

ITMAT 2016

Smilow Center for Translational Research
University of Pennsylvania

Oct. 17-18, 2016 • Philadelphia



ITMAT 11th Annual International Symposium
Monday and Tuesday, October 17-18, 2016
Perelman School of Medicine, University of Pennsylvania
Smilow Center for Translational Research (SCTR)
The Arthur Rubenstein Auditorium
3400 Civic Center Boulevard, Philadelphia, PA

Translational Science in the Era of Precision Medicine

Monday, October 17 (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: ***Precision Medicine Initiatives at Scale***

Session Chairs: Sir Keith Peters, FRCP, FRS, FMedSci, Emeritus Regius Professor of Physic, University of Cambridge, Consultant in Clinical Science and Translational Medicine to the Francis Crick Institute and Senior Consultant in R&D to GlaxoSmithKline and Jonathan A. Epstein, MD, Executive Vice Dean and Chief Scientific Officer, Perelman School of Medicine, University of Pennsylvania

9:00 ***Genes, Genomes and the Future of Medicine***

Richard Lifton, MD, PhD, President, Rockefeller University

9:30 ***Precision Medicine and Global Health***

Ezekiel J. Emanuel, MD, PhD, Vice Provost for Global Initiatives, Chair, Department of Medical Ethics and Health Policy, University of Pennsylvania

10:00 ***Precision Medicine in the UK: from 100,000 Whole Genomes to 65 Million Patients***
Professor Sir John Savill, MB ChB, PhD, FRS, Chief Executive, Medical Research Council UK

10:30 COFFEE: Smilow Lobby

Session 2: ***The Biology of Senescence***
Session Chairs: Virginia M.-Y. Lee, PhD, Professor of Pathology and Laboratory Medicine, Director, The Center for Neurodegenerative Disease Research at the Perelman School of Medicine of the University of Pennsylvania and Nancy M. Bonini, PhD, Florence R.C. Murray Professor of Biology, University of Pennsylvania

11:00 ***Epigenetic Biomarkers of Aging and Applications***
Steve Horvath, PhD, ScD, Professor, Department of Human Genetics, University of California, Los Angeles

11:30 ***Predictably Random: Molecular Interventions and their Systemic Effects on Aging***
Nicholas Stroustrup, PhD, Harvard Medical School

12:00 PM ***How Senescent Cells Contribute to Aging and Disease***
Jan van Deursen, PhD, Professor of Pediatrics and Adolescent Medicine and Professor and Chair of Biochemistry and Molecular Biology, Mayo Clinic

12:30 ***Modeling Aging and Aging-Related Diseases***
Anne Brunet, PhD, Michele and Timothy Barakett Professor of Genetics, Stanford School of Medicine

1:00 LUNCH: Smilow Lobby

Session 3: ***Precision in Cardiovascular Biology***
Session Chairs: Des Fitzgerald, MD, Professor of Molecular Medicine, Vice President for Health Affairs, University College Dublin, and Chief Academic Officer, Ireland East Healthcare and Michael S. Parmacek, MD, Frank Wister Thomas Professor of Medicine, Chair, Department of Medicine, Director, Penn Cardiovascular Institute, Hospital of the University of Pennsylvania

2:00 ***Correction of Duchenne Muscular Dystrophy by Genome Editing***
Eric Olson, PhD, Professor and Chairman, UT Southwestern Medical Center

2:30 ***Non-Coding RNA Regulation of Cholesterol Homeostasis***
Kathryn J. Moore, PhD, Jean and David Professor of Cardiology,
Professor of Cell Biology, New York University School of Medicine

3:00 ***Unexpected Mechanisms of Cerebrovascular Disease***
Mark L. Kahn, MD, Cooper-McClure Professor of Medicine, Perelman School of Medicine, University of Pennsylvania

3:30 ***Back to Childhood: Lessons in Translation from Primary Aldosteronism***
Morris J. Brown, MD, FRCP, FMedSci, FAHA, Professor of Endocrine Hypertension, Barts and the London School of Medicine

4:00 COFFEE: Smilow Lobby

Session 4: ***Chasing Precision in Cancer***
Session Chairs: Shelley L. Berger, PhD, Daniel S. Ochoa, University Professor, Departments of Cell and Developmental Biology; Biology; Genetics, Director, Epigenetics Program, Perelman School of Medicine, University of Pennsylvania and Lee Nadler, MD, Virginia and D.K. Ludwig Professor of Cancer Research and Education, Dean for Clinical and Translational Research, Harvard Medical School

4:30 ***Evaluations of Contribution of Extrinsic Risk Factors to Cancer Incidence***
Yusuf A. Hannun, MD, Director, Stony Brook Cancer Center, Stony Brook University

