

Arnold and Madaleine Penner  
**10<sup>th</sup> Annual Musculoskeletal Repair  
and Regeneration Symposium  
Virtual Event**

Wednesday, October 20, 2021

*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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# 10<sup>th</sup> Annual Musculoskeletal Repair and Regeneration Symposium – Virtual Event

Wednesday, October 20, 2021

## 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 four areas:

- Tendon Remodeling and Repair
- Musculoskeletal Regeneration and Repair
- Bone Adaptation: From Cells to Tissue
- Osteosarcoma and Degenerative Musculoskeletal diseases

## 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:

- 8 outstanding speakers from the United States and Europe
- Lightening e-poster session and Young Investigator Award session

## REGISTRATION

Deadline: **October 17, 2021**

Please register online at:

<https://einsteinmed.org/departments/orthopaedic-surgery/symposium/>

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 **September 24, 2021** via email to: [sereffer@montefiore.org](mailto:sereffer@montefiore.org).

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**. As the Symposium aims to promote communication within our region, we encourage you to submit your recent work (within 2021) 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 15, 2021**.**

#### PROGRAM DIRECTOR

Mia M. Thi, PhD

#### STEERING COMMITTEE CHAIRS

- Alessandra Carriero, PhD
- Nadeen Chahine, PhD
- Dirk Hubmacher, PhD
- Martin Levy, MD
- Peter Torzilli, 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 – Tendon remodeling and repair

Steering chair: Dirk Hubmacher, PhD

8:10 – 8:15 am **Introduction**  
Dirk Hubmacher, PhD  
Icahn School of Medicine at Mount Sinai

8:15 – 8:35 am **Tenomodulin signature in tendon repair process**  
Denitsa Docheva, PhD  
Klinik und Poliklinik für Unfallchirurgie

8:35 – 8:55 am **Small molecules regulating interplay between tendon stem/progenitor cells and macrophages**  
Chang Hun Lee, PhD  
Columbia University Irving Medical Center

8:55 – 9:05 am **Discussion / Conclusions**

9:05 – 9:15 am BREAK

### Session 2 – Musculoskeletal Regeneration and Repair

Steering chair: Nadeen Chahine, PhD

9:15 – 9:20 am **Introduction**  
Nadeen Chahine, PhD  
Columbia University

9:20 – 9:40 am **Decoding synovial joint regeneration in zebrafish**  
Joanna Smeeton, PhD  
Columbia University Irving Medical Center

9:40 – 10:00 am **Novel therapeutic strategies for degenerative disc disease and osteoarthritis**  
Fackson Mwale, PhD  
McGill University

10:00 – 10:10 am **Discussion / Conclusions**

10:10 – 10:20 am BREAK

### Session 3 – Bone Adaptation: From Cells to Tissue

Steering chair: Alessandra Carriero, PhD

- 10:20 – 10:25 am      **Introduction**  
Alessandra Carriero, PhD  
City College of New York
- 10:25 – 10:45 am      **Effects of mechanics on bone growth**  
Sandra Shefelbine, PhD  
Northeastern University
- 10:45 – 11:05 am      **Osteocytes in Skeletal Aging and Joint Disease**  
Tamara Alliston, PhD  
University of California San Francisco
- 11:05 – 11:15 am      **Discussion / Conclusions**

11:15 – 11:25 am **BREAK**

11:25 am – 12:45 pm      **Concurrent lightening e-poster sessions**

12:45 – 12:55 pm **BREAK**

### Session 4 – Osteosarcoma and Degenerative Musculoskeletal Diseases

Steering chairs: Peter Torzilli, PhD and Martin Levy, MD

- 12:55 – 1:00 pm      **Introduction**  
Peter Torzilli, PhD  
The Hospital for Special Surgery, Weill Cornell Medical College  
Martin Levy, MD  
Albert Einstein College of Medicine and Montefiore Medical Center
- 1:00 – 1:20 pm      **Modulating Wnt Signaling to Prevent Osteosarcoma Metastasis**  
David M. Loeb, MD, PhD  
Albert Einstein College of Medicine and Montefiore Medical Center
- 1:20 – 1:40 pm      **Quantitative Imaging For Osteoarthritis**  
Matthew Koff, PhD  
The Hospital for Special Surgery
- 1:40 – 1:50 pm      **Discussion / Conclusions**

