Spreading the Light

Infrared Neuromodulation

Case Western Reserve University
Linsalata Alumni Center | Foster-Castele Great Hall

Symposium will be webstreamed at case.edu/spreadingthelight

Organizer: Michael Jenkins, PhD
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Conference Organizers

Michael Jenkins, PhD
Assistant Professor of Pediatrics and Biomedical Engineering
Case Western Reserve University

Hillel Chiel, PhD
Professor of Biology, Neurosciences, and Biomedical Engineering
Case Western Reserve University

Stephen Lewis, PhD
Professor of Pediatrics and Pharmacology
Division of Pulmonology, Allergy and Immunology
Case Western Reserve University
Associate Director, Autonomic System
Cleveland FES Center

Special Guests & Speakers

Dennis Callahan, PhD
The Charles Stark Draper Laboratory, Inc.

Stephanie Ford, MD
Assistant Professor of Neonatology and Cardiology, Rainbow Babies & Children’s Hospital, Case Western Reserve University

Mohit Ganguly
PhD Candidate, Vanderbilt University

Charles Horn, PhD
Associate Professor of Medicine and Anesthesiology, University of Pittsburgh

Duco Jansen, PhD
Professor of Biomedical Engineering and Neurological Surgery, Associate Dean for Graduate Studies, Vanderbilt University

Robert Kirsch, PhD
Allen H and Constance T Ford Professor and Chair of Biomedical Engineering, Case Western Reserve University; Executive Director, Cleveland FES Center

Gjiovefa Kola, MD
Research Associate in Pediatrics, Case Western Reserve University

Kenneth Laurita, PhD
Associate Professor of Biomedical Engineering, Case Western Reserve University, MetroHealth Medical Center

Suhrud Rajguru, PhD
Associate Professor of Biomedical Engineering, University of Miami

Claus Richter, MD, PhD
Professor of Otolaryngology and Biomedical Engineering, Northwestern University

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SPARC – Next Generation Tools (Component 2) Program Director
Division of Discovery Science & Technology
National Institutes of Biomedical Imaging and Bioengineering (NIBIB)

Felicia Qashu, PhD
SPARC Program Officer and OSC Health Science Administrator
Office of Strategic Coordination
Division of Program Coordination, Planning, and Strategic Initiative
Office of the Director
National Institutes of Health (NIH)
Thursday, November 30, 2017

8:00 - 8:30  Morning meet & greet with light refreshments
8:30 - 9:00  *Updates from SPARC, and Our Interest in Infrared Neuromodulation*
  Michael Wolfson, PhD
9:00 - 9:15  *Welcome & Opening Remarks*
  Robert Kirsch, PhD
9:15 - 10:00  *History of Infrared Light Technology for Modulating Biological Functions*
  Duco Jansen, PhD
10:00 - 10:15  Coffee break
10:15 - 11:15  *Overview of Objectives and Milestones, Exciting Recent Results Including Imaging*
  Michael Jenkins, PhD
11:15 - 12:00  *Modeling and Mechanisms of Infrared Light*
  Hillel Chiel, PhD | Duco Jansen, PhD | Mohit Ganguly
12:00 - 1:00  Lunch provided
1:00 - 1:30  *Flexible Optrodes for Improved High Density Interfaces with Small Anatomical Targets*
  Dennis Callahan, PhD
1:30 - 2:00  *Infrared Light Control of Vagal Afferents Regulating Emesis*
  Charles Horn, PhD
2:00 - 2:30  *Infrared Neural Stimulation of the Vestibular System Evoked Eye Movements and Cardiovascular Responses*
  Suhrud Rajguru, PhD
2:30 - 3:00  *Optical Cochlear Implants – Next Steps Towards a Clinical Implementation*
  Claus Richter, MD, PhD
3:00 - 3:15  Coffee break
3:15 - 3:45  *IR Pacing for Toxicity Screening in Human Cardiomyocytes*
  Kenneth Laurita, PhD
3:45 - 4:15  *IR Pacing to Determine the Role of Hemodynamics in Heart Development*
  Stephanie Ford, MD
4:15 - 4:45  *Infrared Modulation of Brainstem Circuitry – In Situ Brainstem Preparation*
  Gjino Kola, MD
4:45 - 5:15  *Role of Infrared Light Technology with the Cleveland FES Center*
  Robert Kirsch, PhD
5:15 - 5:30  Closing Remarks
  Michael Jenkins, PhD

*Meeting Venue*
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