



v. 02.09.25 Subject to Change

FRIDAY February 7			Location
7:00 AM	6:00 PM	Registration Open	North Hall A-C Foyer
8:00 AM	4:00 PM	Art of Grant Writing Part II	North 224
9:00 AM	3:00 PM	ORS 2025 Open Door	University of Phoenix
1:00 PM	6:00 PM	Speaker Ready Room Open	North 223
12:00 PM	6:00 PM	Poster Session 1 and Exhibitor Set Up	North Hall A-C
2:00 PM	6:00 PM	Orthopaedic Implants Research Section Workshop: From Concept to Product: Approaches to Orthopaedic Product Development	North 222
2:00 PM	7:00 PM	Spine Research Section Scientific Symposium: Sex-differences in Spine Research – What Do We Know?	West 301BC
2:00 PM	6:00 PM	Preclinical Models Research Section Workshop: Elements of Successful Study Design when Working with Preclinical Animal Models	North 221
5:00 PM	6:30 PM	RIG: Role of Bone Quality in Osteoporosis	North 224
5:00 PM	6:30 PM	RIG: Advancing Stem Cell Research toward Clinical Reality in Orthopaedics	North 229
5:00 PM	6:30 PM	RIG: Antibiotic Resistance and its Impact on Orthopaedic Related Infections	North 227
5:00 PM	6:30 PM	RIG: Enhancing Your Research Program through Mindful Teaching Practices	North 226
6:30 PM	8:00 PM	ORS Annual Meeting Kickoff	West 301D
8:30 PM	12:00 AM	INVITATION ONLY - JOR Networking Event	monOrchid
SATURDAY February 8			Location
6:30 AM	6:00 PM	Registration Open	North Hall A-C Foyer
7:00 AM	10:00 AM	Poster Session 1 Set Up	North Hall A-C
7:30 AM	5:30 PM	Speaker Ready Room Open	North 223
8:00 AM	9:00 AM	Opening Session: Presidential Address + Keynote Speaker	West 301A
9:15 AM	10:15 AM	Spotlight: Meniscus Injuries and Healing (feat. Andreas Seitz)	West 301A
9:15 AM	9:25 AM	Patient Outcomes 10 Years After Observation Versus Debridement Of Unstable Chondral Lesions During Partial Meniscectomy: Results From A Randomized Controlled Trial	
9:25 AM	9:35 AM	Combination Effect Of Mechanical Stimulation And Inflammation In Engineered Healing Of Avascular Meniscus Tears Under Multi-tissue Interaction	
9:35 AM	9:45 AM	Zone-dependent Epigenetic And Transcriptomic Dynamics In Meniscus Cell Migration And Inflammation	
9:45 AM	10:15 AM	Spotlight Speaker Andreas Seitz, PhD - Patient-Specific Treatments of Meniscus Injuries	
9:15 AM	10:15 AM	Synovial Inflammation in Arthritis	West 301BC
9:15 AM	9:25 AM	Monocyte-derived Macrophage Trafficking, Retention, And Phenotyping During Obesity-induced Osteoarthritis	
9:25 AM	9:35 AM	Targeted Inhibition Of Pathogenic Tgf-β In Synovial Fluid Via Non-cartilage-permeating Antagonists	
9:35 AM	9:45 AM	Synergistic Effect Of Inhibiting Tnfa/tnfr And C5a/c5ar1 Signaling With Two Progranulin Derivatives Atsttrin And Nc5 In The Treatment Of Rheumatoid Arthritis	



9:45 AM	9:55 AM	PIEZO1 Promotes Synovial Fibrosis And Inflammation	
9:55 AM	10:05 AM	Human Marrow-isolated Adult Multilineage Inducible (miami) Cell-derived Extracellular Vesicles Possess Immunomodulatory And Anabolic Mirnas Cargo That Modulate Pro-inflammatory Macrophage Polarization	
10:05 AM	10:15 AM	Macrophage-derived Wnt5a Promotes Joint Inflammation And Pain In Osteoarthritis	
9:15 AM	10:15 AM	Hip and Knee Arthroplasty - Complications and Unique Patient Populations	West 301D
9:15 AM	9:25 AM	Does A Simple Needle Stick From A Preoperative Knee Aspiration Or Non-steroidal Injection Influence Total Knee Arthroplasty Infection Risk? A Retrospective Database Analysis	
9:25 AM	9:35 AM	Medically Treated Rheumatoid Arthritis In A Mouse Model Did Not Correlate With Periprosthetic Joint Infection Risk	
9:35 AM	9:45 AM	Defining The Transcriptional Fingerprint Of Human Knee Arthrofibrosis Through A Comprehensive Multi-tissue Comparison	
9:45 AM	9:55 AM	Post-operative Complications In HIV Patients Undergoing Total Knee Arthroplasty: A Comparative Analysis	
9:55 AM	10:05 AM	Survivorship And Outcomes Of Hip Arthroplasty For Elective Care Versus Fracture In Patients With Solid Organ Transplant: Lung Transplant Patients Do Worse	
10:05 AM	10:15 AM	Inflammatory Responses To Fine Wear Particles From Conventional And Highly Crosslinked Polyethylene Inserts	
9:15 AM	10:15 AM	Bone Health and Healing	North 221
9:15 AM	9:25 AM	Time-restricted Feeding Restructures The Gut Microbiota And Prevents Age-related Bone Loss	
9:25 AM	9:35 AM	Radiation-induced Acute P21+ Senescent Myeloid Cells And Neutrophils Mediate Chronic Bone Loss	
9:35 AM	9:45 AM	Intermittent Fasting Enhances Bone Density And Microstructure In Obese Mice Potentially Through Modulation Of Gut Microbiome And Metabolites	
9:45 AM	9:55 AM	Tracing Senescence In Bone: Irradiated Osteocytes Exhibit Time-dependent Biophysical Changes	
9:55 AM	10:05 AM	Bone Fracture Induces Local Erythropoiesis, Preventing Fracture Site Hypoxia	
10:05 AM	10:15 AM	The Wnt1 ^{G177C/G177C} Mutation Impairs Fracture Healing In Mice	
9:15 AM	10:15 AM	Clinical Research Potpourri	North 222
9:15 AM	9:25 AM	A Novel Molecular Subtyping Based On Proteomics Analysis For Prognosis Predicting In Periprosthetic Joint Infection	
9:25 AM	9:35 AM	Deriving The AO/OTA Fracture Classification From Routinely Collected Radiology Report Using A Large Language Model	
9:35 AM	9:45 AM	Identifying Predictors Of Repeat Hip Preservation Procedures In Pediatric And Young Adult Patients: insights From A Large-scale Analysis At A Tertiary-care Children's Hospital	



9:45 AM	9:55 AM	Technological Advancements In 3d Segmentation-based Image Guidance For Percutaneous Cancer Ablation And Stabilization Of Sacral Metastases: A 5-year Institutional Experience	
9:55 AM	10:05 AM	The Association Between Osteoporosis And Rotator Cuff Tears: Insights From A Prospective Cohort Study And Bioinformatics Analyses	
10:05 AM	10:15 AM	Identification Of Risk Factors For Glenohumeral Osteoarthritis Requiring Shoulder Arthroplasty	
10:00 AM	7:00 PM	Exhibit and Poster Hall Open	North Hall A-C
10:15 AM	10:45 AM	Coffee Break & Networking	North Hall A-C
10:45 AM	11:45 AM	Spotlight: Cartilage Regenerative Medicine (feat. Karin Payne)	West 301A
10:45 AM	10:55 AM	Hydrogels With Enhanced Oxygen Control And Tissue Integration Properties For Biofabrication Of Cartilage Implants	
10:55 AM	11:05 AM	Freezing Bone Marrow Aspirate Concentrate Does Not Reduce Their Regenerative Potential For Cartilage Repair	
11:05 AM	11:15 AM	Kartogenin Enhances Chondrogenic Differentiation Of iPSCs Derived MSCs (iMSCs), Promotes Cartilage Repair, Inhibits Pain Behavior, And Improves Joint Function In An Osteochondral Defect Model In Rats	
11:15 AM	11:45 AM	Spotlight Speaker Karin Payne, PhD Biomaterial-based cartilage regeneration approaches for the repair of growth plate injuries	
10:45 AM	11:45 AM	Understanding Changes in the Spine with Age, Sex, and Pain	West 301BC
10:45 AM	10:55 AM	Aging Alters The Infiltrating Immune Cell Profile And Exacerbates IVD Degeneration Following Injury	
10:55 AM	11:05 AM	Sex-based Differences In Intervertebral Disc Composition, Vertebral Bone Marrow Adiposity, And Paraspinal Muscle Adiposity In Patients With Chronic Low Back Pain	
11:05 AM	11:15 AM	Intravital Multiphoton Imaging Of The Murine Intervertebral Disc Reveals Matrix Organization At The Micrometer Scale	
11:15 AM	11:25 AM	Ultrastructural Analysis Of The Bone-cartilage Endplate Interface In The Human Lumbar Spine: Insights And Associations With Elemental Composition, Vascular Patterns, And Degeneration	
11:25 AM	11:35 AM	Gene Expression Correlates Of Pain-like Behavior And Nerve Innervation In A Rat Model Of Chronic Low Back Pain	
11:35 AM	11:45 AM	Bony Lumbar Neural Foramen Area Is Associated With Age But Not Radicular Pain In Patients With Chronic Low Back Pain	
10:45 AM	11:45 AM	Advance Preclinical and Clinical MR Imaging	West 301D
10:45 AM	10:55 AM	Quantitative Ultrashort Time Echo (qUTE) MRI Imaging Of Peripheral Nerve Repairs In Rat Sciatic Nerve Model	
10:55 AM	11:05 AM	A 7T 3D MRI Pilot Knee Study To Quantitatively Assess Healing Of Osteochondritis Dissecans Using T2* Mapping	
11:05 AM	11:15 AM	Preoperative Knee Cartilage Condition In The Patellofemoral Joint Results In Worse Clinical Outcome Scores 2 Years After Inverted V-shaped High Tibial Osteotomy	
11:15 AM	11:25 AM	Automated Quantitation Of Perfusion Mri In Legg-calve-perthes Disease: A Deep-learning Approach To Quantify Femoral Head Hypoperfusion	



