

Easel #	Presenter Name	Poster Abstract Title	Authors
BIOMECHANICS CORE ABSTRACTS			
1	Joseph Newton	Knockdown of decorin & biglycan immediately following tendon injury significantly alters gene expression & fibril morphology, with minimal effects on mechanical properties	Newton J, Weiss SN, Darrieutort-Laffite C, Nuss CA, Birk DE, Soslowky LJ
2	Jaclyn Carlson	Collagen III Deficiency Alters Mechanical Properties and Decreases Regulation of Fibrillogenesis Following Injury in Female Murine Tendons	Carlson JA, Weiss SN, Volk SW, Soslowky LJ
3	Thomas Leahy	The Mechanosensor Focal Adhesion Kinase Regulates Cell Shape and Tendon Development	Leahy TP, Chenna SS, Soslowky LJ, Dymnt NA
4	My Tang	Surgically repairing Achilles' tendon ruptures restores plantar flexor function better than non-surgical treatment in a rat model	Tang MM, Nuss CA, Fogarty N, Baxter JR
5	Elizabeth Kahle	Molecular Augmentation of the Microniche of Human Osteoarthritic Chondrocyte by Biomimetic Proteoglycans	Kahle ER, Trouillot CE, Lu XL, Marcolongo MS, Han L
6	Brianna Orozco	Intervertebral Disc and Facer Crosstalk in a Rabbit Puncture Model of Disc Degeneration	OrozcoBS, Fainor M, Muir V, Mahindroo S, Gupta S, Burdick J, Mauck RL, Smith HE, Gullbrand SE
7	Michael DiStefano	Determining Region-Specific Mechanical and Structural Differences in Aging Mouse Supraspinatus Tendons	DiStefano M, Han B, Paglia-Garcés P, Weiss S, Shetye S, Kuntz A, Soslowky L
8	Wen Sang	Investigating the influence of Osteocyte Lacunar Morphology and Perilacunar Tissue properties on local mechanical environment of Lacunae using finite element modeling	Sang W, Ural A
9	Elisabeth Lemmon	Mechanoactive Anti-Inflammatory Drug Delivery to Meniscus Defects	Lemmon EA, Locke RC, Stoeckl BD, Jenk AC, Hast MW, Mauck R
10	Ibtesam Rajpar	Toll-Like Receptor 4 Signaling In Osteoblasts Is Required For Load-Induced Bone Formation	Rajpar I, Kumar G, Fortina PM, Tomlinson RE
11	Alexandra Ciuciu	Naproxen decreases bone toughness in a COX2-independent manner, reduces osteocyte dendrite number, and impairs perilacunar canalicular remodeling	Ciuciu A, Tomlinson RE
12	Anna Smith	Evaluation of additively manufactured bioresorbable trauma implants in a rat femur fracture model	Smith AN, Tang M, Gupta R, Teinturier T, Weiss S, Massie A, Hast M
13	Nathan Campbell	Can in vivo tendon morphology and biomechanical properties be predicted from serum factors in people with pre-diabetes and type 2 diabetes?	Campbell NW, Patel SH, Emenim CE, Farino DO, Rispoli JV, Goergen CG, Haus JM, Sabbaghi A, Carroll CC
14	Jaime Santillan	Collagen XI Deficiency Increases Collagen Fibril Deformation and Sliding in Developing Mouse Patellar Tendon	Santillan JA, Han B, Eekhoff JD, Weiss SN, Soslowky LJ
15	Michelle Kwon	Exploring methods for long-term, daily monitoring of Achilles tendon loading outside clinical or laboratory settings	Kwon MP, Woods M, Hullfish TJ, Baxter JR
16	Stanton Godshall	A Validated Open-Source Digital Image Correlation Algorithm for Measuring Local Tissue Strains in Tendon Explants	Godshall S, Pedaprolu1 K, Vasti E, Eskandari F, Szczesny SE
MICRO CT CORE ABSTRACTS			
17	Mary Kate Evans	Non-Muscle Myosins are Critical Regulators of Skeletal and Connective Tissue Formation	Evans MK, Tsinman T, Ferguson E, Jiang X, Boerckel J, Han L, Koyama E, Mauck R, Dymnt N
18	Bryan Kwok	Type V Collagen Plays an Essential Role in the Development of Knee Articular Cartilage and Meniscus	Kwok B, Fan M, Birk D, Mauck R, Dymnt N, Koyama E, Han L

19	Kimheak Sao	SDC4 plays an important role in the homeostasis of lumbar spine	Sao1K, Risbud MV
