**All times listed are London/GMT**

**Friday, February 12, 2021**

**ORS Global Networking Lounge**  
(Open throughout the Annual Meeting)

4:00 PM - 7:00 PM  
**Meniscus Section Scientific Meeting***

**ORS International Fracture Repair (ISFR) Section Scientific Meeting***

7:30 PM - 8:30 PM  
**Career Development:**  
New ORS Member/First Time Attendee Social *

8:00 PM - 9:00 PM  
**Career Development:**  
Early Career Meet-Up: Speed Collaborating*

9:00 PM - 10:00 PM  
**Research Interest Group** (RIG):  
Foot and Ankle *

10:00 PM – 10:15 PM  
Bioventus Presents: Preclinical Overview of MOTYS, a Novel Placental Tissue Biologic*

**Saturday, February 13, 2021**

ALL DAY  
Exhibitor Spotlight Sessions

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
(Podium Sessions continued)

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 - 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
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)

Clinical Research Forum:
Session 2: COVID and Orthopaedic Clinical Research, Mobile Monitoring, and DEI in Orthopaedic Clinical Research

Symposium:
AAHKS - The Unmet Clinical Need in Hip and Knee Reconstruction: From Bedside to Benchside

4:15 PM – 5:45 PM
Tendon Section Scientific Meeting Part 1*

4:15 PM - 7:15 PM
Orthopaedic Implants Section Scientific Meeting*

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

8:00 PM - 9:00 PM
Career Development:
   Exploring Funding Mechanisms Part 1: Beyond NIH and Exploring Funding Sources*

9:30 PM - 10:30 PM
Career Development:
   Exploring Funding Mechanisms Part 2: Meet the Program Officers*

9:30 PM - 11:00 PM
Research Interest Group (RIG):
   Musculoskeletal Infection Research*
10:45 PM - 11:45 PM
Career Development:

Future Faculty Poster Session*

11:59 PM – 1:00 AM
ORS Virtual Reception*

**Sunday, February 14, 2021**

ALL DAY
Exhibitor Spotlight Sessions

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

7:15 AM - 8:00 AM
Plenary Session:
Presentation of the following Outstanding Achievement Awards: Women’s Leadership Forum, Boskey, Mentoring, Distinguished Investigator, Urist and Shands

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:
Measuring Skeletal and Implant Arthrokinematics In-Vivo
(Workshops continued)

Biomechanics of Forearm Instability

12:00 PM - 12:30 PM

**Spotlight:**
Novel Treatment for Intervertebral Disc Degeneration (Fackson Mwale, PhD)

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
- Tendon and Ligament-Injury and Therapeutics
- Infection-Therapeutic Treatments and Diagnosis

**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)

4:15 PM - 5:15 PM

**Innovation & Commercialization:**
Managing Intellectual Property in Research Collaborations*

4:15 PM - 7:15 PM

**Spine Section/Pre-Clinical Models Section Scientific Meeting***

5:45 PM - 6:45 PM

**Innovation & Commercialization:**
Clinical Trials 101: Cultivating the Next Generation of Young Investigators*

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
8:00 PM - 9:00 PM
**Innovation & Commercialization:**
Industry Connect - An Ongoing Discourse with the FDA: Changes to the HCT/P Regulatory Environment that Impact the Orthopaedics Industry *

9:30 PM - 10:30 PM
**Innovation & Commercialization:**
Manufacturing Orthopaedic Products for Clinical Evaluation: A Practical Guide*

10:45 PM - 11:45 PM
**Innovation & Commercialization:**
Uncovering Meaningful Unmet Clinical Needs in Orthopedics: A Discussion with Physician and Business Experts*

**Monday, February 15, 2021**

**ALL DAY**
Exhibitor Spotlight Sessions

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

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

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**

4:15 PM - 5:15 PM
**Innovation & Commercialization:**
- Ready, Set, Pitch: Learn How to Effectively Communicate a Great Idea*

5:30 PM - 7:00 PM
**Tendon Section Scientific Meeting Part 2**
5:45 PM - 7:15 PM
Career Development:
Inclusion of Gender and Ethnic Diversity Promotes Scientific Progress: The Rosalind Franklin Paradox*

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

8:00 PM - 9:30 PM
Career Development:
Mastering Research Finances for Career Advancement in Academia*

9:00 PM - 10:30 PM
Career Development:
Imposter Syndrome: It's Not Just You!!!*

9:45 PM - 10:45 PM
Career Development:
Building Your Research Portfolio*

11:00 PM - 12:30 AM
Research Interest Groups (RIG):
Clinical Translation of Physics-Based Models in Orthopaedics: Promises and Pitfalls*
Bridging Disciplines to find Solutions for Osteoarthritis*

Tuesday, February 16, 2021

ALL DAY
Exhibitor Spotlight Sessions

1:00 AM – 2:00 AM
Meet & Greet: junior Faculty Investigators/PostDocs*

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

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)

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

3:00 PM - 4:00 PM  
**ORS Debate:**  
Artificial Intelligence will Lead to the Obsolescence of Orthopaedic Radiologists*

4:15 PM - 5:15 PM  
**Career Development:**  
How to Craft a High Impact NIH Biosketch*

5:30 PM - 7:00 PM  
**Research Interest Group (RIG):**  
The Cellular Orchestration of Muscle Regeneration*
9:00 PM - 10:00 PM

**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.*