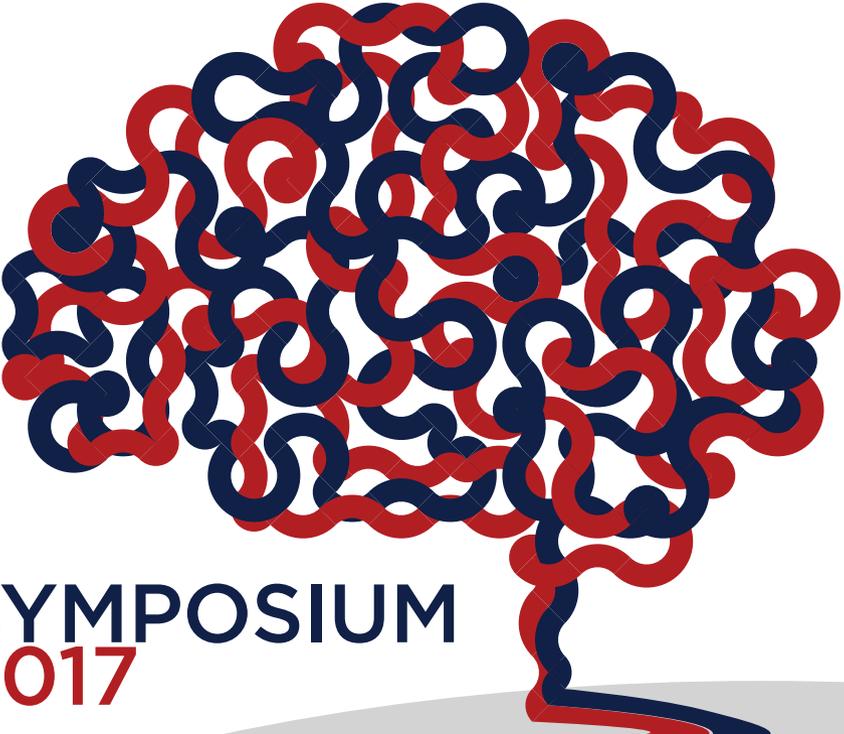


UCSF WEILL INSTITUTE FOR NEUROSCIENCES



**SYMPOSIUM**  
**2017**

MAY.25.2017  
UCSF MISSION BAY



*Sanford I. "Sandy" and Joan Weill*

## **Welcome to the inaugural symposium!**

It is with great pleasure that we invite you to the inaugural UCSF Weill Institute for Neurosciences Symposium. Bringing together leaders in science and medicine, this event will showcase innovative research, inspiring ideas, and new paths towards discovery. Each symposium will highlight a different theme, offering a fresh perspective on key issues and disease areas across the neurosciences. Featuring a truly exciting panel of speakers, this inaugural event will focus on neurodegenerative diseases including Alzheimer's, Parkinson's and ALS.

# Schedule of Events

- 8:00AM      **Registration** *(coffee/tea available)*
- 9:00AM      **Welcome & Opening Remarks**  
Stephen Hauser; Sandy and Joan Weill
- 9:15AM      **Don W. Cleveland, Ph.D.**  
*Gene Silencing Therapy for Human Neurodegenerative Disease*
- 10:00AM     **M. Elizabeth Ross, M.D., Ph.D.**  
*Fetal Development Genes Repurposed in Brain Plasticity and Aging*
- 10:45AM     **Break**
- 11:00AM     **Thomas C. Südhof, M.D.**  
*Synaptic and Non-Synaptic Signaling by ApoE: Implications for Alzheimer's Disease*
- 11:45AM     **Beth Stevens, Ph.D.**  
*Immune Mechanisms of Synapse Loss in Health & Disease*
- 12:30PM     **Lunch break** *(box lunch provided)*
- 1:30PM      **Kristine Yaffe, M.D.**  
*Neurodegeneration: A Population Health Perspective*
- 2:00PM      **Bruce L. Miller, M.D.**  
*The Landscape of Neurodegenerative Diseases*
- 2:30PM      **Lennart Mucke, M.D.**  
*Addressing the Multifactoriality of Neurodegenerative Diseases in Research and Therapeutic Development*
- 3:00PM      **Stanley B. Prusiner, M.D.**  
*Therapeutic Challenges and Opportunities*
- 3:30PM      **Roundtable Discussion**
- 4:15PM      **Reception**



**Don W. Cleveland, Ph.D.**

Don Cleveland has made field-leading contributions in cancer genetics and neurosciences. He earned a B.S. from New Mexico State University and a Ph.D. at Princeton working in the laboratory of Marc Kirschner. He did postgraduate work at the University of California, San Francisco with Bill Rutter, and was a faculty member at Johns Hopkins University School of Medicine before moving to the University of California at San Diego where he is currently Professor and Chair of the Department of Cellular and Molecular Medicine, as well as a member of the Ludwig Institute for Cancer Research.

