All times listed in Tokyo/Japan time

Saturday, February 13, 2021

ORS Global Networking Lounge
(Open throughout the Annual Meeting)

ALL DAY
Exhibitor Spotlight Sessions

1:00 AM - 4:00 AM
Meniscus Section Scientific Meeting*

ORS International Fracture Repair (ISFR) Section Scientific Meeting*

4:30 AM - 5:30 PM
Career Development:
New ORS Member/First Time Attendee Social *

5:00 AM - 6:00 AM
Career Development:
Early Career Meet-Up: Speed Collaborating*

6:00 AM - 7:00 AM
Research Interest Group (RIG):
Foot and Ankle*

6:00 AM – Midnight
Poster Sessions (all posters are available for viewing and chat 24/7)

6:00 AM - 7:00 AM
Podium Sessions (Podiums featured at this time are available on-demand, 24/7)
  Hip/Knee Arthroplasty-Clinical Outcomes
  Bone-Injury and Healing
  Intervertebral Disc-Degeneration
  Biomaterials-Drug Delivery
  Tendon and Ligament-Cellular and Molecular Regulation in Growth and Development
  Clinical Research-Big Data
7:00 AM – 7:15 AM
Bioventus Presents: Preclinical Overview of MOTYS, a Novel Placental Tissue Biologic*

7:00 AM - 8:00 AM
ORS Opening Session featuring Keynote Speaker, Terry Virts

8:00 AM - 9:30 AM
Clinical Research Forum:
Session 1: Big Data, Risk Calculators, P-values, and Bayesian Analyses

8:15 AM - 8:45 AM
Spotlight:
Understanding the Genetic Regulation of Bone Mineral Density (Cheryl Ackert-Bicknell, PhD)

9:45 AM - 11:15 AM
Career Development:
The Art and Practice of Reviewing (Journal of Orthopaedic Research® Workshop)

Workshops:
Designing and Implementing Multi-centered Clinical Research Programs

Redefining Hip Dysplasia and Instability Mechanics Using Biomechanical Metrics

The Role of Portable Ultrasound in Musculoskeletal Disease

Machine Learning to Artificial Intelligence - Basic Concepts and Techniques for Orthopaedic Researchers, Clinicians and Surgeons

12:00 PM - 1:00 PM
Podium Sessions (Podiums featured at this time are available on-demand, 24/7)
NIRA-Biomaterials/Materials
NIRA-Bone/Perisoteum/Tendon
NIRA-Infection/Inflammation
NIRA-Intervertebral Disc/Spine
NIRA-Osteoarthritis/Arthritis
NIRA-Progenitor Cells/Regeneration/Repair

12:00 PM - 12:30 PM
Spotlights:
Skeletal Metastatology Interactions Between Metastic Cancers and Bone
(Francis Lee, MD, PhD)

Tendon Structure, Function Relationships: The Importance of the Interfascicular Matrix in Tendon Health Disease & Aging (Hazel Screen, PhD)
1:30 PM - 3:00 PM
Clinical Research Forum:
Session 2: The Anatomy of An Info-epidemic: Lessons Learned from COVID-19

1:30 PM - 3:00 PM
Symposium:
The Unmet Clinical Need in Hip and Knee Reconstruction: From Bedside to Benchside (AAHKS)

6:00 PM - 7:00 PM
Podium Sessions (Podiums featured at this time are available on-demand, 24/7)
- Hip-Growth and Dysplasia
- Cartilage and Synovium-Structure, Function and Mechanics
- Spine
- Bone-Growth, Development and Aging
- Clinical Research-Methods and Machine Learning
- Resident/Fellow Research Competition

Sunday, February 14, 2021

ALL DAY
Exhibitor Spotlight Sessions

1:15 AM – 2:45 AM
Tendon Section Scientific Meeting Part 1*

1:15 AM - 4:15 AM
Orthopaedic Implants Section Scientific Meeting*

5:00 AM - 6:00 AM
Career Development:
- Exploring Funding Mechanisms Part 1: Beyond NIH and Exploring Funding Sources*

6:00 AM – Midnight
Poster Sessions (all posters are available for viewing and chat 24/7)

6:00 AM - 7:00 AM
Podium Sessions (Podiums featured at this time are available on-demand, 24/7)
- Knee-Gait and Kinematics
- Shoulder and Elbow-Surgery and Arthroplasty
- Biomaterials-Metal Implants
- Clinical Research-Randomized Studies and Systematic Reviews
- Cartilage and Synovium-Different Influences on the Chondrocytes
- Imaging-Advanced Imaging and Analysis
6:30 AM - 7:30 AM
**Career Development:**
   Exploring Funding Mechanisms Part 2: Meet the Program Officers*

6:30 AM - 8:00 AM
**Research Interest Group (RIG):**
   Musculoskeletal Infection Research*

