

**ITMAT 17th Annual International Symposium  
Monday and Tuesday, October 10-11, 2022  
Perelman School of Medicine, University of Pennsylvania  
Rubenstein Auditorium**

**Translational Neuroscience Coming of Age**

**Monday, October 10 (Day 1)**

8:25            ***Introduction***  
Garret A. FitzGerald, MD, FRS, Director, Institute for Translational Medicine and Therapeutics, McNeil Professor in Translational Medicine and Therapeutics, Perelman School of Medicine, University of Pennsylvania

***Session 1: Neurological Consequences of Viral Infection***

8:30            ***Mechanisms of virus-mediated neurologic dysfunction***  
Robyn S. Klein, MD, PhD, The Robert E. and Louise F. Dunn Professor of Medical Sciences, Director, Center for Neuroimmunology & Neuroinfectious Diseases, Professor, Departments of Medicine, Pathology & Immunology, Neurosciences, Washington University School of Medicine, St. Louis

9:00            ***EBV as a causal agent in multiple sclerosis***  
Alberto Ascherio, MD, PhD, Professor of Epidemiology and Nutrition, Professor of Medicine, Harvard University

9:30            ***Epstein-Barr Virus is a Trigger for Multiple Sclerosis***  
William Robinson, MD, PhD, Professor of Medicine, Director of Center for Neuroimmunology & Neuroinfectious Diseases, Stanford University

10:00           ***Coffee Break***

***Session 2: PASC***

10:30           ***Tomorrow and Tomorrow and Tomorrow: Unraveling the mystery of Neurological Post-Acute Sequelae of COVID-19***  
Serena S. Spudich, MD, Gilbert H. Glaser Professor, Chief of Neuroinfectious Diseases and Global Neurology, Yale School of Medicine

11:00           ***Overview of Long Covid and its Cardiovascular Consequences***  
Ziyad Al-Aly, MD, Chief of Research and Development and Director of Clinical Epidemiology Center, VA Saint Louis Health Care System

11:30           ***Computational Approaches to Integrating Patient Data Clouds***  
Jim Heath, PhD, President, Institute for Systems Biology and Professor, University of Washington Bioengineering

12:00           ***Long COVID (PASC) in children and young people***  
Terence Stephenson, DM, FRCPCH, FRCP, Nuffield Professor of Child Health.

UCL Great Ormond Street Institute of Child Health, University College London.  
Honorary Consultant Paediatrician, UCLH and Great Ormond Street Hospital.  
Chair, Health Research Authority for England.

12:30 **Lunch**

**Session 3: Novel Therapeutics in Translational Science**

1:30 **Moving amyotrophic lateral sclerosis into the precision medicine era**  
Bryan J. Traynor, MD, PhD, FRCP, Senior Investigator, National Institute on Aging, NIH

2:00 **Nucleoside-Modified mRNA-LNP Therapeutics**  
Drew Weissman, MD, PhD, Roberts Family Professor of Vaccine Research, Perelman School of Medicine, University of Pennsylvania

2:30 **mRNA-based CART therapy for Fibrosis**  
Jonathan A. Epstein, MD, William Wikoff Smith Professor, Executive Vice Dean and Chief Scientific Officer, Perelman School of Medicine at the University of Pennsylvania, Senior Vice President and Chief Scientific Officer, University of Pennsylvania Health System, University of Pennsylvania

3:00 **Break**

**Session 4: Novel Tools and Technologies in Translational Science**

3:30 **Discovery of genomic loci of the human cerebral cortex using genetically informed brain atlases**  
Chi-Hua Chen, PhD, Associate Professor, UC San Diego

4:00 **Deciphering tissue microenvironment by integrative analysis of spatial transcriptomics with histology images and single cells**  
Mingyao Li, PhD, Professor of Biostatistics, University of Pennsylvania

4:30 **Learning useful representations of cell state from morphology**  
Calvin Jan, PhD, Principal Investigator, Calico Life Sciences, LLC

5:00 **Conclusion**

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7:30 **Reception and Dinner: The College of Physicians of Philadelphia**  
19 South 22<sup>nd</sup> Street, Philadelphia

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**Tuesday, October 11 (Day 2)**

**Session 5: Aging**

- 9:00 ***Immune-metabolic mechanisms of cognitive decline in aging***  
Katrin Andreasson, MD, Professor, Department of Neurology and Neurological Sciences, Stanford University School of Medicine, Stanford, CA
- 9:30 ***Immunometabolic checkpoints of inflammation***  
Vishwa Deep Dixit, DVM, PhD, Waldemar Von Zedtwitz Professor of Pathology, Director, Yale Center for Research on Aging, Yale School of Medicine
- 10:00 ***Processes that influence the rate of aging***  
Cynthia Kenyon, PhD, Vice President, Aging Research, Calico Life Sciences, LLC
- 10:30 ***Coffee break***
- 11:00 ***Epigenetics of Learning and Memory: How to fix too much or too little memory?***  
Shelley Berger, PhD, Daniel S. Ochs University PIK Professor, Director, Epigenetics Institute, University of Pennsylvania
- 11:30 ***Integrative Functional Genomics for Target and Biomarker Discovery in Neurodegenerative Disease***  
Towfique Raj, PhD, Associate Professor, Icahn School of Medicine at Mount Sinai
- 12:00 ***Lunch Break***
- Session 6: *Molecular Clocks and Aging***
- 1:00 ***Circadian regulation of glial function in brain aging and neurodegeneration***  
Erik S. Musiek, MD, PhD, Charlotte & Paul Hagemann Professor of Neurology, Washington University School of Medicine, St. Louis
- 1:30 ***The Aging Chronobiome***  
Carsten Skarke, MD, Adjunct Associate Professor of Medicine, Robert L. McNeil Jr. Fellow in Translational Medicine and Therapeutics, Institute for Translational Medicine and Therapeutics (ITMAT), Perelman School of Medicine, University of Pennsylvania
- 2:00 ***Coffee break***
- Session 7: *Aging Related Organ Dysfunction***
- 2:30 ***FGF23 and age-related manifestations of disease***  
Ken White, PhD, Professor of Medical and Molecular Genetics, Indiana University School of Medicine
- 3:00 ***Predicting Longevity - Integrative Modeling of Plasma Biomarkers and Imaging Across Disease Space***  
Eugene Melamud, PhD, Principal Investigator, Calico Life Sciences, LLC
- 3:30 ***The role of cellular senescence in age-related bone loss and repair***

Sundeep Khosla, MD, Dr. Francis Chucker and Nathan Landow Research Professor, Mayo Foundation Distinguished Investigator, Mayo Clinic College of Medicine

4:00

***Mapping the genetic, epigenetic, genomic and cellular architecture of kidney disease***

Katalin Sustak, MD, PhD, Department of Medicine and Genetics, Perelman School of Medicine, University of Pennsylvania

4:30

***Concluding Remarks***

Garret A. FitzGerald, MD, FRS, Director, Institute for Translational Medicine and Therapeutics, McNeil Professor in Translational Medicine and Therapeutics, Perelman School of Medicine, University of Pennsylvania