11:25 AM	11:35 AM	Physicochemical Diagnostic Markers Of Human Osteoarthritic Temporomandibular Joint	
11:35 AM	11:45 AM	Temporal Changes In MRI Relaxation Times Following Acute Ischemic Injury To The Femoral Head In A Piglet Model Of Legg-Calvé-Perthes Disease	
10:45 AM	11:45 AM	Knee Injury and Cartilage Health	North 221
10:45 AM	10:55 AM	Non-weight Bearing Following Injury Can Preserve Tissue Health But Not Correct Joint Kinematics In A Preclinical Model Of Post-traumatic Osteoarthritis	
10:55 AM	11:05 AM	Patients Reporting The Largest Functional Improvements Over 2 Years Following ACL Reconstruction Showed Greater MRI Knee Cartilage Compositional Changes	
11:05 AM	11:15 AM	The Impact Of Weight Loss On Tibiofemoral Cartilage Composition	
11:15 AM	11:25 AM	The Impact Of Genetic Variant In A GDF5 Knee Enhancer On Knee Soft Tissue Structures: Implications For Knee Osteoarthritis Risk	
11:25 AM	11:35 AM	Tibiofemoral Pose Changes Seen On Flexed Vs. Extended Weight Bearing CT After ACL Reconstruction	
11:35 AM	11:45 AM	Factors Associated With The Occurrence Of Posttraumatic Osteoarthritis 15 Years After Anterior Cruciate Ligament Reconstruction	
10:45 AM	11:45 AM	Muscle Injury and Regeneration	North 222
10:45 AM	10:55 AM	Transient Activation Of Integrated Stress Response Induces Adult And Aged Murine Muscle Stem Cell Activation And Contributes To Muscle Regeneration In Vivo	
10:55 AM	11:05 AM	The Role Of Dysregulated Dna Methylation And Gene Expression In Impaired Longitudinal Muscle Growth And Neuromuscular Contractures	
11:05 AM	11:15 AM	Syngeneic Myoblasts In Injectable Agrin/IGF-1 Nanoparticle Loaded Hydrogel Drives Functional And Histological Reversal Of Chronic Denervation Atrophy	
11:15 AM	11:25 AM	Aberrant Fibro-Adipogenic Progenitor Subpopulation Drives Volumetric Muscle Loss-Induced Fibrosis	
11:25 AM	11:35 AM	Muscle-specific Erry Activation Reduced Muscle Fibrosis And Fatty Infiltration After Rotator Cuff Injury	
11:35 AM	11:45 AM	Investigating Rotator Cuff Pain And Neuropathic Pain Connection In A Mouse Model: Insights For Mechanistic Pathways	
11:45 AM	12:45 PM	Lunch Break (on own)	
11:45 AM	1:15 PM	Industry Innovations in MSK Health Luncheon	North 224
11:45 AM	1:15 PM	Standing on the Shoulders of Giants: A Mentor/Mentee Luncheon	North 227
12:45 PM	1:45 PM	POC: Evidence-based Advocacy to Inform Science Policy Decisions: An Orthopaedics Case Study	North 222
12:45 PM	2:15 PM	Workshop: In Memory of Terrie Cowley: Bridging the Gaps in Temporomandibular Joint (TMJ) Research	North 221
12:45 PM	2:45 PM	ORS Research Section Scientific Meeting: International Section for Fracture Repair (ISFR)	West 301BC
12:45 PM	2:45 PM	ORS Research Section Scientific Meeting: Tendon	West 301D
1:30 PM	3:30 PM	ORS Research Section Scientific Meeting: Orthopaedic Implants	North 224



2:00 PM	3:30 PM	Exploring Unmet Needs in Women Empowerment Integrating Gender Diversity as a Factor and Advancing Women in the Orthopaedic Field	North 227
2:00 PM	3:30 PM	ICORS Session: Advancing Clinical Impact of Movement Analysis and Patient Activity: Monitoring Combining Wearables, AI, Computer Vision, and Data-driven Approaches	West 301A
2:00 PM	3:30 PM	Workshop: Are We Really Studying Aging Associated OA in our Animal Models?	North 222
3:00 PM	4:00 PM	ORS Strategic Plan Feedback Sessions	North 231A
3:45 PM	4:45 PM	Spotlight: Intervertebral Disc Degeneration - Treatment and Therapeutics (feat. Dmitriy Sheyn)	West 301A
3:45 PM	3:55 PM	Using Mesendoderm Progenitor Cells Seeded In Hydrogel Biomaterial As A Strategy To Regenerate The Intervertebral Disc	
3:55 PM	4:05 PM	Ezh2 Regulates The Npmc Senescence Via Cgas/sting Signaling Pathway Through H3k27me3 And Alleviates Intervertebral Disc Degeneration	
4:05 PM	4:15 PM	Protective Effects Of PDGF-AB/BB Against Cellular Senescence In Human Intervertebral Disc	
4:15 PM	4:45 PM	Spotlight Speaker Dmitriy Shen, PhD - What a pain in the back: discogenic pain etiology and cell therapy	
3:45 PM	4:45 PM	NIRA - Trauma and Sequelae	West 301BC
3:45 PM	3:53 PM	Mild Cold Exposure Rejuvenates Aged Muscle Repair In Mice	
3:53 PM	4:01 PM	The Race Between Osteogenesis And Fibrosis: The Role Of Bmp And Wnt Pathways	
4:01 PM	4:09 PM	Dysregulated Inflammatory Response And Poor Fracture Healing In Polytrauma	
4:09 PM	4:17 PM	Lymphatic platelet thrombosis limits bone repair by precluding lymphatic transporting DAMPs	
4:17 PM	4:25 PM	Suppression Of Heterotopic Ossification By Peptide-based Nanoparticle Delivery Of MiR-138	
4:25 PM	4:33 PM	Establishment Of An Ankle Posttraumatic Osteoarthritis Model In Rats And Evaluation Of Associated Pain	
4:33 PM	4:41 PM	Activation Of Hedgehog Signaling In Fibroadipogenic Progenitors Causes Pseudoarthrosis	
3:45 PM	4:45 PM	Hip and Knee Arthroplasty - Outcomes and Implant Materials	West 301D
3:45 PM	3:55 PM	Comparison Of Post-operative Range Of Motion In Total Knee Arthroplasty Between Patients Prescribed Eliquis Vs Aspirin	
3:55 PM	4:05 PM	Dislocated Dual-mobility Hip Implants Are Unlikely To Be Successfully Closed Reduced And Are More Likely To Require Revision Than Standard Articulation Implants	
4:05 PM	4:15 PM	Comparison Between Monoblock And Modular Dual Mobility Components: Analysis Of Serum Metal Ion Levels	
4:15 PM	4:25 PM	Accurately Identifying Opioid Impact On Joint Arthroplasty Patient Reported Outcomes	
4:25 PM	4:35 PM	Are Modern TKA Biomaterials Good Enough?	



4:35 PM	4:45 PM	In-vitro Oxidation Resistance Of A Chemically Crosslinked UHMWPE/vitamin-e Blend For Total Joint Arthroplasty Implants	
3:45 PM	4:45 PM	Bone Mechanobiology	North 221
3:45 PM	3:55 PM	Gpr161 As A Novel Osteocyte Mechanosensor And Regulator Of Osteoclastogenesis	
3:55 PM	4:05 PM	Differential Expression Of Four Mechanobiologically Regulated Genes Is Associated With Higher Dilatational Strain Gradients	
4:05 PM	4:15 PM	Obesity And Subsequent Weight Loss Negatively Affect The Skeleton And Shift The Cortical Bone Metabolome	
4:15 PM	4:25 PM	Effects Of Chemically Induced Piezo1 Activation And Mechanical Loading In Old Mouse Bone Adaptation	
4:25 PM	4:35 PM	Mapping Sub-micrometer Viscoelasticity Near Canaliculi Using Liquid Contact Resonance Atomic Force Microscopy	
4:35 PM	4:45 PM	The Synergizing Effect Of Mechanical Loading And Wnt-agonist Molecules As A Combined Strategy For Stimulating Bone Formation In Mice	
3:45 PM	4:45 PM	Shoulder Arthroplasty	North 222
3:45 PM	3:55 PM	The Impact Of Deltoid Radiomic Features On Pre-operative Range Of Motion In Patients Undergoing Total Shoulder Arthroplasty	
3:55 PM	4:05 PM	Robotic Assessment Of Rtsa Lateralization And Inferiorization On Range Of Motion	
4:05 PM	4:15 PM	Contributions Of Muscle Forces To Stability And Mobility In Patient-specific Modeling Of Total Shoulder Arthroplasty	
4:15 PM	4:25 PM	The Impact Of Scapula Morphology On Extra-articular Impingement In Reverse Shoulder Arthroplasty	
4:25 PM	4:35 PM	Speed Of Return To Normalcy After Total Shoulder Arthroplasty	
4:35 PM	4:45 PM	Does Pre-operative Planning Software Predict The Post-operative Ranges Of Motion In The Glenohumeral Joint After Reverse Shoulder Arthroplasty: A Biplanar Video Radiography Study	
5:00 PM	6:00 PM	Spotlight: Cartilage Matrix and Mechanobiology (feat. Lin Han)	West 301A
5:00 PM	5:10 PM	Defining The Ideal Characteristics Of Stable Human Articular Cartilage	
5:10 PM	5:20 PM	Aging-associated Increase Of Gata4 Levels In Articular Cartilage Is Linked To Impaired Regenerative Capacity Of Chondrocytes And Osteoarthritis	
5:20 PM	5:30 PM	Spontaneous Calcium Signaling And Extracellular Matrix Synthesis In Osteoarthritis Cartilage	
5:30 PM	6:00 PM	Spotlight Speaker Lin Han, PhD - Decorin: A Central Player of Cartilage Extracellular Matrix in Health and Disease	
5:00 PM	6:00 PM	NIRA - Knee	West 301BC
5:00 PM	5:08 PM	Cxcr4 Overexpression Is Required For Hcpcs To Promote Meniscus Repair And Prevent Cartilage Erosion	
5:08 PM	5:16 PM	Effect Of Partial And Complete Posterior Cruciate Ligament Sectioning On Femoral Rollback And Posterior Sag In Medial Congruent Total Knee Arthroplasty: A Computational Study	
5:16 PM	5:24 PM	The Role Of Follistatin-like 1: A Key Factor In Meniscal Degeneration In Knee Osteoarthritis	