Cleveland initially identified tau, the protein which accumulates aberrantly in Alzheimer's disease and which is the protein whose misfolding underlies chronic traumatic brain injury (now receiving national attention from its impact on the National Football League). He uncovered the mechanisms underlying the major genetic forms of Amyotrophic Lateral Sclerosis (ALS) and demonstrated that disease involves neurons and their non-neuronal neighbors. He has developed gene silencing therapies using designer DNA drugs that have entered clinical trials for four neurodegenerative diseases, including for ALS and Huntington's diseases.

He has been elected to the National Academy of Sciences, the National Academy's Institute of Medicine, the American Academy of Arts and Sciences, and the American Association for the Advancement of Science. A recipient of three NIH Merit Awards, he has also won the Wings Over Wall Street MDA Outstanding Scientist award and The Sheila Essey Prize from the ALS Association and American Academy of Neurology and the Judd award from Memorial Sloan-Kettering Cancer Center.

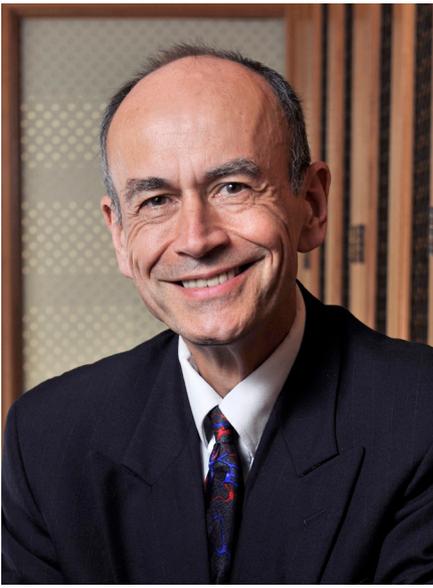


**M. Elizabeth Ross, M.D., Ph.D.**

M. Elizabeth Ross received her M.D. and Ph.D. degrees from Cornell University Medical College, and her residency in Neurology at Massachusetts General Hospital, Harvard Medical School with postdoctoral training in molecular genetics at Harvard and Rockefeller University. She directs the Center for Neurogenetics in the Feil Family Brain and Mind Research Institute, Weill Cornell Medicine, which supports research into the genetic causes of neurological disorders in children and adults.

Her research group, the Laboratory of Neurogenetics and Development, focuses on discovery of gene mutations associated with brain malformations and investigation of how these genes direct the construction of brain. Projects encompass: 1) neural tube formation and genetic factors predisposing to human spina bifida, 2) cell cycle regulation and its role in cellular patterning of developing brain, and 3) regulation of neuronal motility and plasticity in the young and adult brain.

Dr. Ross serves on the Board of Directors of the ANA and over a decade as an Associate Editor of the journal, *Neurobiology of Disease*. She is the recipient of numerous distinctions, including an NIH Director's Transformative Research Projects Award, recognizing innovative ideas that challenge the status quo. She is a principal investigator in the New York Consortium for the national All of Us Precision Medicine Initiative that collectively creates a research repository of one million US volunteers over the next five years.



**Thomas C. Südhof, M.D.**

Thomas Christian Südhof obtained his M.D. and doctoral degrees from the University of Göttingen in 1982. He performed his doctoral thesis work at the Max-Planck-Institut für biophysikalische Chemie in Göttingen, and his internship in the University of Göttingen Hospitals. Südhof trained as a postdoctoral fellow with Drs. Mike Brown and Joe Goldstein at UT Southwestern in Dallas, TX. Subsequently, Südhof served until 2008 on the faculty of UT Southwestern in Dallas, then moved to Stanford University in 2008, and currently holds the positions of Avram Goldstein Professor in the School of Medicine and Director of the Center for Cellular and Molecular Translational Neuroscience. In addition, Südhof has been an Investigator of the Howard Hughes Medical Institute since 1986.

Südhof's current work focuses on two areas of neuroscience, the mechanisms that organize the presynaptic release machinery which mediates the secretion of neurotransmitters during synaptic transmission, and the molecular organization of the trans-synaptic signaling machinery that enables synapse formation and specifications as well as synaptic plasticity during development and throughout life. In both areas, His laboratory is keenly interested not only in understanding the basic processes underlying synaptic function, but also the pathogenetic consequences of impairments of these processes in disorders such as autism, schizophrenia, Alzheimer's disease, and Parkinson's disease.

