Arnold and Madaleine Penner
8th Annual Musculoskeletal Repair and Regeneration Symposium
Thursday, October 3, 2019
Presented by: Musculoskeletal and Orthopaedic Research Laboratories and Department of Orthopaedic Surgery at Einstein College of Medicine and Montefiore Medical Center
Program Director: Hui (Herb) B. Sun, PhD
University Chairman: Neil J. Cobelli, MD

Lefrak Auditorium in Michael F. Price Center
Albert Einstein College of Medicine
1301 Morris Park Avenue
Bronx, NY 10461
SYMPOSIUM MISSION

The Albert Einstein College of Medicine Musculoskeletal Repair and Regeneration Symposium seeks to 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:

- Current concepts in musculoskeletal joint diseases and treatments
- Muscle pathology seen in the setting of tendon injury
- “Hot topics” in bone
- Tissue repair and regeneration and immune modulation

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:

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

REGISTRATION

Deadline: September 26, 2019

Please register online at:
http://einstein.yu.edu/departments/orthopaedic-surgery/symposium/registration/

Registration includes continental breakfast, lunch, and reception. Registration is free. Early registration is highly recommended.
CALL FOR ABSTRACTS FOR POSTER SESSION AND YOUNG INVESTIGATOR AWARD

We invite investigators to submit abstracts for the poster session, which is an important component of this conference. Posters will be displayed throughout the day with a dedicated poster session.

Abstracts from graduate students and postdoctoral fellows will be considered for Young Investigator Awards. Three winners will be announced and each will be presented with prize and a plaque during the evening session. Winners will have the opportunity to give a brief highlight of their work (2 minutes) at the end of the award ceremony. To qualify, you must register and submit an abstract to Dr. Mia M. Thi, the chair of the Poster Session and Young Investigator Award committee, by September 16, 2019 via email to: mia.thi@einstein.yu.edu.

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 2019) to this Symposium, including work that may have been submitted to other meetings.

PROGRAM DIRECTOR
Hui (Herb) B. Sun, PhD

STEERING COMMITTEE CHAIRS
• Chuanju Liu, PhD
• Scott Rodeo, MD

• J. Chris Fritton, PhD
• Helen Lu, PhD

PROGRAM OVERSEEERS
• Di Chen, MD, PhD
• 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: Mia M. Thi, PhD
Co-chairs:

• Di Chen, MD, PhD
• David Corr, PhD
• Ed Guo, PhD
• Regina Hanstein, PhD

• David Hirsh, MD
• Bang Hoang, PhD
• Robert Majeska, PhD
• Jeremy Mao, DDS, PhD

• Maurizio Pacifici, PhD
• Yi-Xian Qin, PhD
• Sylvia Suadicani, PhD
AGENDA

7:15 – 8:00 am  Check-in and continental breakfast

8:00 – 8:10 am  Introduction and acknowledgements
    Hui (Herb) B. Sun, PhD
    Opening remarks
    Neil J. Cobelli, MD

Session 1 – Current Concepts in Musculoskeletal Joint Diseases and Treatment
    Steering Chair: Chuanju Liu, PhD

8:10 – 8:15 am  Introduction
    Chuanju Liu, PhD
    New York University

8:15 – 8:35 am  Inflammatory regulation of bone injury and repair
    Lionel Ivashkiv, MD
    Hospital for Special Surgery

8:35 – 8:55 am  Purine nucleotides, nucleosides, inflammaging and osteoarthritis
    Bruce Cronstein, MD
    New York University

8:55 – 9:15 am  Substrate-identification for the ADAMTS17 protease and its role in Weill-Marchesani-like syndrome
    Dirk Hubmacher, PhD
    Icahn School of Medicine at Mount Sinai

9:15 – 9:35 am  Engineering new biologic therapies for arthritis
    Farshid Guilak, PhD
    Washington University in St Louis

9:35 – 9:40 am  Discussion / Conclusions

9:40 – 10:00 am COFFEE BREAK

Session 2 – Muscle Pathology Seen in the Setting of Tendon Injury
    Steering Chair: Scott Rodeo, MD

10:00 – 10:05 am  Introduction
    Scott Rodeo, MD
    Hospital for Special Surgery

10:05 – 10:25 am  Impaired muscle growth and regeneration in chronic rotator cuff tears
    Samuel Ward, PhD.
    University of California, San Diego
10:25 – 10:45 am  The clinical problem of muscle atrophy and fatty infiltration in rotator cuff injury  
Brian Feeley, MD  
University of California, San Francisco