5:24 PM	5:32 PM	Vagus Nerve Stimulation Reduces Pain Induced By ACL-Rupture In A Gender-dependent Manner	
5:32 PM	5:40 PM	Clearing-enabled Light Sheet Microscopy Imaging And Analysis Of Human And Murine Knee Joint Tissues	
5:40 PM	5:48 PM	Difference In Knee Articular Cartilage Thickness During Skeletal Growth And Maturation:a 3D MRI Analysis Of 3,111 Children And Young Adults	
5:48 PM	5:56 PM	Lateral Tibial Slope And Medial Tibial Spine Geometries Have Similar Effects On Anterior Cruciate Ligament Force In Response Pivoting Loads: A Sex-specific Computational Modeling Study In 168 Young High-risk Athletes	
5:00 PM	6:00 PM	Biomaterials - Controlled Release for all Tissues	West 301D
5:00 PM	5:10 PM	Sustained Release Of Neosaxitoxin Via Cationic Alginate-plga Microparticles For Long-term Osteoarthritis Pain Relief	
5:10 PM	5:20 PM	Deferoxamine-loaded Microneedle Patch Treats Radiation-induced Skin Injury By Inhibiting Ferroptosis	
5:20 PM	5:30 PM	Metformin Lotion - An Effective Transdermal Drug Delivery Method	
5:30 PM	5:40 PM	Elastin Collagen Nanovesicles - A Novel Platform For Targeted And Controlled Drug Delivery	
5:40 PM	5:50 PM	Advanced Citrate-based BMP-7-loaded Biphasic Scaffold For Effective Osteochondral Repair	
5:50 PM	6:00 PM	Cationic Interleukin-1 Receptor Antagonist (catIL-1RA) Outperforms Anakinra At Preventing IL-1-induced Cartilage Inflammation Ex Vivo	
5:00 PM	6:00 PM	Spotlight: Improving Preoperative Planning (feat. David Bennett)	North 221
5:00 PM	5:10 PM	A Deep Learning Model To Predict Surgical Recommendation Of Distal Radius Fractures	
5:10 PM	5:20 PM	Identification Of Surgical And Non-Surgical Spines Using A 3-D Statistical Shape Model	
5:20 PM	5:30 PM	Deep Learning For Gunshot Wound Bullet Fragment Detection In Emergency Orthopaedic Care	
5:30 PM	6:00 PM	Spotlight Speaker David Bennett, MD - Pre-operative visualization for better outcomes	
5:00 PM	6:00 PM	Tendon Growth and Development	North 222
5:00 PM	5:10 PM	Tendon-targeted Type III Collagen Reduction Impairs Development Of Mouse Tendon Mechanical Properties	
5:10 PM	5:20 PM	Sustained Paralysis Dysregulates Gene Expression And Inhibits Mechanical Properties Of Achilles Tendon	
5:20 PM	5:30 PM	Ddr2 Is Required For Achilles Tendon-to-bone Organization And Function In Mice	
5:30 PM	5:40 PM	MRTF/SRF Signaling Regulates Tendon And Fibrocartilage Differentiation Via Rho Signaling	
5:40 PM	5:50 PM	Characterizing Human Enthesis Development	
5:50 PM	6:00 PM	Differential Roles Of Non-muscle Myosin Isoforms In Deltoid Tuberosity Initiation And Maturation	
6:00 PM	6:45 PM	Poster Session 1 Viewing and Reception (even numbers)	North Hall A-C
6:30 PM	7:30 PM	BIC Poster Session	North Hall A-C



6:45 PM	7:30 PM	Poster Session 1 Viewing and Reception (odd numbers)	North Hall A-C
7:00 PM	8:30 PM	ORS (All) Research Sections Networking Event	North Hall A-C
7:30 PM	9:00 PM	RIG: Bridging Disciplines to Find Solutions for Osteoarthritis	West 301BC
7:30 PM	9:00 PM	RIG: New Developments in Orthobiologics	North 221
7:30 PM	9:00 PM	RIG: Women's Health in Orthopaedics	West 301D
7:30 PM	9:00 PM	RIG: Foot and Ankle	North 226
7:30 PM	9:00 PM	Pride@ORS Networking Event	North 227
SUNDAY February 9			Location
7:30 AM	5:30 PM	<i>Speaker Ready Room Open</i>	North 223
6:30 AM	6:00 PM	Registration Open	North Hall A-C Foyer
7:00 AM	9:00 AM	Asian Leadership Forum (ALF) Breakfast	North 227
8:00 AM	9:30 AM	ORS Achievement and Collaboration Awards	West 301A
9:45 AM	10:45 AM	Spotlight: Novel Bone Cells in Regeneration and Remodeling (feat. Matthew Greenblatt)	West 301A
9:45 AM	9:55 AM	Tissue Engineered Periosteum Expedites Allograft Healing, Resorption, And Restoration Of Bone Morphology	
9:55 AM	10:05 AM	Spatially-derived Single Cell Transcriptomics Reveal Osteocyte Populations Differentiate From Two Distinct Msc-based Lineages Associated With Periosteal And Endosteal Bone	
10:05 AM	10:15 AM	Distinct Crosstalk, Mechanosensitization, And Transcription Factors Define Synovial Macrophage Identity In The DMM Model Of Osteoarthritis	
10:15 AM	10:45 AM	Spotlight Speaker Matthew Greenblatt, PhD - New skeletal stem cells in the spine and beyond	
9:45 AM	10:45 AM	NIRA - Cartilage and Arthritis	West 301BC
9:45 AM	9:53 AM	Scalable And Versatile 3D Whole Joint Mapping In Musculoskeletal Systems: Unveiling Neurovascular Spatial Organization After Joint Injury And Degeneration	
9:53 AM	10:01 AM	Advancing The Understanding Of Synovial Fluid Dynamics And Cartilage Degradation In Post-traumatic Osteoarthritis: A Refined In Vitro Model	
10:01 AM	10:09 AM	Integrated Analysis Of Human Synovium Transcriptomics Data Implicates Macrophage-Driven Neuro-Immune Signaling Mediated By STAT1 In Osteoarthritis	
10:09 AM	10:17 AM	Targeting The Constitutive Activity Of Histamine H1 Receptor To Control Multiple Osteoarthritis Pathogenesis Pathways Via Modulation Of Intracellular Calcium Dynamics	
10:17 AM	10:25 AM	Imaging Mass Cytometry Reveals Distinct Synovial Cell Immunophenotypes In Overloading And Surgical Oa Models	
10:25 AM	10:33 AM	Morphological, Physiological, And Ultrastructural Analysis Of Articular Chondrocytes Under Normoxic And Hypoxic Conditions	
10:33 AM	10:41 AM	Sustained Pharmacological Inhibition Of Canonical Wnt Signaling To Mitigate PTOA	
9:45 AM	10:45 AM	Hip and Knee Arthroplasty - Kinematics and Computational Modeling	West 301D



