

Arnold and Madaleine Penner

# 12<sup>th</sup> Annual Musculoskeletal Repair and Regeneration Symposium

Wednesday, October 25, 2023

## SYMPOSIUM MISSION

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

- **Musculoskeletal Tissue Engineering**
- **Musculoskeletal Biomechanics and Mechanobiology**
- **Artificial Intelligence in Musculoskeletal Care: Current and Future Applications**

## GOALS AND FEATURES

This program addresses current issues in musculoskeletal repair and regeneration, and disease treatment. Presentations and discussions will focus on up-to-date scientific discoveries and their potential impact on patient treatment and management. This meeting features:

- 6 outstanding speakers from the region and nationwide
- Poster sessions and Young Investigator Award session

## REGISTRATION

Deadline: **October 10, 2023**

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

Registration is free. Early registration is highly recommended.

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

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

Abstracts from graduate and medical students, residents and postdoctoral fellows will be considered for basic science and clinical **Young Investigator Awards**. Four winners, three from Young

Investigator and one from Clinical Young Investigator categories 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, 2023** via email to: [msk.einstein.symposium@gmail.com](mailto: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.** 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 2023) to this Symposium, including work that may have been submitted to other meetings.

### **PROGRAM DIRECTOR**

Mia M. Thi, PhD

### **STEERING COMMITTEE CHAIRS**

- Ananth Eleswarapu, MD
- Fei Fang, PhD
- David Loeb, MD, PhD
- Susannah Fritton, 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

### **POSTER SESSION AND YOUNG INVESTIGATOR AWARD COMMITTEE**

**Chair:** Zeynep Seref-Ferlengez, PhD

#### **Co-chairs**

- Leila Alvandi, PhD
- Ugur Ayturk, PhD
- David Corr, PhD
- Woojin Han, PhD
- Nada Haq-Siddqi, 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 – Musculoskeletal Tissue Engineering Steering chair: Fei Fang, PhD

- 8:10 – 8:15 am      **Introduction**  
Fei Fang, PhD  
Icahn School of Medicine at Mount Sinai
- 8:15 – 8:45 am      **iPSC-derived cartilage: a model for disease and a treatment to prevent it**  
April M. Craft, PhD  
Boston Children’s Hospital, Harvard Medical School, Harvard Stem Cell Institute
- 8:45 – 9:15 am      **Deploying cell reprogramming technologies in vivo for tissue regeneration**  
Irene de Lázaro, PhD  
NYU Tandon School of Engineering
- 9:15 – 9:30 am      **Discussion / Conclusions**

9:30 – 9:40 am BREAK

### Session 2 – Musculoskeletal Biomechanics and Mechanobiology Steering chair: Susannah P. Fritton, PhD

- 9:40 – 9:45 am      **Introduction**  
Susannah P. Fritton, PhD  
The City College of New York
- 9:45 – 10:15 am      **Genetic influences on the loss and regain of bone morphology and strength during disuse and reambulation.**  
Stefan Judex, PhD  
State University of New York at Stony Brook
- 10:15 – 10:45 am      **Saving the meniscus to keep knees healthy**  
Suzanne A. Maher, PhD  
Hospital for Special Surgery
- 10:45 – 11:00 am      **Discussion / Conclusions**

11:00 – 11:10 am BREAK

**Session 3 – Artificial Intelligence in Musculoskeletal Care: Current and Future Applications**  
Steering chairs: Ananth S. Eleswarapu, MD and David Loeb, MD, PhD

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| 11:10 – 11:15 am | <b>Introduction</b><br>Ananth S. Eleswarapu, MD<br>Albert Einstein College of Medicine and Montefiore Medical Center   |
| 11:15 – 11:45 am | <b>Advances AI driven Wearable Technology in Musculoskeletal Care</b><br>Joseph H. Schwab, MD<br>Cedars Sinai Hospital |
| 11:45 – 12:15 pm | <b>Embracing the AI revolution in spine care</b><br>Najib El Tecle, MD<br>Northwestern University                      |
| 12:15 – 12:30 pm | <b>Discussion / Conclusions</b>  |

12:30 – 1:30 pm LUNCH BREAK

1:30 pm – 2:30 pm **Poster session**

2:30 – 3:00 pm **Young Investigator Awards**  
Hosted by: *Young Investigator Award Committee*

**Closing Remarks**

3:00 pm **Closing remarks**  
Neil J. Cobelli, MD

**Arnold and Madaleine Penner**  
**12<sup>th</sup> Annual Musculoskeletal Repair and Regeneration Symposium**  
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**Chairs, Co-Chairs, and Speakers**

**Leila Alvandi, PhD**

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

**Neil J. Cobelli, MD**

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

**David T. Corr, PhD**

Associate Professor of Biomedical Engineering  
Rensselaer Polytechnic Institute  
Troy, NY

**April M. Craft, PhD**

Assistant Professor of Orthopaedic Surgery  
Orthopedic Research Laboratories  
Boston Children's Hospital  
Harvard Medical School  
Harvard Stem Cell Institute  
Boston, MA

**Ananth S. Eleswarapu, MD**

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

**Fei Fang, PhD**

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

**Susannah P. Fritton, PhD**

Herbert G. Kayser Professor of Biomedical Engineering  
The City College of New York  
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

