

ITMAT 2019

Smilow Center for  
Translational Research  
University of Pennsylvania



Translational Targets  
and Precision Medicine:  
Taming Inflammation  
and Improving  
Resilience as We Age



**ITMAT 14<sup>th</sup> Annual International Symposium  
Monday and Tuesday, October 14-15, 2019  
Perelman School of Medicine, University of Pennsylvania  
Smilow Center for Translational Research (SCTR)  
The Arthur Rubenstein Auditorium  
3400 Civic Center Boulevard, Philadelphia, PA**

**Translational Targets and Precision Medicine: Taming Inflammation and  
Improving Resilience as We Age**

**Monday, October 14 (Day 1)**

8:00 AM Registration and Breakfast: Smilow Lobby

8:45 ***Introduction***

J. Larry Jameson, MD, PhD, Executive Vice President, University of Pennsylvania for the Health System, and Dean, Perelman School of Medicine, University of Pennsylvania

***Session 1: From Scale to Precision: Pathways to Translation***

***Chairs:*** Jason H. Moore, PhD, FACMI, Edward Rose Professor of Informatics, Director, Institute for Biomedical Informatics, Director, Division of Informatics, Department of Biostatistics, Epidemiology, & Informatics, Senior Associate Dean for Informatics, The Perelman School of Medicine, University of Pennsylvania and Sara Cherry, PhD, Professor of Microbiology, Department of Microbiology, Perelman School of Medicine, University of Pennsylvania

9:00 ***The Need for Large Prospective Cohorts in Different Populations***

Rory Collins, FRS, FMedSci, FRCP, Professor, University of Oxford, Oxford (UK)

9:30 ***The Search for Pleiotropy in Biobanks Linked to Electronic Health Records***

Marylyn Ritchie, PhD, Professor of Genetics, Associate Director for Bioinformatics, Institute for Biomedical Informatics, University of Pennsylvania Perelman School of Medicine

10:00 ***Translating Academic Research Into Professional Drug Discovery***

Bert M. Klebl, PhD (Dr. rer. nat.), Managing Director & CSO, Lead Discovery Center GmbH

10:30 COFFEE: Smilow Lobby

**Session 2: Channels and Transporters**

**Chairs:** Kevin Foskett, PhD, Isaac Ott Professor and Chair, Department of Physiology, Perelman School of Medicine, University of Pennsylvania and Vera Moiseenkova-Bell, PhD, Associate Professor of Pharmacology, Department of Systems Pharmacology and Translational Therapeutics, Perelman School of Medicine, University of Pennsylvania

11:00 ***The Force Is with You: Molecules That Sense the Pressure of Touch, Pain, Blood Flow, and More***

Ardem Patapoutian, PhD, Scripps Research, Howard Hughes Medical Institute

11:30 ***The Sodium/Iodide Symporter (NIS): From Patient to Molecule and Back***

Nancy Carrasco, MD, C.N.H. Joe C. Davis Chair in Biomedical Science Professor and Chair, Department of Molecular Physiology and Biophysics, Vanderbilt University

12:00 LUNCH AND POSTER SESSION: Smilow Lobby

Poster Session: current and past Associate Scientific Advisors of *Science Translational Medicine* will present their research in a two-day poster session held in the breakfast/lunch area. The scientists will be at their posters during the second half of the lunch break on Monday and Tuesday.

**Session 3: Inflammation**

**Chairs:** Zoltan Arany, PhD, Professor, Perelman School of Medicine, University of Pennsylvania and Paula Oliver, PhD, Associate Professor, Department of Pathology and Laboratory Medicine, Children's Hospital of Philadelphia

1:00 ***Treating Inflammation with IL-1 Blockade from Gout to Cancer***

Charles A. Dinarello, MD, Professor of Medicine and Immunology, The University of Colorado School of Medicine, Denver

1:30 ***Inflammatory Networks in Cardiovascular Disease***

Filip K. Swirski, PhD, Associate Professor, Massachusetts General Hospital and Harvard Medical School

2:00 ***Targeting RIP Kinases in Inflammatory Diseases***

Domagoj Vucic, Ph.D., Principal Scientist, Early Discovery Biochemistry, Genentech

2.30 ***Inflammation, Atherosclerosis, and Cancer: How to Move Forward?***

Paul M. Ridker, MD, MPH, Director, Center for Cardiovascular Disease Prevention, Brigham and Women's Hospital

3.00 COFFEE: Smilow Lobby

**Session 4: Neuroinflammation**

**Chairs:** Amit Bar-Or, MD, FRCPC, Melissa and Paul Anderson Distinguished Professor, Director, Center for Neuroinflammation and Experimental Therapeutics and Chief, Multiple Sclerosis Division, Department of Neurology, Perelman Center for Advanced Medicine, University of Pennsylvania and Yvette I. Sheline, MD, McLure Professor of Psychiatry, Radiology, Neurology, Director, Center for Neuromodulation in Depression and Stress, University of Pennsylvania

3:30 ***eIF2B Activation Ameliorates Neurological Defects Caused by a Chronic Stress Response***

Carmela Sidrauski, PhD, Principal Investigator, Calico

4:00 ***Regulatory Intestinal IgA Plasma Cells: a Journey from Gut to Brain***

Olga L. Rojas, MD, PhD, Research Associate at Jennifer Gommerman's Lab, Department of Immunology, University of Toronto