9:45 AM	9:55 AM	The KNEEHUB Project - A Resource For End-to-end Modeling & Simulation Workflows In Computational Knee Biomechanics	
9:55 AM	10:05 AM	Midflexion Laxity Measurements In Multiple Planes At 3-months Post-total Knee Arthroplasty And Their Relationship With Patient Reported Outcome Measures	
10:05 AM	10:15 AM	Evaluation Of Machine Learning Techniques For Real-time Prediction Of Tka-implanted Lower Limb Mechanics	
10:15 AM	10:25 AM	Differences In Knee Kinematics And Symmetry After Total Knee Arthroplasty Compared To Age-Matched Asymptomatic Controls	
10:25 AM	10:35 AM	CPAK Type III Valgus Knees Exhibit Lateral Pivot Motion During Squatting	
10:35 AM	10:45 AM	Dynamic Knee Deformity Classification: Unsupervised Machine Learning Clustering Of TKA Cases With A Computer Assisted Surgery System	
9:45 AM	10:45 AM	Trends in Education and Outreach	North 221
9:45 AM	9:55 AM	Early Middle School Students Are Highly Impressionable To Diversity-, General Stem-, And Msk Research-related Awareness And Interests: Survey Outcomes From The 2024 Ors Open Door Event	
9:55 AM	10:05 AM	Longitudinal Evaluation Of Learning On A Limb: An Outreach Module To Engage High School Students In Orthopaedics	
10:05 AM	10:15 AM	A Quantitative Analysis Of The Dissemination Of Orthopedic Information On Social Media	
10:15 AM	10:25 AM	Oocyte Cryopreservation Experiences And Attitudes Among Female Orthopaedic Surgeons	
10:25 AM	10:35 AM	Racial Disparities In Debt Burden Among Underrepresented Medical Students Matched To Orthopaedic Surgery Residency	
10:35 AM	10:45 AM	Trends In Industry Research Funding To Orthopedic Surgeons: 2017-2023	
9:45 AM	10:45 AM	Shoulder Kinematics and Movement	North 222
9:45 AM	9:55 AM	A Model To Predict Kinematics That Result In Shoulder Instability In Patients With Glenohumeral Defects	
9:55 AM	10:05 AM	Sensitivity Of Humeral Head Translation And Rotator Cuff Muscle Force To Glenoid Tilt	
10:05 AM	10:15 AM	Muscle Compensation Strategies To Maintain Glenohumeral Joint Stability With Rotator Cuff Tears	
10:15 AM	10:25 AM	Physiological Anterior And Posterior Supraspinatus Loads Do Not Produce Mutual Compensation	
10:25 AM	10:35 AM	The Effect Of Muscle Imbalance On Anterior And Posterior Glenohumeral Translations In A Cadaveric Model Of Bankart Lesions	
10:35 AM	10:45 AM	Biomechanical Evaluation Of Novel Compliant Fracture Fixation Plates For Diaphyseal Fractures	
10:00 AM	7:00 PM	Exhibit and Poster Hall Open	North Hall A-C
10:45 AM	11:15 AM	Coffee Break & Networking	North Hall A-C
11:15 AM	12:15 PM	Spotlight: Emerging Technologies in Bone Research (feat. Hannah Dailey)	West 301A
11:15 AM	11:25 AM	Single-cell Analysis Prioritizes Candidate MSC Markers For Personalized Orthopedic Applications	



11:25 AM	11:35 AM	Nanostring GeoMx Digital Spatial Profiling Of Structural Auto And Allo Bone Graft Healing In A Murine Segmental Femoral Bone Defect Model	
11:35 AM	11:45 AM	Osteochondral Development-on-a-chip: Functional Growth Factor Patterning In Microfluidic Systems	
11:45 AM	12:15 PM	Spotlight Speaker Hannah Dailey, PhD - Mechanical Biomarkers in Bone In Vivo Insights from Digital Twins	
11:15 AM	12:15 PM	NIRA - Pediatric Orthopaedics and Development	West 301BC
11:15 AM	11:23 AM	Initial Evaluation Of Quantitative MRI Techniques To Characterize Early-stage Legg-Calvé-Perthes Disease In Children	
11:23 AM	11:31 AM	Inhibition Of Trka+ Sensory Neurons Reduces Bony Bar Formation In Injured Growth Plates	
11:31 AM	11:39 AM	Sex Differences In Hip Morphology Asymmetry During Skeletal Growth And Maturation: A 3D-CT Study Of 19,830 Hips	
11:39 AM	11:47 AM	A Novel Model Of Neuromuscular Contracture Reveals Pathological Smad4 Signaling In Myotendon Drives Contracture Formation	
11:47 AM	11:55 AM	Maternal Exercise Rescues Fetal Akinesia-impaired Bone And Joint Development	
11:55 AM	12:03 PM	Morphogenesis And Mechano-response Of The Developing Porcine Meniscus	
12:03 PM	12:11 PM	Lipocalin 2 Regulation Of Cellular Iron And Ferroptosis In Osteocytes Is Crucial For Maintaining Bone Mass	
11:15 AM	12:15 PM	Emerging Therapeutic Interventions to Improve Knee Health	West 301D
11:15 AM	11:25 AM	Metformin's Effects On Chondrocyte Metabolic Activity	
11:25 AM	11:35 AM	Local And Systemic Immunologic Response To Osteochondral Allografts: A Prospective Study With One-year Follow-up	
11:35 AM	11:45 AM	Comparison Of Platelet-rich Plasma With And Without Hyaluronic Acid For Knee Osteoarthritis: A Retrospective Cohort Study	
11:45 AM	11:55 AM	Impact Of Long-term Rapamycin Treatment On Age-related Osteoarthritis In Non-human Primates	
11:55 AM	12:05 PM	Intra-articular Injection Of Matrix-bound Nanovesicles Attenuates Development Of Post-traumatic Osteoarthritis In A Mouse Model.	
12:05 PM	12:15 PM	Tendon-bone Interface Healing Improvement By Moderate Treadmill Exercise Combined With Knee Brace Immobilization Following An Anterior Cruciate Ligament Reconstruction In A Murine Model	
11:15 AM	12:15 PM	Targets and Limitations to Treating Musculoskeletal Tumors	North 221
11:15 AM	11:25 AM	Time To Treatment Initiation Analysis In Patients With Localized Extremity Soft Tissue Sarcoma	
11:25 AM	11:35 AM	Unplanned Excision Of Soft Tissue Sarcoma - The Impact Of Residual Disease In Re-excision Specimen	
11:35 AM	11:45 AM	Pharmacokinetics And Safety Of Locally Delivered Doxorubicin From A Ceramic Biomaterial: An Intraosseous Implantation Study In Sheep	
11:45 AM	11:55 AM	Engineered Extracellular Vesicles Loaded With Cgmm Perform Dual Therapeutic Functions For Postsurgical Osteosarcoma Treatment	



11:55 AM	12:05 PM	Evaluation Of Telomerase-specific Oncolytic Adenovirus Infection To Spinal Tumors For Therapeutic Use	
12:05 PM	12:15 PM	Treating Metastatic Spine Disease By Targeting Senescent Breast Cancer Cells Using Senolytics	
11:15 AM	12:15 PM	Surgical and Treatment Outcomes of the Hip	North 222
11:15 AM	11:25 AM	Osteochondral Transplantation For Hip Femoral Head Defects: A Multicenter Study With A Mean 5-year Follow-up	
11:25 AM	11:35 AM	Comparison Of Biologic Hip Preservation Versus Total Hip Arthroplasty In A Preclinical Canine Model	
11:35 AM	11:45 AM	Mid-term Functional Outcomes Following Arthroscopic Acetabular Labral Repair With Versus Without Bone Marrow Aspirate Concentrate Application	
11:45 AM	11:55 AM	Assessing Early Recovery In Hip Dysplasia: The Relationship Between Perceived And Objective Outcomes Following Periacetabular Osteotomy	
11:55 AM	12:05 PM	Indications And Outcomes Of Total Hip Arthroplasty In Patients Aged 15-45	
12:05 PM	12:15 PM	Internal Fixation Versus Total Hip Arthroplasty For Displaced Femoral Neck Fractures In Patients Aged 60 To 80 Years: Patient-reported Outcomes And Complications	
12:15 PM	1:15 PM	Lunch Break (on own)	
12:15 PM	1:15 PM	Black Orthopaedic Research Network (BORN) Luncheon	North 227
1:15 PM	2:15 PM	WLF - Strategies to Alleviate Academic Burnout and Support Career Vitality	North 222
1:15 PM	3:15 PM	ORS Research Section Scientific Meeting: Meniscus	North 221
1:15 PM	3:15 PM	ORS Research Section Scientific Meeting: Strategies in Clinical Research	North 224
1:30 PM	3:30 PM	ORS Research Section Scientific Meeting: Preclinical Models	West 301BC
2:00 PM	3:00 PM	ORS Strategic Plan Feedback Sessions	North 231A
2:30 PM	4:00 PM	Workshop: Use of Artificial Intelligence and Machine-Learning in Orthopaedics: Trends and Future Perspectives	West 301A
2:30 PM	4:00 PM	Symposium: Unmet Clinical Needs: Addressing the POSNA Consensus-based Research Agenda through Discovery	West 301D
2:30 PM	4:00 PM	Workshop: Advancing Regenerative Rehabilitation for Muscle Trauma	North 222
4:15 PM	5:15 PM	Spotlight: Disruptive Technologies and Innovative Approaches for Soft Tissue Knee Injuries (feat. Martha Murray)	West 301A
4:15 PM	4:25 PM	A Multi-functional Small Molecule To Enhance Healing Of Avascular Meniscus Tears	
4:25 PM	4:35 PM	3D-Printed Growth Plate Mimetic Composite Mitigates Early Growth Deformities In A Rabbit Model	
4:35 PM	4:45 PM	A Pilot Canine Clinical Trial Of Intraarticular Anti-inflammatory Microcapsules Following Cruciate Ligament Injury	
4:45 PM	5:15 PM	Spotlight Speaker Martha Murray, MD - Delivering on Disruption: A New Way to Approach Ligament Repair	
4:15 PM	5:15 PM	NIRA - Regeneration and Remodeling	West 301BC
4:15 PM	4:23 PM	Detection Of Lumbar Spinal Stenosis Using Deep Learning-Powered Gait Computer Vision	
4:23 PM	4:31 PM	Exploring Cilia-Targeted Therapeutics For Enhancing Rotator Cuff Healing	
4:31 PM	4:39 PM	Dynamic Tensile Loading Improves Neotendon Formation	