10:45 – 11:05 am  Regulating FGF signaling in tendon and muscle to control bone shape and function  
Megan Killian, PhD.  
University of Delaware

11:05 – 11:25 am  Mitochondrial dysfunction in tendon and muscle  
Scott Rodeo, MD.  
Hospital for Special Surgery

11:25 – 11:30 am  Discussion / Conclusions

11:35 pm – 11:45am: Group photos (Courtyard in front of Lubin Hall)  
11:45 – 12:30 pm: Faculty meeting with lunch (Faculty Club in Lubin Hall)  
11:45 – 2:15 pm: LUNCH AND POSTER SESSION (Lubin Hall)

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Session 3 – “Hot Topics” in Bone  
Steering Chair: J. Chris Fritton, PhD

2:20 – 2:25 pm  Introduction  
J. Chris Fritton, PhD  
Rutgers, New Jersey Medical School

2:25 – 2:45 pm  Altered osteocyte communication in aging  
Mitchell Schaffler, PhD.  
City College of New York

2:45 – 3:05 pm  Effects of aging on the skeleton  
Shoshana Yakar, PhD.  
New York University

3:05 – 3:25 pm  Malignant osteogenesis: Leveraging tumor suppressor deficiency for proteosome-based therapy  
Bang Hoang, MD.  
Montefiore Medical Center

3:25 – 3:45 pm  How does mechanical loading build bone microstructure: Modeling vs. remodeling?  
Ed Guo, PhD.  
Columbia University

3:45 – 3:50 pm  Discussion / Conclusions

3:50 – 4:10 pm COFFEE BREAK
### Session 4 – Tissue Repair and Regeneration and Immune Modulation  
**Steering Chair: Helen Lu, PhD**

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<th>Time</th>
<th>Session</th>
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| 4:10 – 4:15 pm | **Introduction**  
|             | Helen Lu, PhD  
|             | Columbia University                                                                       |
| 4:15 – 4:35 pm | **Pseudotime kinetic analysis of inflammation and immune modulatory treatment in soft tissue injuries**  
|             | Edward Botchwey, PhD  
|             | Georgia Institute of Technology                                                            |
| 4:35 – 4:55 pm | **Biomaterials strategies to modulate inflammation for tissue repair**  
|             | Kam Leong, PhD.  
|             | Columbia University                                                                       |
| 4:55 – 5:15 pm | **Engineering Materials for Immunomodulation in Osteoarthritis**  
|             | Ankur Singh, PhD.  
|             | Cornell University                                                                       |
| 5:15 – 5:35 pm | **Immune regulation of tendon regeneration**  
|             | Alice Huang, PhD.  
|             | Icahn School of Medicine at Mount Sinai                                                    |
| 5:35 – 5:40 pm | **Discussion / Conclusions**                                                                 |

### Young Investigator Awards / Reception (Lubin Hall)

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| 5:50 pm    | Young Investigator Awards  
|            | Chair: Mia M. Thi, PhD                                                                    |
| 6:15 pm    | Closing remarks  
|            | Neil J. Cobelli, MD                                                                       |
| 6:15 – 7:00 pm | Reception and networking                                                                  |
Arnold and Madeleine Penner
8th Annual Musculoskeletal Repair and Regeneration Symposium
Thursday, October 3, 2018

Chairs, Co-Chairs, and Speakers

Edward Botchwey, PhD
Associate Professor of Biomedical Engineering
Georgia Institute of Technology
Atlanta, GA

Di Chen, MD, PhD
The John W. and Helen Watzek Professor and Chairman of Biochemistry
Rush University
Chicago, IL

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

Bruce Cronstein, MD.
Director of Clinical and Translational Science Institute
Chief, Division of Translational Medicine
Dr. Paul R Esserman Professor of Medicine,
Professor of Pathology and Pharmacology
New York University
New York, NY

Brian Feeley, MD.
Professor of Orthopaedic Surgery
School of Medicine
University of California, San Francisco, CA

J. Chris Fritton, PhD
Assistant Professor of Orthopaedics
Rutgers, New Jersey Medical School
New Jersey, NJ

Farshid Guilak, PhD.
Professor of Orthopaedic Surgery
School of Medicine, Washington University in St Louis
St. Louis, MO

