

Arnold and Madaleine Penner
**11th Annual Musculoskeletal Repair
and Regeneration Symposium
Virtual Event**

Wednesday, October 26, 2022

Presented by: Musculoskeletal and Orthopaedic Research Laboratories and
Department of Orthopaedic Surgery at
Einstein College of Medicine and Montefiore Medical Center
Program Director: **Mia M. Thi, PhD**
University Chairman: **Neil J. Cobelli, MD**



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11th Annual Musculoskeletal Repair and Regeneration Symposium – Virtual Event

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SYMPOSIUM MISSION

The Albert Einstein College of Medicine and Montefiore Medical Center Musculoskeletal Repair and Regeneration Symposium continues to seek and expand the knowledge base within the field, and to foster creativity, collaboration and networking between researchers throughout the region. This year's meeting will emphasize recent advances in translational research in the following areas:

- **Bone Health: Regenerative Medicine and Beyond**
- **Mechanobiology of Musculoskeletal Regeneration**
- **Osteoarthritis and Cartilage Regeneration**

GOALS AND FEATURES

This program attempts to address current issues in musculoskeletal repair and regeneration, and disease treatment. The presentations and discussions will focus on up-to-date scientific discoveries and the potential impact of these findings on patient treatment and management in the future. This meeting features:

- 9 outstanding speakers from the region and nationwide
- Lightening e-poster sessions and Young Investigator Award session

REGISTRATION

Deadline: **October 24, 2022**

Please register online at: <https://forms.gle/mxH3hb1TmymDRHRaA>

Registration is free. Early registration is highly recommended.

An email with the information to virtually join the meeting will be sent to the registrants' email prior to meeting. Please note that only those who registered will be granted access.

CALL FOR ABSTRACTS FOR POSTER SESSION AND YOUNG INVESTIGATOR AND CLINICAL YOUNG INVESTIGATOR AWARDS

We invite investigators to submit abstracts for the virtual lightening **e-poster session**, which is an important component of this conference.

Abstracts from graduate and medical students, residents and postdoctoral fellows will be considered for **Young Investigator Awards and Clinical Young Investigator Award**. Four winners, three from Young Investigator category and one from Clinical Young Investigator category will be announced and each will be presented with a prize and a plaque. To qualify, you must register and submit an abstract to Dr. Zeynep Seref-Ferlengez, the chair of the Poster Session and Young Investigator Award committee, by **October 3, 2022** via email to: msk.einstein.symposium@gmail.com.

The abstract is limited to 1 page. Include in your abstract the study's objective, a brief statement of methods, a summary of the results obtained, conclusions, and significance. **Please see abstract template on the website**. Due to concurrent poster sessions, each presenter can present only one poster. If you have multiple posters, please assign one of your co-authors for presentation. As the Symposium aims to promote communication within our region, we encourage you to submit your recent work (within 2022) to this Symposium, including work that may have been submitted to other meetings. **Please note: Two PowerPoint slides with 2 minutes audio must be submitted for all accepted posters by **October 17, 2022**.**

PROGRAM DIRECTOR

Mia M. Thi, PhD

STEERING COMMITTEE CHAIRS

- Woojin Han, PhD
- Chuanju Liu, PhD
- Yi-Xian Qin, PhD

PROGRAM OVERSEERS

- Michael Detamore, PhD
- Susannah Fritton, PhD
- Mary Goldring, PhD
- Steven Goldring, MD
- Ed Guo, PhD
- John Hardin, MD
- David Hirsh, MD
- James Iatridis, PhD
- Lionel Ivashkiv, MD
- Thorsten Kirsch, PhD
- Catherine Kuo, PhD
- Chuanju Liu, PhD
- Helen Lu, PhD
- Jeremy Mao, DDS, PhD
- Steven Nicoll, PhD
- Maurizio Pacifici, PhD
- Nicola Patridge, PhD
- Clinton Rubin, PhD
- Yi-Xian Qin, PhD
- Mitchell Schaffler, PhD
- David Spray, PhD
- Stavros Thomopoulos, PhD

e-POSTER SESSION AND YOUNG INVESTIGATOR AWARD COMMITTEE

Chair: Zeynep Seref-Ferlengez, PhD

Co-chairs

- Leila Alvandi, PhD
- Ugur Ayturk, PhD
- David Corr, PhD
- X. Edward Guo, PhD
- David Hirsh, MD
- Bang Hoang, PhD
- Robert Majeska, PhD
- Yi-Xian Qin, PhD
- Sylvia Suadicani, PhD

AGENDA

8:00 – 8:10 am Introduction and acknowledgements
Mia M. Thi, PhD
Opening remarks
Neil J. Cobelli, MD

Session 1 – Bone Health: Regenerative Medicine and Beyond Steering chair: Yi-Xian Qin, PhD

8:10 – 8:15 am **Introduction**
Yi-Xian Qin, PhD
State University of New York at Stony Brook

8:15 – 8:35 am **The Microbiome and Bone Strength**
Christopher Hernandez, PhD
Cornell University

8:35 – 8:55 am **A new injury-responsive cell population in the musculoskeletal system**
Ugur Ayturk, PhD
Hospital for Special Surgery

8:55 – 9:15 am **3D printed bioresorbable metallic scaffolds for bone regeneration**
Donghui (Don) Zhu, PhD
State University of New York at Stony Brook