4:39 PM	4:47 PM	Comorbid Hypertension And Osteoarthritis Exacerbates Joint Remodeling And Gait Compensations In Female Rats, With Milder Effects Observed In Males	
4:47 PM	4:55 PM	A Biomimetic Mechanically Reinforced 3D Printed Collagen Type I/II-Hyaluronic Acid (CI/II-HyA) Scaffold Promotes The Repair Of Large Load-bearing Articular Cartilage Defects In Goats	
4:55 PM	5:03 PM	Discovery Of A Novel Articular Cartilage Skeletal Stem Cell	
5:03 PM	5:11 PM	Wnk2 Mutations Associated With Familial Osteoarthritis Modulate Bone Remodeling In A Ptoa Mouse Model	
4:15 PM	5:15 PM	Crosstalk among Musculoskeletal Tissues and Beyond	West 301D
4:15 PM	4:25 PM	Post-traumatic Osteoarthritis Alters Gait Patterns And Motor-related Brain Regions In Aged Female Rats	
4:25 PM	4:35 PM	Synovial Fibroblasts Support Vascular Function In Both Health And Inflammatory Disease	
4:35 PM	4:45 PM	Inflammatory Crosstalk Between Rotator Cuff Tissues Is Altered With Age And Biological Sex	
4:45 PM	4:55 PM	Microbe-gut-cartilage Axis-on-a-chip To Reveal The Effect Of Gut Microbes On Osteoarthritis	
4:55 PM	5:05 PM	Tet2-mutant Clonal Hematopoiesis Exacerbates Rheumatoid Arthritis	
5:05 PM	5:15 PM	Bone Marrow Late Mesenchymal Progenitors Regulate Bone Remodeling, Hematopoiesis, And Vasculature	
4:15 PM	5:15 PM	Resident and Fellow Research	North 221
4:15 PM	4:25 PM	Revision Risk Following Elbow Ulnar Collateral Ligament Surgery: Comparing Repair Versus Reconstruction In A National Sample Of 1,820 Patients	
4:25 PM	4:35 PM	Patellofemoral Pain Syndrome Movement Profiles And Clinical Correlation: An Unsupervised Machine Learning Approach	
4:35 PM	4:45 PM	Early Anterior Cruciate Ligament Reconstruction Mitigates The Development Of Post-traumatic Osteoarthritis In A Murine Non-invasive Anterior Cruciate Ligament Rupture Model	
4:45 PM	4:55 PM	Multi-parametric Profiling Of Circulating Immune Cells Identifies An Expansion Of Switched Memory B Cells In Osteoarthritis	
4:55 PM	5:05 PM	Bone Microarchitecture And Extracellular Matrix Quality In Patients With Abdominal Aortic Calcification Undergoing Lumbar Fusion Surgery	
5:05 PM	5:15 PM	Patellar Constraint Within The Trochlear Groove Is Correlated With Cartilage Degradation At 10 Years Following ACL Reconstruction Based On T1ρ And T2 Relaxation Times	
4:15 PM	5:15 PM	Tendon Mechanobiology	North 222
4:15 PM	4:25 PM	Differential Response Of Neonatal And Adult Limbs To Reduced Loading From Sciatic Nerve Resection	
4:25 PM	4:35 PM	Local Tensional Microenvironment Rather Than Tissue-Scale Mechanics Dominates The Proteo-Transcriptional Landscape Of Tendon Fibroblast Wound Healing	
4:35 PM	4:45 PM	Exercise And Disuse Initiate Adaptive ECM Remodeling To Shift Tendon Mechanohomeostasis	



4:45 PM	4:55 PM	Distinct Purinergic Receptors Mediate Exogenous Nucleotide-induced Calcium Signaling And Gene Expression Changes In Tenocytes	
4:55 PM	5:05 PM	Male And Female Diversity Outbred Mice Respond To Disuse Of The Achilles Tendon Via Different Mechanisms	
5:05 PM	5:15 PM	Impairment of Muscle Contraction Leads to Imperfect Tendon Maturation in Postnatal Phase	
4:30 PM	7:30 PM	ORS (All) Research Sections Networking Event	North Hall A-C
5:00 PM	7:00 PM	Poster Session 1 Dismantle	North Hall A-C
5:30 PM	6:30 PM	Future Faculty Poster Session	North Hall A-C
5:30 PM	6:30 PM	Post-Doctoral Fellow Match Poster Session	North Hall A-C
5:30 PM	7:00 PM	Undergraduate Poster Reception	North Hall A-C
6:00 PM	7:30 PM	Women's Leadership Forum (WLF) Networking Event	North 229
7:30 PM	9:00 PM	INVITATION ONLY - Leadership Reception	North 226
MONDAY February 10			Location
7:00 AM	9:00 AM	INVITATION ONLY - ICORS Breakfast Meeting	North 224
7:00 AM	10:00 AM	Poster Session 2 Set Up	North Hall A-C
6:30 AM	6:00 PM	Registration Open	North Hall A-C Foyer
7:30 AM	5:30 PM	Speaker Ready Room Open	North 223
8:00 AM	9:00 AM	AAOS Kappa Delta/OREF Paper Presentations and Awards	West 301A
9:15 AM	10:15 AM	Spotlight: Osteoarthritis as a Disease of the Whole Person (feat. Kharm Foucher)	West 301A
9:15 AM	9:25 AM	Deep Immunophenotyping Of Knee Osteoarthritis Patients Reveals Alterations In T-cell, Regulatory-t, And Monocyte Subpopulations.	
9:25 AM	9:35 AM	Margin Of Stability During Single Limb Support Differs Based On The Lower Extremity Joint With End-stage Arthritis	
9:35 AM	9:45 AM	Autonomic Dysfunction In Patients With Late-stage Osteoarthritis Recovered One Year After Total Knee Arthroplasty	
9:45 AM	10:15 AM	Spotlight Speaker Kharm Foucher, PhD - Osteoarthritis as a Disease of the Whole Person: Using Biomechanics to Improve Outcomes Beyond the Joint	
9:15 AM	10:15 AM	Spinal Deformities and Cervical Spine Injuries	West 301BC
9:15 AM	9:25 AM	Correction Of Spinal Deformities Via Growth Promoting Surgical Procedures: A Computational And In Vivo Analysis.	
9:25 AM	9:35 AM	Cervical Paraspinal Muscle Parameters Are Associated With Bone Mineral Density As Measured By Quantitative Computed Tomography And Vertebral Bone Quality In Preoperative Patients	
9:35 AM	9:45 AM	Increased Rates Of Dysphagia, Longer Length Of Stay, Non-routine Discharge, And Higher Hospital Costs In Patients Over 65 Undergoing Single-level Cervical Disc Arthroplasty: A Propensity Score-matched Analysis	
9:45 AM	9:55 AM	Spinal Pathoanatomy Associated With Spinal Muscular Atrophy In The Era Of Disease Modifying Therapies	
9:55 AM	10:05 AM	Concomitant Injuries With Cervical Spine Fractures	
10:05 AM	10:15 AM	Generation Of A Normative Healthy Spinal Growth Atlas Using Ai-based Longitudinal Modeling Building	



9:15 AM	10:15 AM	Hip Biomechanics across Multiple Populations	West 301D
9:15 AM	9:25 AM	Does Residual Femur Motion Influence Dynamic Balance In Individuals With Transfemoral Amputations?	
9:25 AM	9:35 AM	Medial Iliofemoral Ligament Strain Correlates To Its Contribution To Hip Stability Following THA	
9:35 AM	9:45 AM	Altered Abductor Mechanism In FAI Patients During Walking And Squatting	
9:45 AM	9:55 AM	Improved Estimation Of The Infant Hip Joint Center	
9:55 AM	10:05 AM	Predicting Patient Outcomes In Hip Arthroscopy Using Artificial Intelligence Image Recognition	
10:05 AM	10:15 AM	Bony Hip Congruency Varies By Acetabular Region And Activity In Asymptomatic Young Adults	
9:15 AM	10:15 AM	A Focus on Translational Research	North 221
9:15 AM	9:25 AM	Elucidating The Efficacy Of Prp Therapy In Knee Osteoarthritis: A Comprehensive Analysis Of Cellular And Protein Biomarkers	
9:25 AM	9:35 AM	Combined Senolytics And 11-week Treadmill Running Reversed The Declining Of Bone Tissue Mineral Density In Aged Mice With Parkinson Disease	
9:35 AM	9:45 AM	Controlled Release Of Rbmbp2 From Biomimetic Bone Graft Promotes Fusion In Rat Spinal Injury Model	
9:45 AM	9:55 AM	Six-month, 1 Year And Average 5.5 Years Follow-up Evaluation Of Meniscus Repair With Novel Atelocollagen Meniscus Substitute (ACMS) For Meniscal Defect In The First-in-human Study	
9:55 AM	10:05 AM	Rotator Cuff Repair With Purified Exosome Product (PEP) In A Canine Model.	
10:05 AM	10:15 AM	Azimplacel Attenuates Synovial Inflammation In Vitro And Improves Pain And Function In A Rat Osteoarthritis Model	
9:15 AM	10:15 AM	Biomaterials for 3D and MIS	North 222
9:15 AM	9:25 AM	Injectable Bioadhesive To Promote Endogenous Stem Cell-mediated Regeneration Of Partial Rotator Cuff Tear	
9:25 AM	9:35 AM	Enhanced Hemostasis Using A Mechanically Tough Bioadhesive	
9:35 AM	9:45 AM	Injectable Antimicrobial Hydrogel For Early Treatment Of Extremity Bone Wounds	
9:45 AM	9:55 AM	A Multiphasic ECM Scaffold System For Rotator Cuff Repair With Tailored Stiffness And Structure For Enhanced Regeneration	
9:55 AM	10:05 AM	Advanced Collagen Scaffold As An Effective Carrier For Complementary Orthobiologics In Soft Tissue Repair	
10:05 AM	10:15 AM	3d Printing Polycaprolactone-gelatin For Musculoskeletal Tissue Engineering	
10:00 AM	7:00 PM	Exhibit & Poster Hall Open	North Hall A-C
10:15 AM	10:45 AM	Coffee Break & Networking	North Hall A-C
10:45 AM	11:45 AM	Spotlight: Translational Approaches for Arthritis (feat. Chuan-ju Liu)	West 301A
10:45 AM	10:55 AM	Programmable Chronogenetic Circuits For Self-Regulated Daily Drug Delivery In Arthritis	
10:55 AM	11:05 AM	Dna Methylation Patterns Predicts Therapeutic Human Mesenchymal Stromal Cell Potency In Posttraumatic Osteoarthritis Microenvironment	