20	Wiley Gong	Beneficial Effects of Yoda1 Treatment on Adult Mice Vertebrae	Jiang J, Gong W, Chu T, Wasi M, Guerra R, Wang L
21	Murtaza Wasi	Yoda1 Protects Cortical Bone in Aged Mice Bearing Breast Cancer	Wasi M, Chu T, Xiong J, You L, Wang L
22	Tiankuo Chu	Effects of Yoda1-augmented whole-body vibration on adult skeleton after radiotherapy	Chu T, Jiang J, Gong W, Wasi M, Guerra R, Wang S, You L, Wang L
HISTOLOGY CORE ABSTRACTS			
23	Shira Johnston	GLUT1 is redundant in hypoxic and glycolytic nucleus pulposus cells of the intervertebral disc	Johnston SN, Silagil E, Madhu V, Nguyen DH, Shapiro IM, Risbud M
24	Yeji Zhang	Roles of TNFAIP8 family in intervertebral disc degeneration	Tian Z, Yao L, Sandroni A, Sun H, Qin L, Zhang Y
25	Yeji Zhang	ADAM8 Inactivation Retards Intervertebral Disc Degeneration in Mice	Tian Z, Shofer F, Fan M, Sandroni AZ, Yao L, Han L, Qin L, Enomoto-Iwamoto M, Zhang Y
26	Yize Zhang	Inflammation Alters Inner Zone but Not Outer Zone Meniscus Cell Migration via Nanoscale Histone Reorganization	Zhang Y, Zhang Y, Li Z, Lee S, Hederick L, Boerckel J, Mauck R, Heo S
27	Veda Madhu	Loss of mitochondrial fusion protein OPA1 disrupts cell organelles integrity leading to NP tissue degenerative phenotype in mice	Hernandez-Meadows M, Madhu V, Boneski P, Qiu Y, Kurland I, Risbud M
28	Matthew Fainor	Driving Osteogenesis in Composite Biomaterials Using Tunable Hydroxyapatite Surface Modifications	Fainor M, Augustin J, Smith H, Mauck R, Gullbrand S
29	Joo Hyun Lim	Ectopic ossification of the temporomandibular joint (TMJ) in a murine model of Osteogenesis Imperfecta	Lim J, Leynes C, Dawson B, Lee B
30	Brittany Laslow	Loss of hypoxia-inducible factor-1 α (HIF1) in the presomitic mesoderm alters the process of somitogenesis	Laslow BM, Anderson M, Parvez Khan M, Lewandoski M, Schipani E
31	Tala Azar	Assessment of New Bone Formation in a Cyclic Treatment Regimen of Parathyroid Hormone-related Peptide (PTHrP) with and without an Intervening Antiresorptive	Azar T, Desai K, Leggin J, Wang W, Dymont N, Liu X
32	Tim Kamalidinov	Biphasic Role of Hedgehog Signaling in Tunnel Integration Following ACL Reconstruction	Kamalidinov T, Fujino K, Lang SK, Jiang X, Madi R, Evans MK, Zgonis M, Kuntz A, Dymont N
33	Carly Smith	Cold plasma treatment at revision disrupts <i>S. aureus</i> immune avoidance mechanisms	Smith C, Watkins A, Katz Z, Nissley B, Brewer L, Schaer TP, Freeman TA
34	Neil Patel	Regulation of Fibroblast Mechanosensing under Inflammatory Stimulation by Type V Collagen	Patel N, Spiller KL, Han L
35	Sarah Catheline	Genetic Modulation of IHH/PTHrP Signaling Influences the Development of Exostoses in a Mouse Model of Hereditary Multiple Exostoses (HME)	Catheline SE, Mundy CM, Pacifici M
36	Wonsae Lee	Transient Reduction in Lipid-Laden Bone Marrow Adipocytes during Pregnancy and Lactation and Full Recovery after Weaning	Lee W, Li Y, Pei S, Leggin J, Zhong L, Qin L, Liu XS
37	Annemarie Lang	Delivery of Cyr61 Promotes Angiogenesis during Bone Fracture Repair	Lang A, Eastburn E, Siciliano C, Pranatharthi Haran A, Nijssure M, Gottardi R, Boerckel J
38	Mingyue Fan	Decorin Maintains Cartilage Surface Integrity and Chondrocyte Mechanotransduction During Aging	Fan M, Singh P, Kwok B, Han B, Li T, Wang C, Qin L, Birk D, Iozzo R, Mauck R, Han L

39	Pranay Ramteke	Sirtuin 6 is critical for maintaining intervertebral disc homeostasis during spine aging.	Ramteke P, Tran V, Watson B, Johnston S, Collins J, Loeser R, Risbud M