9:15 – 9:25 am **Discussion / Conclusions**

9:25 – 9:35 am **BREAK**

Session 2 – Mechanobiology of Musculoskeletal Regeneration Steering chair: Woojin Han, PhD

9:35 – 9:40 am **Introduction**
Woojin Han, PhD
Icahn School of Medicine at Mount Sinai

9:40 – 10:00 am **Cilia-Regulated Mechanotransduction in Tendon Enthesis**
Fei Fang, PhD
Icahn School of Medicine at Mount Sinai

10:00 – 10:20 am **Story of Osteoarthritic Chondrocytes and Piezo1-based Therapeutic strategies**
Whasil Lee, PhD
University of Rochester

- 10:20 – 10:40 am **The influence of (un)loading on extracellular matrix deposition during development and repair**
Sarah Calve, PhD
University of Colorado
- 10:40 – 10:50 am **Discussion / Conclusions**

10:50 – 11:00 am BREAK

11:00 am – 12:30 pm Concurrent lightening e-poster sessions

12:30 – 12:40 pm BREAK

Session 3 – Osteoarthritis and Cartilage Regeneration

Steering chairs: Chuanju Liu, PhD

- 12:40 – 12:45 pm **Introduction**
Chuanju Liu, PhD
NYU Grossman School of Medicine
- 12:45 – 1:05 pm **Regulators of cartilage**
Li Zeng, PhD
Tufts University
- 1:05 – 1:25 pm **Roles of SOX genes in the adult skeleton**
Véronique Lefebvre, PhD
Children’s Hospital of Philadelphia
- 1:25 – 1:45 pm **A single-cell mass cytometry platform to define cartilage homeostasis**
Nidhi Bhutani, PhD
Stanford University School of Medicine
- 1:45 – 1:55 pm **Discussion / Conclusions**

1:55 – 2:05 pm BREAK

Young Investigator Awards

Chair: Zeynep Seref-Ferlengez, PhD

- 2:05 – 2:15 pm Young Investigator Awards
Hosted by: *Young Investigator Award Committee*

Closing Remarks

2:15 pm

Closing remarks
Neil J. Cobelli, MD

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Wednesday, October 20, 2021

Chairs, Co-Chairs, and Speakers

Leila Alvandi

Clinical Research Associate of Orthopaedic Surgery
Albert Einstein College of Medicine and Montefiore
Medical Center
Bronx, NY

Ugur Ayturk, PhD

Assistant Scientist of Musculoskeletal Integrity Program
Hospital for Special Surgery
New York, NY

Nidhi Bhutani, PhD

Associate Professor of Orthopaedic Surgery
Stanford University School of Medicine
Stanford, CA

Sarah Calve, PhD

Associate Professor of Paul M. Rady Department of
Mechanical Engineering and Biomedical Engineering
University of Colorado
Boulder, CO

Neil J. Cobelli, MD

Professor and University Chairman of Orthopaedic
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Albert Einstein College of Medicine and Montefiore
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Bronx, NY

David T. Corr, PhD

Associate Professor of Biomedical Engineering
Rensselaer Polytechnic Institute
Troy, NY

Fei Fang, PhD

Assistant Professor of Leni & Peter W. May Department
of Orthopedics
Icahn School of Medicine at Mount Sinai
New York, NY

X. Edward Guo, PhD

Professor and Chair of Biomedical Engineering
Columbia University
New York, NY

Woojin Han, PhD

Assistant Professor of Leni & Peter W. May Department
of Orthopaedics and Black Family Stem Cell Institute
Icahn School of Medicine at Mount Sinai
New York, NY

Christopher Hernandez

Professor of Mechanical and Aerospace Engineering
Cornell University
Ithaca, NY

David M. Hirsh, MD

Professor of Orthopaedic Surgery
Albert Einstein College of Medicine and Montefiore
Medical Center
Bronx, NY

Bang H. Hoang, MD

Professor of Orthopaedic Surgery
Albert Einstein College of Medicine and Montefiore
Medical Center
Bronx, NY

Whasil Lee, PhD

Assistant professor of Biomedical Engineering and
Pharmacology and Physiology
University of Rochester
Rochester, NY

Véronique Lefebvre, PhD

Professor of Surgery/Division of Orthopaedic Surgery
and Translational Research Program in Pediatric
Orthopaedics
Children's Hospital of Philadelphia
Philadelphia, PA

Chuan-Ju Liu, PhD

Professor of Orthopaedic Surgery and Cell Biology
Director of Translational Orthopaedic Research
Laboratory
NYU Grossman School of Medicine
New York, NY

Robert J. Majeska, PhD

Professor of Biomedical Engineering
The City College of New York
New York, NY

Yi-Xian Qin, PhD

SUNY Distinguished Professor and Chair of Biomedical
Engineering
Director of Orthopaedic Bioengineering Research
Laboratory
Co-Director of Institute for Engineering-Driven Medicine
College of Engineering and Applied Sciences
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Associate Professor of Immunology
School of Medicine
Tufts University
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Donghui (Don) Zhu, PhD

SUNY Empire Innovation Professor of Biomedical
Engineering
College of Engineering and Applied Sciences
State University of New York at Stony Brook
Stony Brook, NY

CONTACT INFORMATION

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Zeynep Seref-Ferlengez, PhD

Chair, Poster Session and Young Investigator

Award Committee

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