**1:50 – 2:00 pm BREAK**

**Young Investigator Awards**  
Chair: Zeynep Seref-Ferlengez, PhD

2:00 – 2:10 pm      Young Investigator Awards  
Hosted by: *Young Investigator Award Committee*

**Closing Remarks**

2:10 pm              Closing remarks  
Neil J. Cobelli, MD

**Arnold and Madaleine Penner**  
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**Chairs, Co-Chairs, and Speakers**

**Tamara Alliston, PhD**

Professor of Orthopaedic Surgery  
UCSF School of Medicine  
San Francisco, CA

**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

**Alessandra Carriero, PhD**

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

**Nadeen Chahine, PhD**

Associate Professor of Biomechanics (in Orthopaedic  
Surgery)  
Columbia University  
New York, NY

**Neil J. Cobelli, MD**

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

**Denitsa Docheva, PhD**

Professor of Experimental Trauma Surgery  
Clinic and Polyclinic for Trauma Surgery  
Klinikum rechts der Isar Technische Universität München  
Regensburg, Germany

**X. Edward Guo, PhD**

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

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Professor of Orthopaedic Surgery  
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**Bang H. Hoang, MD**

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Albert Einstein College of Medicine and Montefiore  
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Bronx, NY

**Dirk Hubmacher, PhD**

Assistant Professor of Orthopaedics and  
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Icahn School of Medicine at Mount Sinai  
New York, NY

**Matthew Koff, PhD**

Assistant Scientist, Research Division  
Hospital for Special Surgery  
Assistant Professor of Biomedical Imaging in  
Orthopaedic Surgery  
Weill  
New York, NY

**Chang Hun Lee, PhD**

Associate Professor of Regenerative Engineering  
Laboratory  
Associate Director, Center for Dental and Craniofacial  
Research  
Division of Oral and Maxillofacial Surgery  
Columbia University College of Dental Medicine  
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**I. Martin Levy, MD**

Professor of Orthopaedic Surgery  
Director, Department of Orthopaedic Surgery  
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Bronx, NY

**David M. Loeb, MD, PhD**

Professor of Pediatrics and Developmental & Molecular Biology  
Chief, Department of Pediatrics Division of Pediatric Hematology / Oncology  
Albert Einstein College of Medicine and Montefiore Medical Center  
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**Fackson Mwale, PhD**

Professor of Surgery, Division of Orthopaedic Surgery  
Co-Director of Clinical Innovation  
Senior Investigator, Lady Davis Institute  
McGill University  
Montréal (Québec), Canada

**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  
State University of New York at Stony Brook  
Stony Brook, NY

**Zeynep Seref-Ferlengez, PhD**

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

**Sandra Shefelbine, PhD**

Professor of Mechanical and Industrial Engineering  
Professor of Bioengineering  
Northeastern University  
Boston, MA

**Joanna Smeeton, PhD**

H.K. Corning Assistant Professor Rehabilitation and Regenerative Medicine Research (in Rehabilitation and Regenerative Medicine) (in Genetics and Development)  
Columbia Stem Cell Initiative  
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**Sylvia O. Suadicani, PhD**

Associate Professor of Urology  
Assistant Professor of Neuroscience  
Albert Einstein College of Medicine and Montefiore Medical Center  
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**Mia M. Thi, PhD**

Associate Professor of Orthopaedic Surgery  
Instructor of Neuroscience  
Albert Einstein College of Medicine  
Montefiore Medical Center  
Bronx, NY

**Peter Torzilli, PhD**

Senior Scientist  
Orthopaedic Soft Tissue Research Program  
Hospital for Special Surgery  
Professor in Applied Biomechanics  
Department of Orthopaedics  
Weill Cornell Medical College of Cornell University  
New York City



## CONTACT INFORMATION

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### **Zeynep Seref-Ferlengez, PhD**

Chair, Poster Session and Young Investigator

Award Committee

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