11:05 AM	11:15 AM	Intraarticular Delivery Of Recombinant Interleukin-1 Receptor Antagonist Protein (anakinra) Enhances Graft Function In A Porcine Model Of Osteochondral Repair	
11:15 AM	11:45 AM	Spotlight Speaker Chuan-ju Liu, PhD - Ion channels in osteoarthritis: emerging roles and potential targets	
10:45 AM	11:45 AM	Intervertebral Disc - Injury and Healing	West 301BC
10:45 AM	10:55 AM	Imaging Mass Cytometry Reveals Rapid And Profound Changes In The Cellular Landscape Of Both Injured And Adjacent Intervertebral Discs	
10:55 AM	11:05 AM	Investigating Sleep Quality In A Rodent Model Of Chronic Low Back Pain	
11:05 AM	11:15 AM	Resident Intervertebral Disc Neutrophils Are Lost With Age And Implicated In Neonatal Regeneration In Mice	
11:15 AM	11:25 AM	Discogenic Pain Mechanisms In A Porcine Model: Insights From MRI, Biobehavioral Testing, And Multi-omic Analysis	
11:25 AM	11:35 AM	Targeted Multiplex CRISPRa Upregulation Of Novel Gene, ZNF865, Enhances Cell Infiltration, Cartilage Deposition And Mechanical Properties Of Human-sized Engineered Discs	
11:35 AM	11:45 AM	Annulus Repair Via Interpenetrated Non-woven Scaffold Supports Tissue Integration And Prevents Herniation	
10:45 AM	11:45 AM	Clinical Research - Fractures and Obesity	West 301D
10:45 AM	10:55 AM	Predicting The Risk Of Catastrophic Cardiac Events After Total Hip And Total Knee Periprosthetic Fracture Procedures Using Machine Learning Algorithms: A National Cohort Analysis	
10:55 AM	11:05 AM	Comparison Of Two Fisetin Dosing Regimens For Their Effects On Mrna Expression Of Senescence Related Genes In Peripheral Blood Mononuclear Cells In Elderly Humans	
11:05 AM	11:15 AM	Association Between Bone Mineral Density By Whole-Body Densitometry And Hip Fractures In Adults Aged 45 To 64	
11:15 AM	11:25 AM	Glp-1 Receptor Agonists Increase Fracture Risk In Non-diabetic Patients With Obesity	
11:25 AM	11:35 AM	Trends In Bariatric Surgery Versus Glucagon-like Peptide-1 Receptor Agonists For Weight Loss Prior To Total Joint Arthroplasty	
11:35 AM	11:45 AM	Investigating The Inflammatory Proteins-mediated Causal Pathway Of Obesity And Rotator Cuff Tears: A Mediation Mendelian Randomization Study	
10:45 AM	11:45 AM	Tendon and Ligament Healing	North 221
10:45 AM	10:55 AM	Investigating Crosstalk In ACL Injury: Potential Role Of RBC Secretome	
10:55 AM	11:05 AM	Prostaglandin E2 Signaling Potentiates Innate Immunity To Regulate Enthesis Regeneration In Adult Zebrafish	
11:05 AM	11:15 AM	Design And Fabrication Of A Bi-directional And Bi-temporal Delivery System For Enhancing Intrasynovial Tendon Repair	
11:15 AM	11:25 AM	Stable Expression Of Hypoxia-inducible Factor 1a (hif1a) Leads To Increased Markers Of Angiogenesis And Proliferation In Injured Mouse Achilles Tendons And In Primary Tendon Cells In Vitro	
11:25 AM	11:35 AM	Multiparametric Spatial Profiling Of Flexor Tendon Pathologic Niches: Insights From A Preclinical Avian Model Of Zone II Tendon Repair	



11:35 AM	11:45 AM	Regeneration Of Ligament And Synovial Joint Tissue And Function In Adult Zebrafish	
10:45 AM	11:45 AM	Surgical and Biomechanical Studies of the Carpus	North 222
10:45 AM	10:55 AM	Effect Of Component Alignment On Total Wrist Arthroplasty	
10:55 AM	11:05 AM	Accuracy Of Implant Placement Using Augmented Reality-assisted Technique In Total Wrist Arthroplasty	
11:05 AM	11:15 AM	Scapholunate Interosseous Ligament Injuries: Assessing Carpal Contact Biomechanics Under Load Using Weight-Bearing Computed Tomography	
11:15 AM	11:25 AM	Characteristics Of Elasticity Of Thenar Muscles In Carpal Tunnel Syndrome	
11:25 AM	11:35 AM	Adaptation Of Carpal Tunnel Components To Pinching At Different Wrist Postures	
11:35 AM	11:45 AM	Comparing The Effects Of Ligament Reconstruction And Tendon Interposition Versus Suspensionplasty On Dynamic Trapezial Height And Thumb Strength	
11:45 AM	12:45 PM	Lunch Break (on own)	
12:45 PM	1:45 PM	CDC - International Collaborations	North 222
12:45 PM	1:45 PM	IAC - Industrial Career Round Table	West 301D
1:00 PM	2:30 PM	Symposium: TENET: Regenerative Treatments to Promote Tendon Regeneration and Restoring Tendon Functionality	West 301A
1:00 PM	2:30 PM	Workshop: The Physical Impact of Psychological Stress in the Musculoskeletal System	West 301BC
1:00 PM	2:30 PM	Workshop: Leveraging Computational Modeling and Simulation within and Beyond and Episode of Clinical Care: What Will It Take?	North 221
1:30 PM	3:00 PM	Business Innovation Competition	North 224
3:05 PM	4:15 PM	Late Breaking	North 222
3:05 PM	3:15 PM	Rab001d—A Novel Peptide-small Molecule Conjugate (pdc) For The Treatment Of Osteoarthritis- Results From The Pre-clinical Efficacy And Randomized Phase I Studies	
3:15 PM	3:25 PM	Identification And Targeted Selection Of Matrix-Synthetic Cell Subpopulations For Meniscus Regeneration	
3:25 PM	3:35 PM	HIF1a Orchestrates Tendon Response To Overload And Drives Tendinopathy	
3:35 PM	3:45 PM	An Uncertainty-aware Deep Learning Classifier To Identify Total Knee Arthroplasty Implants	
3:45 PM	3:55 PM	4-aminopyridine Enhances Orai1-BMP2 Signaling In Osteoblasts To Promote Fracture Healing And Improve Bone Strength	
3:55 PM	4:05 PM	Targeting Early-stage Synovial Lymphatics Dysfunction To Attenuate Post-traumatic Osteoarthritis Progression	
4:05 PM	4:15 PM	Fibroblast Growth Factor Receptor 3 (Fgfr3) In Tendon Progenitors Is Necessary For Aligned Growth Of The Mouse Humerus	
3:15 PM	4:15 PM	Spotlight: Orthopaedic Infection - Imaging and Biomarkers (feat. Chao Xie)	West 301A
3:15 PM	3:25 PM	Histological Analysis Of Cortical Bone Following Standard And Novel Treatments Against Biofilms	