40	Joseph Collins	YAP and TAZ Mediate Mechanical Regulation of Bone Development Ex Utero	Collins J, Moharrer Y, Parisi C, Dymant N, Nowlan N, Boerckel J
41	Hattanas Kumchai	NGF-TrkA Signaling in Dental Implant Osseointegration	Kumchai H, Tomlinson RE
42	Yuchen Liu	Impacts of Type V Collagen Insufficiency on Cutaneous Wound Healing and Scar Formation	Liu Y, Wang C, Stewart D, Brisson B, Birk D, Volk S, Han L
43	Ellen Zhang	Epigenetic Strategies for Preserving Chondrocyte Phenotype During in vitro Expansion	Zhang Y, Ahmed SB, Kim DH, Li Z, Hederick L, Lakadamyali M, Mauck R, Heo S
44	Yasaman Moharrer	YAP and TAZ Mediate Mechanoregulation of Embryonic Bone Formation and Bone Growth	Moharrer Y, Collins J, Parisi C, Hoggatt A, Azar T, Vahidi G, Robling A, Liu XS, Heveran C, Nowlan N, Boerckel J
45	Catherine Bautista	CD206+ tendon resident macrophages and their crosstalk with fibroblasts and the ECM during tendon growth and maturation	Bautista C, Srikumar A, Tichy E, Qian G, Jiang X, Mourkioti F, Dymant N
46	Leslie Brewer	Nucleus Pulposus Replacement Mitigates IVDD in a Caprine Model – a 3 Year Study	Brewer L, Hilliard R, Engiles J, Brewer E, Brown Z, Newman H, Barbal A, Wilson P, Lowman A, Elliott D, Schaer T
47	Lance Murphy	Deficiency of the pattern-recognition receptor CD14 modulates osteoclast differentiation in vitro	Murphy L, Hu B, Burt K, Wang M, Nguyen V, Mauck R, Scanzello CR
MISCELLANEOUS ABSTRACTS			
48	Chenghao Zhang	CD-9 as a Novel Marker of Healthy Late-Stage Nucleus Pulposus Cells	Zhang C, Lau YK, Qin L, Schaer T, Dodge G, Mauck R, Malhotra N, Smith L
49	Chenghao Zhang	Effects of Organ Culture and Mesenchymal Stem Cell Delivery on Nucleus Pulposus Cell Extracellular Matrix Gene Expression and Cell Cycle Progression	Zhang C, Schaer TP, Dodge G, Malhotra N, Mauck R, Smith L
50	Karthikeyan Rajagopal	Physiological Measurement of Nucleus Pulposus Oxygen, Glucose, and Lactate in a Large Animal Model of Disc Degeneration: Preliminary Findings	Rajagopal K, Schaer T, Zhang C, Meadows K, Hilliard R, O'Donnell J, Dodge G, Petrov D, Elliott D, Mauck R, Smith L, Malhotra N
51	Brandon Jones	MRI quantification of bone water and phosphorus differentiates between osteoporotic status in postmenopausal women	Jones BC, Lee H, Cheng C, al Mukaddam M, Song HK, Snyder PJ, Kamona N, Rajapakse C, Wehrli F
52	Olivia Ottone	Dasatinib and Quercetin treatment reduces the incidence and severity of disc degeneration with evidence of Junb and Zfp3611 as regulators of cell fate	Emanuel J. Novais1 and Olivia K. Ottone1,2, Victoria A. Tran1, Makarand V. Risbud1
53	Emily Sharp	Nanoparticles ‘Clicked’ onto Nanofibrous Scaffolds for Meniscal Repair	Sharp E, Locke R, Jang B, Gui T, Heo S, Dymant N, Cheng Z, Qin L, Mauck R
54	Zizhao Li	Stiffness and Structure-Tunable Extracellular Matrix-Based Multiphasic Nanofibrous Scaffold Systems for Rotator Cuff Enthesis Repair	Li Z, Lee SH, Kim DH, Zhang Y, Tran R, Burdick J, Mauck R, Heo S
55	Mohd Parvez Khan	Role of Energy Metabolism in Bone Mass Accrual	Khan MP, Lanzolla G, Sabini E, Laslow B, Arboit L, Long F, Schipani E

56	Lulu Xue	Engineering Bisphosphonate Lipid-like Materials for mRNA Delivery to the Bone Microenvironment	Xue L, Gong N, Shepherd S, Han X, Liao X, Alameh X, Long F, Weissman D, Mitchell D
57	Amanda Connelly	A Comparison of Three Cold Plasma Devices for Potential Clinical use in Preventing or Treating Surgical Site Infection during Orthopedic Procedures	Connelly A, Grant R, Nguyen L, Zhao N, Hickok N, Freeman TA I