Südhof is a member of the National Academy of Sciences, the National Academy of Medicine, and the American Academy of Arts and Sciences. He is the recipient of several awards, including the Alden Spencer Award (1993), the National Academy of Sciences Award in Molecular Biology (1997), the Bristol-Myers Award in Neuroscience (2004), the Passano Award (2008), the Kavli Award in Neuroscience (2010), the Lasker-deBakey Medical Basic Research Award (2013), and the Nobel Prize in Physiology or Medicine (2013).



## **Beth Stevens, Ph.D.**

Beth Stevens received her B.S. at Northeastern University. She carried out her graduate research at the National Institutes of Health and received her Ph.D. from University of Maryland, College Park. She completed her postdoctoral research at Stanford University with Ben Barres. She is an Associate Professor at Harvard Medical School in the FM Kirby Neurobiology Center at Boston Children's Hospital and an Institute Member of the Broad Institute and Stanley Center for Neuropsychiatric Research.

Her research seeks to understand the mechanisms that regulate the disappearance of synapses — junctions where nerves communicate with each other — by focusing on how immune-related molecules mediate this process. Her most recent work seeks to uncover the role that microglial cells, the immune cells of the central nervous system, and their connectivity play in neurodevelopmental and neuropsychiatric disorders. She and her team recently identified how microglia affect synaptic pruning, the critical developmental process of cutting back on synapses that occurs between early childhood and puberty. Problems with pruning can lead to developmental disorders such as autism. In addition, her work is providing novel insight into the mechanisms by which immune molecules regulate synaptic and cognitive dysfunction in neurodegenerative diseases, including Alzheimer's that could lead to new therapies and biomarkers.

Stevens was named a MacArthur Fellow by the John D. and Catherine T. MacArthur Foundation in 2015. She has also received the Presidential Early Career Award for Scientists and Engineers (PECASE), Dana Foundation Award and Ellison Medical Foundation New Scholar in Aging award, and she is a member of the John Merck Scholar Program.



**Kristine Yaffe, M.D.**

Kristine Yaffe attended Yale University for her undergraduate degree, received her medical degree at the University of Pennsylvania, and completed residencies in Neurology and Psychiatry at the University of California, San Francisco (UCSF). She is the Scola Endowed Chair and Vice Chair for the Department of Psychiatry, and Professor of Psychiatry, Neurology and Epidemiology at UCSF. She is also the Chief of NeuroPsychiatry and Director of the Memory Evaluation Clinic at the San Francisco Veterans Affairs Medical Center. In both her research, clinical work, and mentoring, she has directed her efforts towards improving the care of patients with cognitive disorders and other geriatric neuropsychiatric conditions.

Dr. Yaffe's research focuses on the epidemiology of cognitive aging. As the principal investigator of multiple grants from the NIH, Department of Defense, and several foundations, she is a leading expert in the modifiable risk factors of dementia, and she has published over 440 peer-reviewed articles (H-index=112) in numerous prestigious journals including the Lancet, BMJ, JAMA, and NEJM. Dr. Yaffe served as the Co-Chair of the Institute of Medicine's Committee on Cognitive Aging which released a report in 2015 entitled, "Cognitive Aging: Progress in Understanding and Opportunities for Action". She is also a member of the Council of the German Center for Neurodegenerative Diseases and the Alzheimer's Association Medical & Scientific Advisory Council.

Dr. Yaffe has been recognized by Thomas Reuters as one of the World's Most Influential Scientific Minds and has received several national awards for her distinguished, scholarly work, including the Royer Award for Academic Excellence in Psychiatry, the American Association for Geriatric Psychiatry Distinguished Scientist Award, and the 2017 Potamkin Award.



**Bruce L. Miller, M.D.**

Bruce Miller is the A.W. and Mary Margaret Clausen Distinguished Professor of Neurology at the University of California, San Francisco (UCSF). Dr. Miller received his M.D. from the University of British Columbia and completed his Neurology residency at Harbor-UCLA Medical Center. Before coming to UCSF, he was a Professor of Neurology at UCLA. He directs the busy UCSF dementia center where patients in the San Francisco Bay Area and beyond receive comprehensive clinical evaluations. His goal is the delivery of model care to all patients.

Dr. Miller is a behavioral neurologist focused on dementia with special interests in brain and behavior relationships as well as the genetic and molecular underpinnings of disease. His work in frontotemporal dementia (FTD) emphasizes both the behavioral and emotional deficits that characterize these patients, while simultaneously noting the visual creativity that can emerge in the setting of FTD. He helps lead two philanthropy-funded research consortia, the Tau Consortium and the Consortium for Frontotemporal Research. He also co-directs the Global Brain Health Institute, which works to reduce the scale and impact of dementia around the world by training and supporting a new generation of leaders to translate research evidence into effective policy and practice.