**Nada Haq-Siddiqi, PhD**

Dean's Faculty Fellow at Tandon School of Engineering  
New York University  
New York, 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

**Stefan Judex, PhD**

Professor of Biomedical Engineering  
Director of Integrative Skeletal Adaptation and  
Genetic Laboratory  
State University of New York at Stony Brook  
Stony Brook, NY

**Irene de Lázaro, PhD**

Assistant Professor of Biomedical Engineering, NYU  
Tandon School of Engineering  
Assistant Professor of Medicine, Division of  
Cardiology, NYU Grossman School of Medicine  
New York, 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  
Bronx, NY

**Suzanne A. Maher, PhD**

Senior Scientist  
Hospital for Special Surgery  
Professor of Applied BioMechanics in Orthopaedic Surgery,  
Weill Cornell Medicine, Cornell University  
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  
State University of New York at Stony Brook  
Stony Brook, NY

**Joseph H. Schwab, MD, MS**

Associate Professor of Orthopaedic Surgery  
Cedars Sinai Hospital  
Los Angeles, CA

**Zeynep Seref-Ferlengez, PhD**

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

**Sylvia O. Suadicani, PhD**

Associate Professor of Urology and Molecular Pharmacology  
Albert Einstein College of Medicine and Montefiore Medical Center  
Bronx, NY

**Najib El Tecle, MD**

Assistant Professor of Neurological Surgery  
Northwestern Medicine  
Feinberg School of Medicine  
Northwestern University  
Chicago, IL

**Mia M. Thi, PhD**

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

## CONTACT INFORMATION

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Program Director

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### Zeynep Seref-Ferlengez, PhD

Chair, Poster Session and Young Investigator Award Committee

Email: [sereffer@montefiore.org](mailto:sereffer@montefiore.org)

P: 929-246-6352

### Latarsha Arthur

Symposium Coordinator

Email: [latarsha.arthur@einsteinmed.edu](mailto:latarsha.arthur@einsteinmed.edu)

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## SYMPOSIUM LOCATION

Albert Einstein College of Medicine

Michael F. Price Center and Harold and Muriel Block Research Pavilion

1301 Morris Park Avenue, Bronx, NY 10461

Directions: <http://www.einsteinmed.edu/visitors/>

## HOTEL INFORMATION

Residence Inn by Marriott New York The Bronx at Metro Center Atrium

1776 Eastchester Road, Bronx, NY 10461

The hotel is a 10-minute walk from the Symposium.

[www.marriott.com/nycbx](http://www.marriott.com/nycbx)

P: 718-239-3939

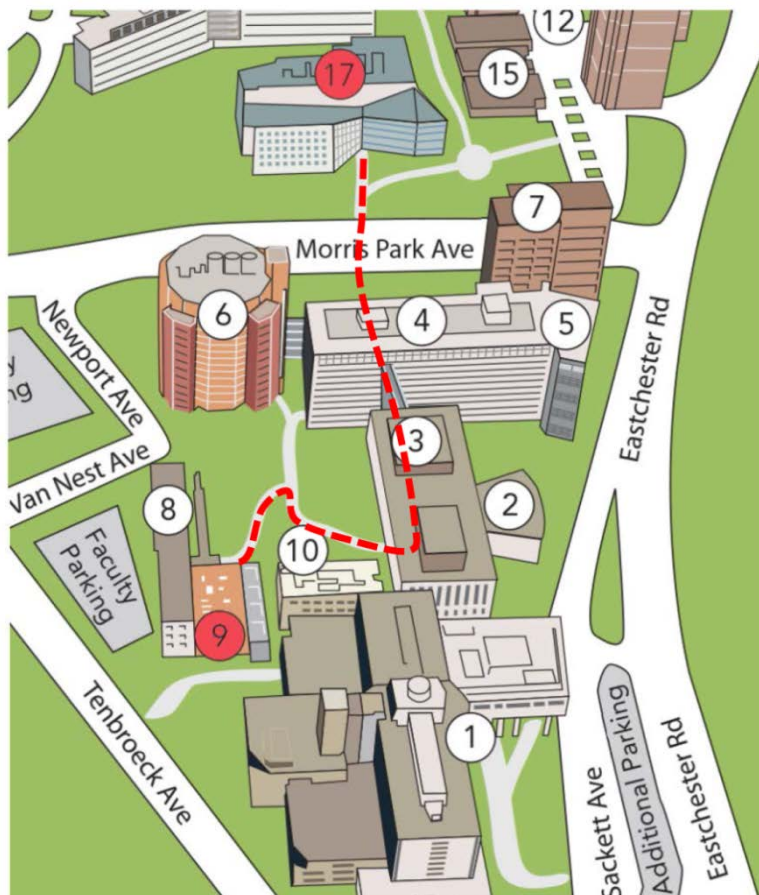
## PARKING INFORMATION

The Quik Park Parking Lot

1975 Eastchester Road

Bronx, NY 10461

## Campus Map



- 17 - Price Center
- 9 - Lubin Hall
- **Red line** - Path from Price Center to Lubin Hall