5:00 ***Precision Medicine and the Human Protein Atlas***
Mathias Uhlen, PhD, Professor, KTH Royal Institute of Technology (Stockholm, Sweden)

5:30 ***Precision Guiding T Cells: Lessons from Scaling to the Masses***
Carl June, MD, Richard Vague Professor in Immunotherapy, Perelman School of Medicine, University of Pennsylvania

7:00 **Reception and Dinner: The College of Physicians of Philadelphia**
19 South 22nd Street, Philadelphia
Dinner Speaker: Jad Abumrad, host and creator of Radiolab
<http://radiolab.org> and More Perfect
<http://www.wnyc.org/shows/radiolabmoreperfect/>
<http://www.openculture.com/2016/07/what-is-music-sound-meditations-from-radiolabs-jad-abumrad.html>

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.

Tuesday, October 18 (Day 2)

8:30 AM Registration and Breakfast: Smilow Lobby

Session 5: *Immunometabolism and Cancer*

Session Chairs: Wenchao Song, PhD, Professor, Department of Systems Pharmacology and Translational Therapeutics, University of Pennsylvania
Perelman School of Medicine and Ellen Puré, PhD, The Grace Lansing Lambert Professor of Biomedical Science, Chair, Department of Biomedical Sciences, School of Veterinary Medicine , University of Pennsylvania

9:00 ***New Approaches for Treating Anemia, Ischemia, and Cancer Emerging From Studies of the VHL Tumor Suppressor Protein***
William G. Kaelin, Jr., MD, Professor of Medicine, Dana-Farber Institute and Harvard Medical School

9:30 ***Hypoxia, Metabolism, and Tumor Progression***
M. Celeste Simon, PhD, Scientific Director and Investigator, Abramson Family Cancer Research Institute; Professor, Cell and Developmental Biology, Perelman School of Medicine, University of Pennsylvania

10:00 COFFEE: Smilow Lobby

Session 6: ***Personalized Paradigms in Diagnosis and Therapeutics***
Session Chairs: Kathleen J. Stebe, PhD, Deputy Dean for Research and Innovation, Goodwin Professor, School of Engineering & Applied Science, University of Pennsylvania and Jason H. Moore, PhD, FACMI, Edward Rose Professor of Informatics, Director, Institute for Biomedical Informatics, Director, Division of Informatics, Department of Biostatistics and Epidemiology, Senior Associate Dean for Informatics, The Perelman School of Medicine, University of Pennsylvania

10:30 ***Personalized Nutrition using Clinical and Microbiome Data***
Eran Segal, PhD, Professor of Computer Science and Applied Mathematics, Weizmann Institute of Science

11:00 ***Wearable Sweat Sensors for Instantaneous Health Monitoring***
Ali Javey, PhD, Conexant Systems Distinguished Professor, Electrical Engineering and Computer Sciences, Applied Science and Technology, University of California, Berkeley

11:30 ***Precision Medicine: Using Genomic and Big Data to Manage Health***
Michael Snyder, PhD, Professor and Chair, Genetics, Stanford University School of Medicine

12:00 PM ***Developing Markers for Precise Interventions in Alzheimer's Disease***
Simon Lovestone, PhD, MRCPsych, Professor of Translational Neuroscience, University of Oxford

12:30 LUNCH: Smilow Lobby

Session 7: ***Parsing the Microbiome***
Session Chairs: Frederic D. Bushman, W. M. Measey Professor, Chair, Department of Microbiology, Co-PI, PennCHOP Microbiome Program, Perelman School of Medicine, University of Pennsylvania, and Elizabeth A. Grice, PhD, Assistant Professor of Dermatology, Perelman School of Medicine, University of Pennsylvania

- 1:30 ***Predicting and Controlling the Metabolism of Drugs by the Gut Microbiome***
Peter Turnbaugh, PhD, Assistant Professor, Department of Microbiology and Immunology, University of California, San Francisco
- 2:00 ***Human Skin Microbiome: Topographic Functional Mapping of Healthy Volunteers and Patient Populations***
Julie Segre, PhD, Senior Investigator, National Human Genome Research Institute, National Institutes of Health (NIH)
- 2:30 ***Host Microbiome Interactions in Health and Disease***
Eran Elinav, MD, PhD, Senior Scientist, Immunology Department
Incumbent of the Rina Gudinski Career Development Chair, Weizmann Institute of Science
- 3:00 **Concluding Remarks**
Garret A. FitzGerald, MD, FRS, Chair, Department of Systems Pharmacology and Translational Therapeutics, Director, Institute for Translational Medicine and Therapeutics, Perelman School of Medicine, University of Pennsylvania