X. Edward Guo, PhD
Stanley Dicker Professor of Biomedical Engineering and Chair of Biomedical Engineering
Columbia University
New York, NY

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

Alice Huang, PhD
Associate Professor of Orthopaedics
Icahn School of Medicine at Mount Sinai
New York, NY

Dirk Hubmacher, PhD.
Assistant Professor of Orthopaedics and Pharmacological Sciences
Icahn School of Medicine at Mount Sinai
New York, NY

Lionel Ivashkiv, MD.
Chief Scientific Officer, Director of HSS Genomics Center
Richard L. Menschel Research Chair
David H. Koch Chair in Arthritis and Tissue Degeneration
Professor of Medicine and Immunology
Weill Cornell Medicine, Hospital for Special Surgery
New York, NY

Megan Killian, PhD
Assistant Professor of Biomedical Engineering
University of Delaware
Newark, DE

Kam W. Leong, PhD.
Samuel Y. Sheng Professor of Biomedical Engineering (Systems Biology), Columbia University
New York, NY

Chuanju Liu, PhD
Professor of Orthopaedic Surgery and Cell Biology
New York University
New York, NY

Helen Lu, PhD
Professor and Vice Chair of Biomedical Engineering
Columbia University
New York, NY

Robert J. Majeska, PhD
Professor of Biomedical Engineering
The City College of New York
New York, NY

Jeremy J. Mao, DDS, PhD
Edwin S. Robinson Professor of Dentistry (in Orthopaedic Surgery, Pathology and Cell biology)
College of Dental Medicine, Columbia University
New York, NY

Maurizio Pacifici, PhD
Professor of Orthopaedic Surgery
Perelman School of Medicine, University of Pennsylvania
Director of Orthopaedic Research
Children’s Hospital of Philadelphia
Philadelphia, PA

Yi-Xian Qin, PhD
Professor of Biomedical Engineering
Director, Orthopaedic Bioengineering Research Laboratory
Associate Dean for Academic Affairs and Int’l Programs, College of Engineering and Applied Sciences
State University of New York at Stony Brook
Stony Brook, NY

Scott Rodeo, MD
Attending Orthopedic Surgeon
Co-Chief Emeritus, Sports Medicine Service
Professor of Orthopedic Surgery, Weill Cornell Medical College
Hospital for Special Surgery
New York, NY

Mitchell B. Schaffler, PhD
Wallace H. Coulter and Presidential Professor of Biomedical Engineering
Chair of Biomedical Engineering
The City College of New York
New York, NY

Ankur Singh, PhD.
Associate Professor of Mechanical and Aerospace Engineering and Biomedical Engineering
Cornell University
Ithaca, NY

Sylvia O. Suadicani, PhD
Associate Professor of Urology
Assistant Professor of Neuroscience
Albert Einstein College of Medicine and Montefiore Medical Center
Bronx, NY

Hui (Herb) B. Sun, PhD
Professor, Departments of Orthopaedic Surgery and Radiation Oncology
Director of Orthopaedic Research
Albert Einstein College of Medicine and Montefiore Medical Center
Bronx, NY

Mia M. Thi, PhD
Associate Professor of Orthopaedic Surgery
Instructor of Neuroscience
Albert Einstein College of Medicine
Montefiore Medical Center
Bronx, NY

Samuel Ward, PhD.
Professor of Orthopaedic Surgery and Radiology
Vice Chair of Research
University of California San Diego
San Diego, CA

Shoshana Yakar, PhD.
Associate Professor of Basic Science and Craniofacial Biology
New York University
New York, NY
CONTACT INFORMATION

Hui (Herb) B. Sun, PhD
Program Director
Email: herb.sun@einstein.yu.edu
P: 718-430-4291
F: 718-430-3259

Mia M. Thi, PhD
Chair, Poster Session and Young Investigator Award Committee
Email: mia.thi@einstein.yu.edu
P: 718-430-3460

Rhomina Carrasco
Symposium Coordinator
Email: rhomina.carrasco@einstein.yu.edu
P: 718-430-2911

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.einstein.yu.edu/visitors/

HOTEL INFORMATION
Residence Inn by Marriott
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
P: 718-239-3939

PARKING INFORMATION
The Kwik Park Parking Lot
1975 Eastchester Road
Bronx, NY 10461
http://www.einstein.yu.edu/visitors/

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