

**ORS International Section of Fracture Repair
2021 Scientific Meeting**

Friday, February 12, 2021
8:00 AM – 11:00 AM (Pacific)
during the ORS 2021 Annual Meeting



**ORS 2021
ANNUAL MEETING**
All Access • February 12–16, 2021



(11:00 AM-2:00PM Eastern, 4:00 PM – 7:00 PM Greenwich, 1:00 AM- 4:00 AM Japan)

8:00 AM – 8:05 AM	Welcome and Introduction Chelsea Bahney, PhD , The Steadman Clinic & Steadman Philippon Research Institute and University of California San Francisco Hamish Simpson, MA(Cantab), BCh(Oxon), DM(Oxon), FRCS(Eng & Ed) , University of Edinburgh <i>Big Data Techniques in Preclinical Musculoskeletal Research</i>
8:05 AM – 8:25 AM	<i>The Shape of Big Data: Geometric Morphometrics and Skeletal Form</i> Nathan Young, PhD, University of California San Francisco Introduced by: Melanie Haffner-Luntzer, PhD , University of Ulm
8:25 AM – 8:45AM	<i>Global Gene Expression Analysis in Bone Defect Repair Using RNAseq</i> Andrea Alford, PhD , University of Michigan Introduced by: Sara McBride-Gagyi, PhD , Saint Louis University
8:45 AM – 9:05 AM	<i>Epigenetic Regulation of Fracture Repair in Inflammatory Disease</i> Jie Shen, PhD , Washington University in St. Louis Introduced by: Kurt Hankenson, DVM, PhD , University of Michigan
9:05 AM – 9:25 AM	<i>Using 'Omics' Data to Understand Skeletal Diseases and Ways to Present in a Manuscript</i> Steven Woods, PhD, The University of Manchester Introduced by: Hamish Simpson, MA(Cantab), BCh(Oxon), DM(Oxon), FRCS(Eng & Ed) , University of Edinburgh
9:25 AM – 10:00 AM	Q&A Session and Panel Discussion
10:00 AM – 10:20 AM	Section Business Meeting & Award Announcements <i>Watch the business meeting recording.</i>
10:20 AM – 10:30 AM	Member Questions/Discussion with ORS ISFR Officers
10:30 AM – 10:35 AM	Closing Thoughts/Summary
10:35 AM – 11:00 AM	Breakout Session Discussions <i>Attendees will have the opportunity to choose the room for the breakout discussions.</i> <ul style="list-style-type: none">• Room A: Nathan Young & Melanie Haffner-Luntzer• Room B: Andrea Alford & Sara McBride-Gagyi• Room C: Jie Shen & Kurt Hankenson• Room D: Steven Wood & Hamish Simpson

Thank you to the following for their support:



This program will be held LIVE via ZOOM (Pacific Time). Names in bold are ORS ISFR members. Learn about the ISFR: <https://www.ors.org/ors-isfr>.

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Speaker Bios



Nathan Young, PhD, University of California San Francisco

Dr. Young's research utilizes the concepts of variation, functional compromise, and historical constraint as fundamental explanatory principles to address basic biomedical questions through the lens of evolution. His lab combines classical embryology in a range of model and non-model systems with modern genetic tools and advanced methods for quantifying and comparing phenotypes at a range of scales.

This approach yields significant insights into not only the processes that contribute to evolutionary diversity among species, but also how individual differences ranging from normal to disease states are generated. His research therefore investigates both normal mechanisms of development as well as the etiology of structural birth defects, and is relevant to longstanding goals of providing personalized and predictive medicine.



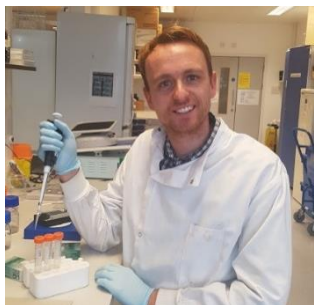
Andrea Alford, PhD, University of Michigan

Andrea Alford, PhD is Research Assistant Professor in the Department of Orthopaedic Surgery at the University of Michigan. Her research program is focused largely on the contextual roles of thrombospondin 2 in bone cell physiology, osteoblast matrix maturation, and bone extracellular matrix quality during post-natal growth and aging of the murine skeleton. In collaboration with her surgical colleagues, Dr. Alford studies human marrow-derived mesenchymal stem cells and regenerative tissues during the management and healing of segmental bone injuries. Dr. Alford is also a member of a multidisciplinary team working to elucidate the role of an altered bone marrow microenvironment in skeletal fragility exhibited by adolescents with Cerebral Palsy.



Jie Shen, PhD, Washington University in St. Louis

Dr. Shen is trained as a cartilage biologist with specialization in osteoarthritis and fracture repair. He is currently an Assistant Professor working in the Department of Orthopaedic Surgery at Washington University. His interests span aspects of bone and cartilage research, and are mainly focused on injury, repair, and regeneration of musculoskeletal tissues with the goal to understand the progenitor cell population, signals, and role of disease and aging on tissue injury and regeneration at the cellular and molecular level. One of his major focuses is to utilize in vivo approaches (e.g. conditional Cre/LoxP mutant transgenic mouse models, murine surgical models of bone fracture) and to couple these with in vitro primary cell culture and next-generation sequencing methodology to understand the contribution of epigenetic regulators to the skeletal fracture repair and bone regeneration under inflammatory conditions.



Steven Woods, PhD, The University of Manchester

Dr. Woods is currently a postdoctoral research associate in Professor Susan Kimber's group at the University of Manchester, where he is using patient derived induced pluripotent stem cells (iPSCs) to model rare diseases of cartilage in vitro. He completed his PhD project on 'The role of osteoarthritis regulated microRNAs in skeletal development pathways' under the supervision of Professor David Young at Newcastle University. He uses a range of techniques including microarray, RNA-seq, stem cell culture/differentiation, CRISPR-Cas9, siRNA knockdown and luciferase reporter assays. He is interested in the molecular mechanisms that control chondrocyte phenotype during development and in diseases such as skeletal dysplasia and osteoarthritis. He is particularly focused on the function of microRNAs, the ion channel TRPV4, and the extracellular matrix proteins Matrilin-3 and COMP.

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Zoom Background Competition

Let's have fun during the ORS ISFR 2021 Scientific Meeting! GET CREATIVE!

Although we are not meeting in person, we can still have fun in 2021. We are encouraging people to create and use a CREATIVE ZOOM background during the ORS ISFR Scientific Meeting. Judges will select their favorite which will be featured in our quarterly e-newsletter, Breakthroughs, and the ORS ISFR website.

Section Scientific Meeting Notes/Takeaways

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