January 2024

Message from the ORS Orthopaedic Implants Section Chair

On behalf of the ORS Orthopaedic Implants Research Section, I hope you had a happy holiday season and a wonderful new year. The Implants Section, along with the ORS, is gearing up for the 2024 ORS Annual Meeting in February. In this newsletter, we will highlight some of the section activities that will take place during the Annual Meeting.

We look forward to seeing you in Long Beach in February 2024!

J.J. Trey Crisco, PhD, ORS Orthopaedic Implants Research Section Chair

2024 ORS Orthopaedic Implants Section
Annual Meeting Activities

Be a part of history when ORS celebrates *70 Years of Advancing Research to Keep the World Moving* at the 2024 ORS Annual Meeting, February 2-6 in Long Beach, CA. The meeting brings the orthopaedic community together for five days of workshops, learning sessions, networking, and

advocacy. Attendees from many disciplines and career levels will network and learn about the latest innovations in orthopaedics.

The Implants Section will host a workshop on Friday, February 2, 2024, from 2:00 pm to 6:00 pm entitled "Translating Machine Learning and Artificial Intelligence Technologies to Enhance Orthopaedic Patient Care." The Implants Section meeting will take place on **Saturday, February 3, from 1:30 pm to 3:30 pm**. Due to timing constraints, we will have only one session this year, available exclusively to members. We encourage all members to stay tuned for details regarding the offerings of the Implant Section meeting.

Register Now

Orthopaedic Implants Workshop

Translating Machine Learning and Artificial Intelligence Technologies to Enhance Orthopaedic Patient Care
Friday, February 2, 2024
2:00 pm - 6:00 pm

Organizers: Josh Roth, PhD, University of Wisconsin-Madison and Cheryl Liu, PhD, Stryker

There is a growing wealth of clinical data available because of increasing numbers of advanced surgical technologies (e.g., robotics), novel implants, and patient monitoring sensors (e.g., wearables) on the market. However, to realize the full potential of these data and complementary technologies to improve patient outcomes, there is a need for novel data-driven approaches leveraging advances in machine learning (ML) and artificial intelligence (AI) technologies. Thus, the orthopaedic community (researchers, clinicians, and industry representatives) will benefit from an improved understanding of how to best translate ML/AI technologies into the clinic to improve diagnostics, treatment planning and execution, and medical device design.

In this workshop, attendees will gain insights into translating ML/AI technologies from academic, industry, clinical, and regulatory perspectives. Additionally, attendees will also have opportunities for small-group discussion and informal networking with each other, invited speakers, and implant section leadership. Our goal is to establish a collaborative community within the ORS to share and learn how to ensure that impactful ML/AI technologies are successfully translated into clinical practice.

Titles of Presentations and Speakers:
An Academic and Small-Business Perspective on Translating ML/AI Technologies
Clare Fitzpatrick, PhD, Boise State University

An Industry Perspective on Translating ML/AI Technologies
Nathan Natravali, PhD, Smith+Nephew

A Clinical and Small-Business Perspective on Translating ML/AI Technologies
Prem N. Ramkumar, MD MBA, Long Beach Lakewood Orthopedic Institute

Keynote: *A Regulatory Perspective on Translating ML/AI Technologies*
Sheldon Davis, MS, US Food and Drug Administration

Implant Section Meeting

Perspectives on Unique Implant Challenges and Designs
Saturday, February 3, 2024
1:30 pm – 3:30 pm

Four speakers will provide their clinical, scientific, and industry perspectives on the challenges associated with unique pathologies and implant designs. Following the speaker presentations, we will have a round table discussion opportunity for section members. Each table will be chaired by leaders from the section and guests. Topics will range from career opportunities in industry to securing research support.

Titles of Presentations and Speakers:
Compliant Compressive Osteointegration for Orthopaedic Devices-An Alternative to Stemmed Concepts
R. Lor Randall, MD, FACS, FAOA. UC Davis

Oncology Implants: Flexible, Durable, and Big
Susan Bukata, MD. UCSD

Considerations of New Spinal Implants on a Growing Spine
Steven Hwang, MD. Shriners Children's-Philadelphia

An Engineer's Perspective on Knee Revision and Limb Salvage Implant Design
Roxana Sanderson, MS. Stryker

Awards

The Implant Section will be giving awards to the top three podium and three poster presenters at the upcoming conference. Be sure to attend the Awards Presentation at the conclusion of the conference to find out who won!

2023-2024 ORS Orthopaedic Implants Section Leadership

Section Chair
J.J. Trey Crisco, PhD, Brown University and Rhode Island Hospital

Section Chair Elect
Alexander Christ, MD, University of Southern California, Los Angeles, Department of Orthopaedic Surgery

Section Past Chair
Jeff Bischoff, PhD, Zimmer Biomet Inc.

Section Treasurer
Rupak Dua, PhD, American Dental Association

Section Secretary
Michael Hast, PhD, University of Pennsylvania

Section Research & Education Chair
Jonathan Gustafson, PhD, Rush University Medical Center

Section Research & Education Chair Elect
Joshua Roth, PhD, University of Wisconsin-Madison

Section Membership Chair
Mandar Kulkarni, PhD, Stress Engineering Services

Section Members-at-Large
Cheryl Liu, PhD, Stryker
Hannah Lundberg, PhD, Rush University Medical Center
Jacob Elkins, MD, PhD, University of Iowa

Upcoming Orthopaedic Implant Related Events

ISTA 35th Annual Congress
August 28-31, 2024
Nashville, TN

AAOS Annual Meeting
February 12-16, 2024
San Francisco, CA

MDIC Symposium on Computational Modeling and Simulation
April 16-17, 2024
Hyattsville, MD

CDRH Regulatory Educational Materials

The Division of Industry and Consumer Education (DICE) at the FDA's Center for Devices and Radiological Health (CDRH) develops educational resources about medical devices and radiation-emitting electronic products. This information could prove useful for staying updated on regulations, safety practices, and technological advances in the field of medical devices.

Learn More

Call for Section Member Newsletter Contributions

Share with us! If you have suggestions for Section Member Spotlight interviews, featured *JOR* publications, contributions to our conference reports section, or any other potential contribution to our e-newsletter, please contact Trey Crisco at joseph_crisco@brown.edu.

Orthopaedic Research Society
9400 W. Higgins Road, Ste. 225
Rosemont, Illinois 60018
(847) 823-5770
ors@ors.org

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