Dr. Miller has received many awards, including the Potamkin Award from the American Academy of Neurology, the Raymond Adams Award from the American Neurological Association, the UCSF Academic Senate Distinction in Mentoring Award and the Wallace Wilson Distinguished Alumni Award from the University of British Columbia. Dr. Miller is the current President of the International Society for Frontotemporal Dementias (ISFTD), and in 2016, he was elected to the National Academy of Medicine. He has authored *The Human Frontal Lobes*, *The Behavioral Neurology of Neurology*, *Frontotemporal Dementia* and over 700 other publications regarding dementia.

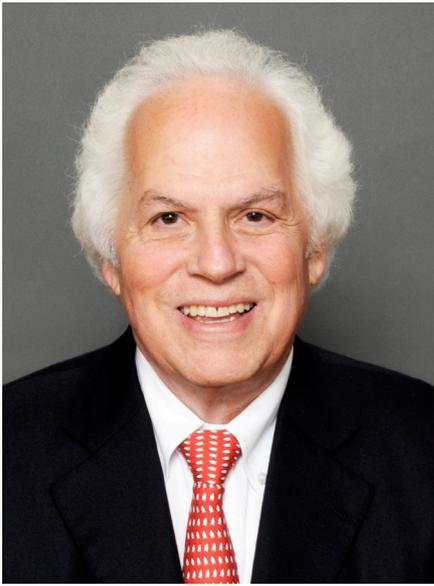


## **Lennart Mucke, M.D.**

Lennart Mucke is the founding Director of the Gladstone Institute of Neurological Disease and holds joint appointments as the Joseph B. Martin Distinguished Professor of Neuroscience and Professor of Neurology at the University of California, San Francisco. He trained at the Georg August University and the Max Planck Institute for Biophysical Chemistry in Göttingen, Germany, the Cleveland Clinic, the Massachusetts General Hospital and Harvard Medical School, and The Scripps Research Institute.

Dr. Mucke's research focuses on processes that result in memory loss and other major neurological deficits, with an emphasis on Alzheimer's disease and related disorders. He has generated informative experimental models of these conditions and used them to identify disease mechanisms and novel strategies to prevent neurological decline.

Dr. Mucke has received the Potamkin Prize from the American Academy of Neurology, the MetLife Foundation Award for Medical Research, the Kalid Iqbal Lifetime Achievement Award and the Zenith Award from the Alzheimer's Association, the American Pacesetter Award from the ARCS Foundation, a MERIT award from the National Institutes of Health, and an Award for Excellence in Direct Teaching and Mentoring from the Haile T. Debas Academy of Medical Educators. He chairs the Senate of the German Center for Neurodegenerative Diseases (DZNE) and has served on the National Advisory Council on Aging of the US National Institutes of Health and the Scientific and Medical Advisory Council of the Alzheimer's Association.



**Stanley B. Prusiner, M.D.**

Stanley B. Prusiner is Director of the Institute for Neurodegenerative Diseases and Professor of Neurology and Biochemistry at the University of California, San Francisco (UCSF). Dr. Prusiner holds B.S. and M.D. degrees from the University of Pennsylvania, completed a medical internship at UCSF, and trained at the National Institutes of Health in the laboratory of Earl Stadtman. He then returned to UCSF to complete his neurology residency, and joined the faculty in 1974. Editor of 11 books and author of over 500 research articles, Dr. Prusiner's contributions to scientific research are internationally recognized.

Dr. Prusiner discovered an unprecedented class of pathogens that he named *prions*. His discovery led him to develop a novel disease paradigm: prions cause disorders that manifest as (1) sporadic, (2) inherited and (3) infectious illnesses. Many scientists considered Prusiner's concept of "infectious proteins," as well as his proposal that a single protein could possess multiple biologically active shapes, to be heretical. Dr. Prusiner has since proven that prions cause neurodegenerative diseases including Alzheimer's, Parkinson's and many of the frontotemporal dementias (FTDs) as well as some forms of ALS. Much of Dr. Prusiner's current research focuses on developing therapeutics that reduce the levels of prions causing neurodegeneration in Alzheimer's, Parkinson's and other diseases.

Among his many honors for his groundbreaking work, Dr. Prusiner was awarded the Nobel Prize in Physiology or Medicine (1997) and the United States National Medal of Science (2009). Prusiner's recently published single author book *Madness and Memory*, which chronicles his discovery of prions, has received wide acclaim.

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