosine Phosphorylation in Yes-Associated Protein 1 Function in Bone Marrow Stromal Cells</i>	24
Vineel Kondiboyina	<i>Estimation of Material Properties of Regenerating Axolotl Limbs Using Inverse Finite Element Analysis</i>	25
Kathryn M. Yammine	<i>Elucidating collagen-II proteostasis defects in human chondrodysplasia using induced pluripotent stem cells</i>	26
Austin Baacke	<i>Movement As a Marker of Pain in Severe Osteogenesis Imperfecta</i>	27
Katherine C. Woronowicz	<i>Dissecting the Role of an Ultraconserved Cis-Regulatory Hub in Modulating Jaw Size</i>	28

Anthony N. Aggouras	<i>Earlier Proteoglycan Turnover Promotes Higher Efficiency Matrix Remodeling in MRL/mpj Tendons</i>	29
Emma J. Stowe	<i>Senescence Contributes to Death Resistance of Aged Tenocytes in a Model of Secondary Joint Damage</i>	30
Susan MacLauchlan	<i>Tonic interferon signaling in osteoclast formation and clonal hematopoiesis</i>	31
Giullia Montagna	<i>Rationale for Improving Existing OI Mouse Models</i>	32
Stephen Treaster	<i>Insights from the edge: Genetic analysis of exceptionally long- and short-lived species to reveal the regulation of human aging</i>	33
John M. Baronas	<i>Exploring the Function of Protein Inhibitor of Activated STAT 1 (Pias1) to Maintain Chondrocyte Immaturity in Growth Plate Chondrocytes</i>	34
Yu Liu	<i>Prx1 Muscle Cell Population needs to be Activated</i>	35
Shannon R. Emerzian	<i>Cortical Bone Post-Yield Energy Absorption is Reduced in Older Adults with Long-Duration Type 1 Diabetes</i>	36
Neilesh Frings	<i>Risk of vertebral endplate failure during vertebral fracture</i>	37
Sherr-Ann Burnett-Bowie	<i>Racial and Ethnic Disparities in Metabolic Bone Disease</i>	38
Christine Lary	<i>A Meta-analysis of the association between bone density measures and the risk of dementia</i>	39
Soha Ben Tahar	<i>Use of 3D Turing patterns to model skeletal development.</i>	40
Milica Sipovac	<i>Neonatal line width in primary teeth from the Early Neolithic and Modern ages</i>	41
Divya Venkatasubramanian	<i>Lineage-Specific Differences and Inference of Regulatory Networks Governing Human Chondrocyte Development</i>	42
Nicola Blum	<i>Running the red light – defining signals driving progressive growth in skeletal disorders</i>	43
Stephanie L. Tsai	<i>Endogenous Tenocyte Activation Underlies the Regenerative Capacity of Adult Zebrafish Tendon</i>	44

Anna Wadhwa	<i>Space-like radiation leads to deficits in vertebral bone density and microarchitecture in male Alzheimer's-like transgenic mice</i>	45
André F. Gutiérrez	<i>Age-related mechanical degradation of cortical bone is driven by microstructural changes in addition to porosity</i>	46
Xiaomeng You	<i>Gut microbiome promotion of bone growth in early life is mediated by GPR43</i>	47
Chilan B. G. Leite	<i>Physiological production of specialized pro-resolving mediators does not prevent posttraumatic osteoarthritis after anterior cruciate ligament transection</i>	48
Petra Simic	<i>1,25-dihydroxy vitamin D regulates furin-mediated FGF23 cleavage</i>	49
Supriya Jagga	<i>Impaired 1,25 dihydroxyvitamin D3 action and hypophosphatemia underlie the altered lacuno-canalicular remodeling observed in the Hyp mouse model of XLH</i>	50
Yizhong Hu	<i>Piezo1 Regulates cGMP/PKG Signaling in Osteocyte Mechanotransduction</i>	51
Sung-Hee Seanna Yoon	<i>SIK2/SIK3 inhibitor increases cortical bone mass in a mouse model of CKD-MBD</i>	52
Vineel Kondiboyina	<i>Calcium signaling in in-situ chondrocytes under dynamic compressive loading</i>	53
Rosanne Raftery	<i>Stability and regenerative capacity of articular cartilage tissue derived from human pluripotent stem cells</i>	54
Courtney M. Mazur	<i>Subcellular transcriptomics reveals selective mRNA trafficking to osteocyte dendrites</i>	55
Fjola Johannesdottir	<i>Femoral Neck Bone Density and Structure in Older Adults with Longstanding Type 1 Diabetes: A Case-Control Study</i>	56