3:25 PM	3:35 PM	Alkaline PH Of Post-operative Wound And Synovial Fluid Affects S. Aureus Virulence And Antibiotic Tolerance	
3:35 PM	3:45 PM	Cysteine Depletion In Bacterial Infection A Diagnostic Biomarker For FRI	
3:45 PM	4:15 PM	Spotlight Speaker Chao Xie, MD - Real time fluorescence microscopy of S. aureus nidus formation on implants to assess antimicrobial surfaces and host immunity	
3:15 PM	4:15 PM	Knee Function following Injury and Surgery	West 301BC
3:15 PM	3:25 PM	Increasing Posterior Tibial Slope Reduces The Resultant Force In Lateral Meniscus In Acl Deficient Knees At Low Flexion Angles	
3:25 PM	3:35 PM	Comparative Analysis Of Btb And Qt Autografts: Preliminary Results On Post-aclr Strength And Laxity	
3:35 PM	3:45 PM	Asymmetries In Muscle Strength And Knee Kinematics Are Correlated After ACL Reconstruction	
3:45 PM	3:55 PM	Tibiofemoral Contact Mechanics Are Related To ACL Force In Young Female Athletes During Pivoting Maneuvers: An In Silico Study	
3:55 PM	4:05 PM	Inertial Measurement Unit Accelerations At The Knee Can Differentiate Anterior Cruciate Ligament Rupture Onset During Landing	
4:05 PM	4:15 PM	Dynamic Knee Kinematics During Downhill Running At 10+ Years After Anatomic ACL Reconstruction	
3:15 PM	4:15 PM	Chondrocytes and Synovial Fibroblasts	North 221
3:15 PM	3:25 PM	Spatial Omics Reveals The Landscape Of Growth Plate Cells And The Role Of Adgrg6 In Regulating Skeletal Progenitors At The Osteochondral Junctions	
3:25 PM	3:35 PM	Thrombospondin-2 Mediates The Neuro-Angiogenic Transcriptome In Post-Traumatic Osteoarthritic Synovium	
3:35 PM	3:45 PM	Chondrocyte-secreted Angiogenin, Negatively Regulated By Pgrn, Mediates Subchondral Bone Angiogenesis And Dysregulated Chondrocyte Metabolism In Osteoarthritis	
3:45 PM	3:55 PM	A Multiomic Analysis Of Extracellular Matrix Genes In Healthy Human Cartilage Identifies Klf4 As A Novel Regulator In Chondrocyte Subpopulations	
3:55 PM	4:05 PM	Inhibition Of Fibroblast Activation Protein Restores The Homeostatic Phenotype Of Mechano-activated Synovial Fibroblasts	
4:05 PM	4:15 PM	A Role For Chromosomal Sex In Dimorphic Control Of Osteocyte Signaling, Osteoarthritis, And Joint Function	
3:15 PM	4:15 PM	Clinical Research - Women's Health and Gait Analysis	West 301D
3:15 PM	3:25 PM	Systemic Hormonal Contraceptives Increase The Risk Of Soft Tissue Pathology In The Knee: A Nationwide Epidemiological Analysis Of 1,294,435 Patients	
3:25 PM	3:35 PM	Hormonal Contraceptives Reduce Ligament Laxity And Protect Against Injuries In Female Athletes	
3:35 PM	3:45 PM	Ultrasonography And Magnetic Resonance Imaging Revealed Female-specific Joint Structural Abnormalities In Early Knee Osteoarthritis	
3:45 PM	3:55 PM	Pregnancy Gait Biomechanics Using Markerless Motion Capture	
3:55 PM	4:05 PM	Explainable Deep Clustering Of Instrumented Gait Data From Children With Unilateral Cerebral Palsy Compared To Clinical Classification	



4:05 PM	4:15 PM	Association Between Pivot-shift Phenomenon In The Contralateral Uninjured Knee And Residual Pivot-shift Phenomenon After Anterior Cruciate Ligament Reconstruction	
4:30 PM	5:30 PM	Spotlight: More about BMPs (feat. Magnus Tagil)	West 301A
4:30 PM	4:40 PM	Low Dose Bmp-2 Promotes Fracture Healing In A Femur Segmental Defect Model In Rats Without Inducing Excessive And Prolonged Inflammation	
4:40 PM	4:50 PM	Systemic Immune Response Following BMP-2 Treated Bone Injury Is Time And Dose Dependent	
4:50 PM	5:00 PM	The Effect Of Anti-csf1r On Osteoclasts And Bone Lesions In A Murine Model Of Fibrous Dysplasia	
5:00 PM	5:30 PM	Spotlight Speaker Magnus Tagil, MD, PhD - Balancing Brakes and Accelerators in Bone Healing: The Future Role of BMP in Orthopaedic Therapies	
4:30 PM	5:30 PM	Biomaterials for Soft and Hard Tissue Repair/Replacement	West 301BC
4:30 PM	4:40 PM	Precision Repair Of Zone-specific Meniscal Injuries Using A Tunable Meniscus ECM-based Hydrogel System	
4:40 PM	4:50 PM	Nucleus Pulposus Cells Encapsulated In Microgels For The Treatment Of Intervertebral Disc Degeneration	
4:50 PM	5:00 PM	Fibronectin Peptides Reinforce Fibrotic And Inflammatory Signaling In Nucleus Pulposus Cells And Disc Explants	
5:00 PM	5:10 PM	The Chondro-inducing Ability Of Heparin Requires Auxiliary Bioactivity	
5:10 PM	5:20 PM	Optimization Of A 3D-Printed Growth Plate Mimetic Composite For The Treatment Of Growth Plate Injuries	
5:20 PM	5:30 PM	Evaluating A Novel Polyether-ether-ketone (peek) Femoral Component For Total Knee Arthroplasty: acceptable Wear Characteristics And Uncomplicated First-in-human Trials	
4:30 PM	5:30 PM	Markers and Mechanisms of Cartilage Disease	West 301D
4:30 PM	4:40 PM	Crucial Non-Redundant Roles Of Sox5 And Sox6 In Synovial Fibroblast Function And Activity	
4:40 PM	4:50 PM	Synovial Fluid Biopsy From Osteoarthritis Knee Joint: Individualization And Screening Of The Progression Of Disease	
4:50 PM	5:00 PM	Role Of Acetyl CoA Carboxylase 1 (ACC1) In Obesity And Aging-associated Osteoarthritis Development	
5:00 PM	5:10 PM	Identifying Key Molecular Factors In Chondrocyte Dedifferentiation Through Single-nuclei Multiome Sequencing	
5:10 PM	5:20 PM	Proton Sensing Receptor Gpr68 As A Novel Modulator Of OA Progression	
5:20 PM	5:30 PM	Integrative Lineage Tracing Reveals Multipotency Of Synovial αSMA+ Cells In Post Traumatic Osteoarthritis	
4:30 PM	5:30 PM	Sex as a Biological Variable to Knee Function	North 221
4:30 PM	4:40 PM	Sex Differences In The Physiological Response To An Acute Anterior Cruciate Ligament Overuse Injury	
4:40 PM	4:50 PM	Sex Differences In Femoral Bone Shape And Opposite Associations With Knee Flexion Moment 2 Years After Anterior Cruciate Ligament Reconstruction	



4:50 PM	5:00 PM	Tissue-specific And Spatially-dependent Metabolic Signatures Are Perturbed By Injury In Male And Female C57bl/6j Mouse Joints	
5:00 PM	5:10 PM	Knee Pathomechanics And Anterior Cruciate Ligament Anatomy Of Females Compared To Males: In-silico Analysis Of Matched Anterior Cruciate Ligament-injured And Healthy Cohorts	
5:10 PM	5:20 PM	Rapamycin Enhances Intra-articular Calcification And Post-Traumatic OA Pathology In Female Mice.	
5:20 PM	5:30 PM	Strain, Age, And Activity Relationships Between ACL Injury Anatomical Risk Factors During Musculoskeletal Growth	
4:30 PM	5:30 PM	Foot and Ankle - In Vivo Function and Repair	North 222
4:30 PM	4:40 PM	Poetry In Motion: Ankle Biomechanics In Ballet Dance	
4:40 PM	4:50 PM	Three-dimensional Assessment Of Deformities In Charcot Neuroarthropathy And Comparisons To Current Clinical Measurements	
4:50 PM	5:00 PM	3d Distance Maps From Weightbearing Ct Identify Early Joint-space Narrowing After Tibial Pilon And Trimalleolar Fracture Reconstruction And Correlate With Pain	
5:00 PM	5:10 PM	How Intersegmental Foot And Ankle Motion Differs In Patients With Varus And Valgus Ankle Osteoarthritis	
5:10 PM	5:20 PM	A Computational Modeling Framework To Assess The Influence Of Custom Dynamic Orthoses Bracing On Ankle Joint Contact Mechanics	
5:20 PM	5:30 PM	Accuracy And Precision Of Computer-assisted Surgery Compared With Conventional Instrumentation For Total Ankle Arthroplasty	
5:30 PM	6:00 PM	INNOVATION THEATER: MTF Biologics	North Hall A-C
5:30 PM	6:15 PM	Poster Session 2 Viewing and Reception (even numbers)	North Hall A-C
6:00 PM	6:15 PM	INNOVATION THEATER: Scintica	North Hall A-C
6:15 PM	7:00 PM	Poster Session 2 Viewing and Reception (odd numbers)	North Hall A-C
7:00 PM	8:30 PM	RIG: Digital Twins to Transform Orthopaedic Research	West 301D
7:00 PM	10:00 PM	<i>Exhibit Dismantle</i>	North Hall A-C
9:00 PM	11:00 PM	ORS 2025 Annual Meeting After-Party	West 301 Foyer
TUESDAY February 11			Location
7:30 AM	12:00 PM	<i>Speaker Ready Room Open</i>	North 223
7:30 AM	1:00 PM	Registration Open	North Hall A-C Foyer
8:00 AM	1:00 PM	Poster Hall Open	North Hall A-C
8:00 AM	9:00 AM	Clinical Research - Osteoarthritis	West 301A
8:00 AM	8:10 AM	Preclinical Knee OA Can Be Defined By Peripheral Blood Epigenetic Patterns	
8:10 AM	8:20 AM	Functional Epigenomics On Human Fetal Knees And Hips Reveal Distinct Developmental Regulatory Patterns Underlying Joint-specific Disease Risk	
8:20 AM	8:30 AM	"Fairness" In Machine Learning Readmission Prediction In Primary Total Knee Arthroplasty	
8:30 AM	8:40 AM	Randomized Trials Evaluating Treatments For Carpometacarpal (CMC) Arthritis Are Statistically Fragile: A Systematic Review	
8:40 AM	8:50 AM	In-vivo Upright Standing Glenohumeral Kinematic Measurements For Patients With Shoulder Osteoarthritis In Functional Arm Positions	