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7:00 **Reception and Dinner: The College of Physicians of Philadelphia**

19 South 22nd Street, Philadelphia

**Dinner Speaker:** Martin Wolf, Associate Editor and Chief Economics Commentator at the *Financial Times*, London

*Transportation will be provided to and from the dinner. Buses will depart from the front of the Perelman Center for Advanced Medicine (circular driveway in front of building that connects to the Smilow Center for Translational Research) at 6:40PM and will return to the Hilton Inn at Penn at approximately 9:00PM.*

*Speakers and chairs may take a shuttle bus from the Hilton Inn at Penn, Walnut Street entrance, departing at 6:40PM, returning to the hotel at approximately 9:00PM.*

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**Tuesday, October 15 (Day 2)**

8:00 AM Registration and Breakfast: Smilow Lobby

**Session 5: Healthy Aging**

**Chairs:** John A. Detre, MD, Professor, Departments of Neurology and Radiology, Vice Chair for Research, Department of Neurology, Director, Center for Functional Neuroimaging, Perelman School of Medicine, University of Pennsylvania and Virginia Lee, PhD, John H. Ware 3rd Endowed Professor in Alzheimer's Research, Director, Center for Neurodegenerative Disease

Research, Department of Pathology and Laboratory Medicine, Perelman School of Medicine, University of Pennsylvania

- 8:30 ***Wellbeing and Healthy Aging: Linking Psychological Resilience with Biomedical Outcomes***  
Andrew Steptoe, DPhil, DSc, FMedSci, Professor of Psychology and Epidemiology, University College London
- 9:00 ***The Role of Dopamine in Modulating Music Reward Brain Responses and Its Potential Role in Neurorehabilitation***  
Antoni Rodriguez-Fornells, Psychology, PhD, Catalan Institution for Research and Advanced Studies, Bellvitge Biomedical Research Institute. University of Barcelona
- 9:30 ***The Influence of Periphery-Brain Communication in Healthy Aging and in Alzheimer's Disease***  
Fernanda G. De Felice, PhD, Associate Professor of Neurobiology, Federal University of Rio de Janeiro/Queen's University
- 10:00 COFFEE: Smilow Lobby

**Session 6: *Models and Mechanisms of Aging***

**Chairs:** Christopher Lengner, PhD, Associate Professor, Department of Biomedical Sciences, School of Veterinary Medicine, Associate Director, Institute for Regenerative Medicine, University of Pennsylvania and Douglas Wallace, PhD, Professor of Pathology and Laboratory Medicine, Michael and Charles Barnett Endowed Chair in Pediatric Mitochondrial Medicine and Metabolic Disease, Children's Hospital of Philadelphia

- 10:30 ***The Naked Mole-Rat; a Novel Animal Model for Biomedical Research***  
Rochelle Buffenstein, Ph.D., Sen Principle Investigator, Calico Life Sciences, LLC
- 11:00 ***Mitochondria in Ischemia-Reperfusion Injury***  
Mike Murphy, PhD, Professor, University of Cambridge
- 11:30 ***Improving Brain Function in Aging and Disease***  
Lee L. Rubin, PhD, Professor, Stem Cell and Regenerative Biology; Director of Translational Medicine, Harvard University
- 12:00 ***Epigenetic Regulation in Development, Aging and Disease***  
Rudolf Jaenisch, MD, Professor of Biology, Whitehead Institute and Dept. of Biology, MIT
- 12:30 LUNCH AND POSTER SESSION: Smilow Lobby

**Session 7: *Fibrosis***

**Chairs:** Kenneth S. Zaret, PhD, Joseph Leidy Professor, Director, Institute for Regenerative Medicine, University of Pennsylvania and Kenneth Margulies, MD, Professor of Medicine, Hospital of the University of Pennsylvania

1:30 ***Teaching an Old Fibrotic Dog New Tricks: Leveraging Novel Preclinical Murine Models and Translational Human Platforms For Discovery In Idiopathic Pulmonary Fibrosis***  
Michael F. Beers, MD, University of Pennsylvania

2:00 ***Digging Deep: Stromal Cells in Skin Repair***  
Valerie Horsley, PhD, Associate Professor, Yale

2:30 ***Polarization of Fibroblasts in Fibrotic Diseases***  
Andreas Ramming, MD, Department of Internal Medicine 3, Rheumatology & Immunology, University of Erlangen, Germany

3:00 COFFEE: Smilow Lobby

**Session 8: *Modification of the Aging Process***

**Chairs:** Marisa Bartolomei, PhD, Perelman Professor of Cell & Developmental Biology Co-Director, Epigenetics Institute, Perelman School of Medicine, University of Pennsylvania and Daniel Kelly, MD, Willard and Rhoda Ware Professor of Diabetes and Metabolic Diseases, University of Pennsylvania

3:30 ***Senolytics, Aging, and Chronic Disease: The Path to Translation***  
James L. Kirkland, M.D., Ph.D., Mayo Clinic

4:00 ***A Novel Approach for NAD<sup>+</sup> Boosting through Modulating De Novo Biosynthesis***  
Johan Auwerx, MD, PhD, Professor, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland

4:30 ***Time restricted feeding for the prevention and management of chronic diseases; lessons from animal models and humans***  
Satchin Panda, PhD, Professor, Salk Institute

5:00 ***Concluding Remarks***  
Garret A. FitzGerald, MD, FRS, University of Pennsylvania