6:30 AM – 7:15 AM
**Plenary Session:**
   ORS Presidential Address & State of the Association

7:00 AM - 8:00 AM
**Plenary Session**
   Presentation of the following Outstanding Achievement Awards: Women's Leadership Forum, Boskey, Mentoring, Distinguished Investigator, Urist and Shands

7:45 AM - 8:45 AM
**Career Development:**
   Future Faculty Poster Session*

8:00 AM – 10:00 AM
**ORS Virtual Reception***

8:15 AM - 8:45 AM
**Spotlight:**
   Big Data for Mobility Research (Scott Delp, PhD)

8:15 AM - 9:45 AM
**Symposium:**
   3D Models for Regenerative Medicine in Orthopaedics

9:45 AM - 11:15 AM
**Workshops:**
   Biomechanics of Forearm Instability
   Measuring Skeletal and Implant Arthrokinematics In-Vivo

12:00 PM - 1:00 PM
**Podium Sessions** *(Podiums featured at this time are available on-demand, 24/7)*
   Foot-Kinematics/Kinetics
   Bone-Disease and Disorders
   Clinical Research-Observational Studies
   Hip-Clinical
(Podium Sessions continued)
- Tendon and Ligament-Injury and Therapeutics
- Infection-Therapeutic Treatments and Diagnosis

12:00 PM - 12:30 PM
Spotlights:
- Novel Treatment for Intervertebral Disc Degeneration (Fackson Mwale, PhD)
- How Close Are We to an Ideal Cartilage Repair? (Byoung Hyun Min, MD, PhD)

12:00 PM - 1:00 PM
Bench to Bedside:
- New Insights into Molecular and Functional Pathways Reveal Novel Mechanism-based Approaches for Targeting Osteoarthritis Pain

1:30 PM - 3:00 PM
Workshop:
- Clinical Applications of Stem Cells (Guest Nation)

6:00 PM - 7:00 PM
Podium Sessions (Podiums featured at this time are available on-demand, 24/7)
- Cartilage and Synovium-Mechanobiology
- Hand and Wrist
- Hip/Knee Arthroplasty-Complications/Infections
- Tendon and Ligament-Mechanics
- Skeletal Muscle
- A Focus on Translational Research

Monday, February 15, 2021

ALL DAY
Exhibitor Spotlight Sessions

1:15 AM - 2:15 AM
Innovation & Commercialization:
- Managing Intellectual Property in Research Collaborations*

1:15 AM - 4:15 AM
Spine Section/Pre-Clinical Models Section Scientific Meeting*

2:45 AM - 3:45 AM
Innovation & Commercialization:
- Clinical Trials 101: Cultivating the Next Generation of Young Investigators*
5:00 AM - 6:00 AM
**Innovation & Commercialization:**
   Industry Connect - An Ongoing Discourse with the FDA: Changes to the HCT/P Regulatory Environment that Impact the Orthopaedics Industry *

6:00 AM – Midnight
Poster Sessions (all posters are available for viewing and chat 24/7)

6:00 AM - 7:00 AM
**Podium Sessions** (*Podiums featured at this time are available on-demand, 24/7*)
   - Shoulder and Elbow-Biology and Biologics
   - Bone-Treatment and Therapeutics
   - Intervertebral Disc-Homeostasis and Development
   - Hip/Knee Arthroplasty-Implants
   - Tendon and Ligament-Tissue Engineering and Mechanobiology
   - Cartilage and Synovium-Different Pathways for the Development of Osteoarthritis

6:30 AM - 7:30 AM
**Innovation & Commercialization:**
   Manufacturing Orthopaedic Products for Clinical Evaluation: A Practical Guide*

7:00 AM - 8:00 AM
**Plenary Session:**
   Collaborations featuring ORS Fellows, Harris Award, Stryker/ORS Women's Research Fellowship, JOR and JOR Spine Awards and ON Foundation Keynote Speaker William Taylor

2:45 PM - 3:45 PM
**Innovation & Commercialization:**
   Uncovering Meaningful Unmet Clinical Needs in Orthopedics: A Discussion with Physician and Business Experts*

8:15 AM -8:45 AM
**Spotlights:**
   Application of the Imaging Techniques to the Study of In vivo Knee Function
   (Louis DeFrate, PhD)
   Circadian Clocks and Musculoskeletal Tissues (Karyn Esser, PhD)

8:15 AM - 9:45 AM
**Symposium:**
   Cellular Senescence as a Driver of Osteoarthritis: The Roles of Aging, Obesity and the Immune System
9:45 AM - 11:15 AM

**Workshops:**
- Intersection of Fracture Healing and Infection
- Applications of Machine Learning from Diagnostics to Prognostics
- Additively Manufactured Implants - Cool Parts, but How Far Have We Advanced on Material Safety and Characterization?
- Exosomes in Musculoskeletal Applications