8:50 AM	9:00 AM	Risk Factors For New-Onset Depression Following Total Shoulder Arthroplasty	
8:00 AM	9:00 AM	Cartilage, Pain and Models	West 301BC
8:00 AM	8:10 AM	Multi-model Evaluation Of The Impact Of CD14 On Synovial Inflammation And Pain During Ptoa	
8:10 AM	8:20 AM	Investigation Of The Molecular Mechanisms Regulating Early OA Pain Induced By Synovial Lining Fibroblasts	
8:20 AM	8:30 AM	An Innervated Synovium-cartilage Chip For Modeling Knee Joint Inflammation And Associated Pain	
8:30 AM	8:40 AM	Sex-dependent Mechanisms Of Temporomandibular Joint Osteoarthritis	
8:40 AM	8:50 AM	Intra-articular Delivery Of Human Ghrelin-mRNA Ameliorates Osteoarthritis Progression And Pain In Mouse PTOA	
8:50 AM	9:00 AM	A Subset Of Non-peptidergic Nociceptive C-fibers, NP1, Expresses The Mas-related G-protein Coupled Receptor-d (mrgrp), And Is Essential For Weightbearing Pain In Experimental Osteoarthritis	
8:00 AM	9:00 AM	Biomechanics and Fall Risks in Spine Patients	West 301D
8:00 AM	8:10 AM	Differences In Posterior Ligamentous Complex Biomechanics In Patients With Adult Spinal Deformity Undergoing Primary Versus Revision Spinal Fusion Surgery	
8:10 AM	8:20 AM	Improved Axial Stability Associated With Bilateral Compared To Unilateral Pedicle Screw Fixation In Transforaminal Lumbar Interbody Fusion (TLIF): An In-vitro Human Cadaveric Spondylolysis Model	
8:20 AM	8:30 AM	Transforming Spinal Fusion Surgery: A New Paradigm In The Biology Of Spinal Fusion	
8:30 AM	8:40 AM	Perioperative Antidepressant Use Is Associated With Symptomatic Pseudarthrosis After Lumbar Fusion	
8:40 AM	8:50 AM	Sexual Differentiation In Pathomechanisms Of Sacroiliac Joint Dysfunction: Centers And Axes Of Rotation	
8:50 AM	9:00 AM	Which Spine Patient Is At Greater Risk Of Falling? An Analysis Of The Effects Of Vision, Support Surface, And Patient Adaptation	
8:00 AM	9:00 AM	Tendon Disease and Treatment	North 221
8:00 AM	8:10 AM	Development Of A Novel Classification System For Peroneal Tendon Disease Reveals Key Transcriptomic And Cellular Differences Across Disease Stages	
8:10 AM	8:20 AM	Cellular Senescence And Macrophage Dysfunction In Connective Tissue Pathology	
8:20 AM	8:30 AM	Adiponectin As A Potential Target For The Treatment Of Tendinopathy	
8:30 AM	8:40 AM	Ca ²⁺ Signaling Through Ca _v 1.2 Ca ²⁺ Channel Regulates Achilles Tendinopathy Development	
8:40 AM	8:50 AM	Immunophenotyping And Transcriptional Profiling Of A Clinically-relevant Tendon Injury Model Identifies Novel Anti-fibrosis Therapeutic Targets	
8:50 AM	9:00 AM	Sensor-measured Achilles Tendon Load Is Associated With Plantarflexor Dynamic Function In Achilles Tendinopathy	
8:00 AM	9:00 AM	Structure, Function and Mechanics of the Shoulder	North 222



8:00 AM	8:10 AM	Defining The Role Of Hif-2 In Muscle Fatty Infiltration After Rotator Cuff Tears Using Knockout Mice And Ai-generated Human Cell Knockout Model	
8:10 AM	8:20 AM	A Biomechanical Comparison Of Superior Capsular Reconstruction And Lower Trapezius Tendon Transfer For Massive Rotator Cuff Tears Using A Novel Shoulder Testing System	
8:20 AM	8:30 AM	The Subacromial Fat Pad Is A Novel Source For Therapeutic Adipose Stromal Cells In The Shoulder	
8:30 AM	8:40 AM	Glenoid Labrum Morphology In Young Adults: Regional Differences And Effects On Radius Of Curvature	
8:40 AM	8:50 AM	Magnetic Resonance Markers Of Rotator Cuff Muscle Microvascular Function And Energetics Following Rotator Cuff Tears	
8:50 AM	9:00 AM	Identifying Different Debris Causing Inflammatory Response In Shoulder Arthroplasties	
9:15 AM	10:15 AM	Foot and Ankle - Impact of Bone Morphology and Reconstruction	West 301A
9:15 AM	9:25 AM	Statistical Density Analysis Of The Tibia And Talus And The Relation Between Them	
9:25 AM	9:35 AM	Impact Of Ankle Foot Orthosis Use On Standing Foot Morphology In Individuals With Charcot-marie-tooth Disease	
9:35 AM	9:45 AM	Charcot-Marie-Tooth Disease Vs Idiopathic: A Comparison Of Pes Cavovarus Using Known And Novel Measurements	
9:45 AM	9:55 AM	Optimal Tightrope Positioning For Adequate Syndesmotic Reduction And Stabilization In Simulated Ankle Fractures	
9:55 AM	10:05 AM	Small Molecule Enhancement Of Bone Formation In A Rabbit Ankle Fusion Model	
10:05 AM	10:15 AM	Serum Metal Levels Following Total Ankle Arthroplasty	
9:15 AM	10:15 AM	Muscle Disease, Development and Aging	West 301BC
9:15 AM	9:25 AM	The Role Of Satellite Cell-derived FGF21 In Skeletal Muscle In Duchenne Muscular Dystrophy	
9:25 AM	9:35 AM	Ablation Of Tumor-derived Igfbp-3 Attenuates Tgfβ-associated Muscle Catabolism In Two Independent Murine Models	
9:35 AM	9:45 AM	Identification And In Vitro Characterization Of Adipogenesis Regulatory Cells In Human Skeletal Muscle	
9:45 AM	9:55 AM	Skeletal 11β-hydroxysteroid Dehydrogenase Type Contributes To Bone-muscle Crosstalk In Mice	
9:55 AM	10:05 AM	Blood Flow Restriction Therapy Upregulates Promyogenic Mitochondrial Transfer, Improves Shoulder Function And Reduces Pain After Rotator Cuff Injury	
10:05 AM	10:15 AM	Age Related Changes In Response To Volumetric Muscle Loss And Treatment	
9:15 AM	10:15 AM	Hip and Knee Arthroplasty - Kinematics and Clinical Outcomes	West 301D
9:15 AM	9:25 AM	A Fully Automated Pipeline For Medical Image Reconstruction, Surgical Planning And Simulation Of Post-operative Joint Function Following Revision Hip Arthroplasty Involving Acetabular Defects	
9:25 AM	9:35 AM	Pre-operative Factors Associated With Falls Following Total Hip Replacement	



9:35 AM	9:45 AM	Coronal Tilt Of The Tibial Component Of Kinematic- And Mechanical-alignment TKA During Stair Ascending	
9:45 AM	9:55 AM	Utilizing Wearable Devices To Track Recovery Rates Following Total Knee Arthroplasty	
9:55 AM	10:05 AM	Accounting For Peripheral Osteophytes During Pre-Resection Balancing A Total Knee Arthroplasty Helps To Mitigate The Risk Of Mid-Flexion Laxity	
10:05 AM	10:15 AM	The Location Of Periprosthetic Femoral Fracture Corresponds To Areas Of High Strain: A Finite Element And Cadaveric Experimental Study	
9:15 AM	10:15 AM	X-Ray, PET, Raman, and Ultrasound Imaging	North 221
9:15 AM	9:25 AM	Molecular Imaging Assessment Of Early Inflammation In Rheumatoid Arthritis	
9:25 AM	9:35 AM	Three-dimensional Evaluation Of Lower Extremity Alignment During Gait And Standing In Healthy Elderly Individuals: A Comparative Study Using Fluoroscopy And 3d To 2d Image Matching	
9:35 AM	9:45 AM	Reconstruction Of High-precision Lumbar Spine 3d Surface Model From Biplanar X-ray Images	
9:45 AM	9:55 AM	Automatic Segmentation For Measuring Vastus Lateralis Muscle Quality And Size From B-mode Ultrasound	
9:55 AM	10:05 AM	Analysis Of Global Sagittal Alignment Parameters In Spinal Fusion Patients With Full-body Biplanar X-rays	
10:05 AM	10:15 AM	In-vivo Raman Spectroscopy Can Assess Microfracture Neocartilage Formation And Maturation Longitudinally By Serial Optical "Biopsy" Measurements In The Equine Stifle Joint	
9:15 AM	10:15 AM	Therapeutic Targets in Bone Healing and Osteoporosis	North 222
9:15 AM	9:25 AM	Tau As A Low-affinity Glucocorticoid Receptor And A Novel Therapeutic Target For Mitigating Glucocorticoid-induced Osteoporosis	
9:25 AM	9:35 AM	Macrophages Secrete Thbs1 To Induce Col2a1-expressing Cells In The Early Phase Of Fracture Healing	
9:35 AM	9:45 AM	Spatial Transcriptomics Reveal Distinct Gene Expression Patterns And Treatment Targets During Fracture Healing In (non)-union Models In Mice	
9:45 AM	9:55 AM	A Multi-omic Profiling Reveals Macrophage-driven Fibrosis In Delayed Healing Fractures	
9:55 AM	10:05 AM	Local Macrophage Modulatory Therapy Prevents Early Bone Resorption In A Pig Model Of Legg Calve Perthes Disease	
10:05 AM	10:15 AM	A Randomized, Double-blind, International Multicenter, Parallel-controlled Phase III Clinical Study To Evaluate Recombinant Anti-RANKL Human Monoclonal Antibody Injection (HLX14) Versus Denosumab Injection (Prolia [®]) In Postmenopausal Women With Osteoporosis At High Risk Of Fracture	
11:00 AM	1:15 PM	ORS Incoming Presidential Address; Debate and Closing Session with NIRA/Section Awards	West 301A