58	Klaus Hopster	Cardiovascular effects of hyperpolarized xenon gas mixtures as used for dynamic lung MRI during general anesthesia in healthy pigs	Hopstera K, Ruppertb K, Hilliard R, Schaer T
59	Madhura Nijssure	YAP mediated transcriptional regulation of periosteal cell proliferation	Nijssure M, Baitner M, Jones D, Moharrer Y, Pranatharthi-Haran A, Szeto G, Dymnt N, Boerckel J
60	Ashley Fung	Knockdown of Decorin and Biglycan at Time of Tendon Injury Alters Gene Expression and Fibril Morphology	Fung A, Leahy T, Weiss S, Adams S, Dymnt N, Birk D, Soslowsky L
61	Rashad Madi	The Prediction Of Lumbar Spine Surgery Outcomes Based On Computed Tomography- Finite Element Analysis of Lumbar Vertebrae	Madi R, Statchen T, Gao C, Ranaweera D, Ranaweera L, Basul A, Hao L, Xu W, Chang G, Rajapakse C
62	Ashkan Sedigh	Novel Approaches to Scaffold Biofabrication Utilizing Soft Computing	Sedigh A, Tomlinson RE
63	Annemarie Lang	The mechanobiology of hypoxia during bone fracture repair	Lang A, Koch C, Boerckel JD
64	Ricardo Whitaker	Dysfunctional macrophage phenotype in fibrotic VML injury	Whitaker R, Spiller K
65	Marco Angelozzi	SOX4 inhibits trabecular bone formation in adult mice	Angelozzi M, Karvande A, Lefebvre V
66	Grace Buckwalter	Ergonomic External Endoscope Attachment Device For Smaller Hands	Buckwalter G, Alexander C, Wilson C, Pletcher J, Bakhri R, Ochia R
67	Krishna Pedaprolu	Fatigue Loading of Mouse Achilles Tendon Explants Leads to Degenerative Changes Without Collagen Denaturation	Pedaprolu K, Szczesny S
68	Lauren Paschall	Development of Explant Model to Investigate ACL Reconstruction Mechanobiology	Paschall L, Tabdanov E, Dhawan A, Szczesny S
69	Veridiana Nadruz	HXe MRI evaluation of pulmonary function in a rabbit model of thoracic insufficiency syndrome	Hilliard R, Nadruz V, Ruppert K, Amzajerjian F, Xin Y, Hamedani H, Loza L, Achekzai T, Baron R, Duncan I, Profka I, Qian Y, Kadlecsek S, Fusco A, Hopster K, Douglas H, Sinder B, Snyder B, Schaer T, Cahill P, Rizi R
70	Ji-Hyung Lee	An essential telomere protein for muscle stem cell function and regeneration during homeostasis, disease, and aging	Lee JH, Mourkioti F
71	Angela Fernandez Iglesias	Identification of Fgfr3 enhancers, potential targets for achondroplasia therapy	Fernandez-Iglesias A, Molin A, Angelozzi M, Haseeb A, Bloh A, Lefebvre V
72	Amanda Watkins	Reduced expression of immune response genes to Staphylococcus aureus biofilm in periprosthetic tissue despite unresolved infection	Watkins A, Smith C, Nissley B, Israel L, Brewer L, Schaer T, Freeman T
73	Rachel Hillard	Biofilm Formation in Streptococcus equi subsp equi	Hilliard R, Boyle A, Schaer T

74	Madeline Boyes	Sequentially Applied Posterolateral Off-Set Tethers Induce and Correct Spinal Deformity in a Growing Porcine Model	Boyes M, Moore A, Sinder B, Hilliard R, Elliott D, Snyder B, Cahill P, Schaer T
75	Ryan Daniels	Mechano-active Rho signaling through YAP/TAZ suppresses chondrogenic gene expression	Daniels R, Jones D, Locke R, Laforest L, Mauck R
76	Sienna Pyle	The role of telomeric protein repeat binding factor 2 (TRF2) in cardiac development and disease	Pyle S, Mourkioti F
77	Kyra Smith	In vivo validation of a continuous gradient porous scaffold for osteochondral defect repair in a rabbit model	Smith K, Ghavimi SA, Logterman S, Gehret P, Conoscenti G, Brucato V, La Carrubba V, Lawrence J, Gottardi R
78	Ben Peterson	Deep-Learning Strategies for Automated Fibril Segmentation in Embryonic Tendons	Peterson B, Szczesny S
79	Alexandra Arnold	Optical Photothermal Infrared Assessment of Plastic-Embedded Bone Composition	Arnold A, Dev I, Querido W, Pleshko N