12:00 PM - 1:00 PM

**Podium Sessions (Podiums featured at this time are available on-demand, 24/7)**
- Hip/Knee Arthroplasty-Kinematics and Computational Modeling
- Meniscus
- Spine-Disease
- Hip-Function and Mechanics
- Tumors-Treatment
- Knee-Ligament Reconstruction and Mechanics

12:00 PM - 12:30 PM

**Spotlights:**
- Interactions of Bone and Blood in Health and Disease (Joy Wu, MD, PhD)
- Hydrogel Implants for Orthopaedics: The Softer Side of Joints (Michele Marcolongo, PhD)

1:30 PM - 2:30 PM

**Back to Basics:**
- Gait and Joint Mechanics: The Next Steps Towards Understanding Musculoskeletal Pathology (Thomas Andriacchi)

**AAOS Kappa Delta & OREF Paper Presentations**

6:00 PM - 7:00 PM

**Podium Sessions (Podiums featured at this time are available on-demand, 24/7)**
- Clinical Research-Omics, Biomarkers Genetics
- Hip/Knee Arthroplasty-Materials, Fixation and Wear
- Cartilage and Synovium- Treatment and Therapeutics
- Bone-Mechanics
- Knee-Biomarkers and Diagnostics
- Biomaterials--Bone Tissue Repair
Tuesday, February 16, 2021

ALL DAY
Exhibitor Spotlight Sessions

1:15 AM - 2:15 AM
Innovation & Commercialization:
  Ready, Set, Pitch: Learn How to Effectively Communicate a Great Idea*

2:30 AM - 4:00 AM
Tendon Section Scientific Meeting Part 2*

2:45 AM - 4:15 AM
Career Development:
  Inclusion of Gender and Ethnic Diversity Promotes Scientific Progress: The Rosalind Franklin Paradox*

5:00 AM - 6:30 AM
Career Development:
  Mastering Research Finances for Career Advancement in Academia

6:00 AM - 7:00 AM
Poster Sessions (all posters are available for viewing and chat 24/7)

6:00 AM - 7:00 AM
Podium Sessions (Podiums featured at this time are available on-demand, 24/7)
  Imaging: Soft Tissue Imaging
  Shoulder and Elbow: Biomechanics and Experimental Considerations
  Hip/Knee Arthroplasty: Robotics and AI
  Foot and Ankle: Diagnosis, Imaging and Disorders
  Intervertebral Disc: Degeneration and Regeneration
  Late Breaking - Biological and Physical Mechanisms

6:00 AM - 7:00 AM
Career Development:
  Imposter Syndrome: It's Not Just You!!!*

6:45 AM - 7:45 AM
Career Development:
  Building Your Research Portfolio*
8:00 AM - 9:30 AM  
**Research Interest Group (RIG):**  
Clinical Translation of Physics-Based Models in Orthopaedics: Promises and Pitfalls*

8:00 AM - 9:30 AM  
**Research Interest Group (RIG):**  
Bridging Disciplines to find Solutions for Osteoarthritis

8:15 AM - 9:45 AM  
**Symposia:**  
Challenges and Opportunities in Musculoskeletal Infections  
Translational Tendinopathy – from Bench to Bedside and Back Again

8:15 AM - 8:45 AM  
**Spotlights:**  
Precision Medicine in Cartilage Tissue Regeneration (Rhima Coleman, PhD)  
Accelerating Translation of Bone Tissue Engineering Strategies (Robert Guldberg, PhD)

10:00 AM - 11:00 AM  
**Back to Basics:**  
Cartilage Biomechanics and Mechanobiology (Alan Grodzinsky)

**Meet & Greet: Junior Faculty Investigators/PostDocs**

12:00 PM - 1:00 PM  
Podium Sessions (Podiums featured at this time are available on-demand, 24/7)  
Biomaterials-Soft Tissue Engineering and Repair  
Bone-Mechanobiology  
Cartilage and Synovium-Diseases and Disorders  
Knee-Osteoarthritis and Therapeutics  
Late Breaking - Biologic Therapies

**Wednesday, February 17, 2021**

ALL DAY  
Exhibitor Spotlight Sessions

12:00 AM - 1:00 AM  
**ORS Debate:**  
Artificial Intelligence will Lead to the Obsolescence of Orthopaedic Radiologists*
1:15 AM - 2:15 AM  
**Career Development:**  
How to Craft a High Impact NIH Biosketch*

2:30 AM - 4:00 AM  
**Research Interest Group** (RIG):  
The Cellular Orchestration of Muscle Regeneration*

6:00 AM - 7:00 AM  
**Plenary Session:**  
Closing Session featuring Inauguration of Incoming ORS President, presentation of ON Orthoregeneration Award, NIRA Awards and Research Section Awards*

*Programs marked with a “*” will be held LIVE via ZOOM (Pacific Time). If you are not able to join us LIVE, these sessions will be recorded and available for viewing the following day. Schedule subject to change.