APRIL 9TH
1PM-4PM
EST

SYMPOSIUM ON

COGNITIVE RESERVE, RESILIENCE AND RESISTANCE

Presenters are leaders in the fields of neurology, neuropsychology, radiology and geriatrics

HOSTED BY:

FRAMINGHAM HEART STUDY
BRAIN AGING PROGRAM

FREE, Pre-Registration Required.

AGENDA

- **Welcome** — 1:00pm
  - Lindsay Farrer, Ph.D. | BU
  - Rhoda Au, Ph.D. | BU
- **Studying Cognitive Reserve and Brain Maintenance**
  - Yaakov Stern, Ph.D. | Columbia

- **Impact of Cognitive Reserve on Performance in Preclinical Alzheimer's Disease** — 1:30pm
  - Dorene Rentz, Psy.D. | Harvard

- **Resistance and Resilience Mechanisms Shed Light on Heterogeneity in Cognitive Aging** — 2:00pm
  - Prashanthi Vemuri, Ph.D. | Mayo Clinic

- **Genetic Drivers of Resilience to Alzheimer's Disease** — 2:30pm
  - Timothy Hohman, Ph.D. | Vanderbilt

- **Plateauing of Cognitive Performance in Centenarians and the Case for Cognitive Resilience** — 3:00pm
  - Thomas Perls, M.D., M.P.H | BU

- **Resistance, Resilience, and Dementia in the 90+ Study** — 3:30pm
  - Claudia Kawas, M.D. | UC Irvine

- **Conclusion** — 4:00pm

SYMPOSIUM HOSTS

LINDSAY FARRER, PHD

Lindsay Farrer is Professor of Medicine, Neurology, Ophthalmology, Epidemiology and Biostatistics at Boston University Schools of Medicine and Public Health. He is also the Boston University Distinguished Professor of Genetics and Chief of Biomedical Genetics. He received his PhD in Medical Genetics from Indiana University School of Medicine, completed postdoctoral training at Yale University, and is a Founding Fellow of the American College of Medical Genetics. Dr. Farrer has made numerous discoveries about the genetic basis of Alzheimer disease (AD). He is a PI of the AD Genetics Consortium, AD Sequencing Project, and Framingham Heart Study Brain Aging Program. His laboratory contributed to the cloning of the presenilin and nicastrin genes, discovery of many AD genes by GWAS, and elucidation of the genetic architecture of AD in multiple ethnic populations. His research team established intracellular trafficking as one of the major pathways leading to AD and identified rare African American-specific AD-associated missense mutations in AKAP9 that increase phosphorylation of Tau protein. Dr. Farrer's current projects involve several G×E and experimental approaches applied to rich phenotypic data and omics data derived from brain tissue from multiple cohorts to identify novel AD biomarkers and therapeutic targets.

RHODA AU, PHD

Rhoda Au is Professor of Anatomy & Neurobiology, Neurology and Epidemiology at Boston University Schools of Medicine and Public. Dr. Au also serves as Director of Neuropsychology at the Framingham Heart Study, where she is using technologies to develop digital cognitive biomarkers as surrogate indices of fluid and imaging biomarkers. Her long-term research objective is to enable solutions that move the primary focus of health technologies from precision medicine to a broader emphasis on precision brain health.

SYMPOSIUM SPEAKERS

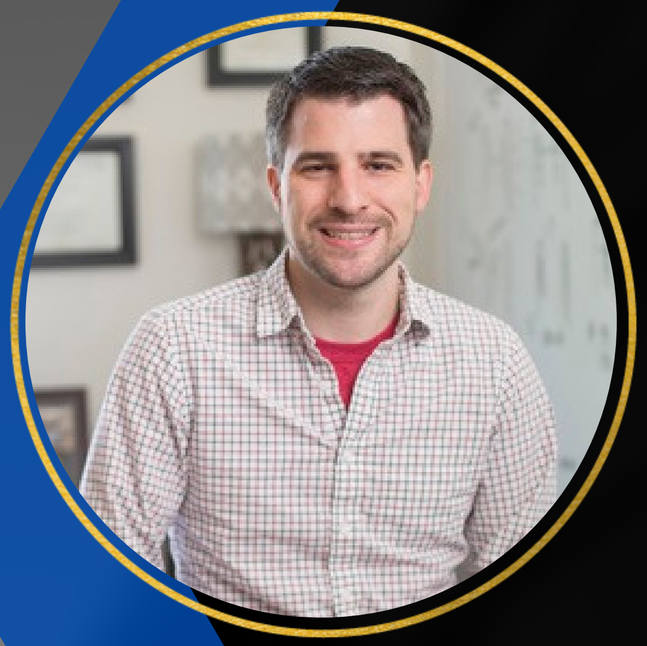
YAAKOV STERN, PHD

Yaakov Stern is the Florence Irving Professor of Neuropsychology in the Departments of Neurology and Psychiatry, as well as the Taub Institute for the Research on Alzheimer's Disease and the Aging Brain and the Gertrude H. Sergievsky Center, at Columbia University Vagalos College of Physicians and Surgeons. He is chief of the Cognitive Neuroscience Division of the Department of Neurology. Dr. Stern earned his B.A. in Psychology from Touro College, and his Ph.D. from the Experimental Cognition program of City University of New York. Dr. Stern's research focuses on cognition in normal aging and in diseases of aging, particularly Alzheimer's disease. One strong focus of his current research program is investigating the neural basis of cognitive reserve. Dr. Stern also leads a large scale imaging study to identify unique neural networks underlying the major cognitive abilities affected by aging, and another long term study that models the natural history of Alzheimer's disease. He has published over 600 peer-reviewed papers, numerous chapters, and edited a book on cognitive reserve.

DORENE RENTZ, PSYD

Dorene M. Rentz, PsyD, is Professor of Neurology at Harvard Medical School and a practicing clinical neuropsychologist for over 30 years. She has dual appointments in the Departments of Neurology at Brigham and Women's Hospital and Massachusetts General Hospital. Dr. Rentz serves as the Co-Director of the Center for Alzheimer Research and Treatment and the Director of the Outreach, Recruitment and Engagement Core at the Massachusetts Alzheimer's Disease Research Center. She is also the Clinical Core Leader of the Harvard Aging Brain Study and Co-Leader of the Clinical Outcome Instrument Unit of the Alzheimer Clinical Trial Consortium. Dr. Rentz's clinical and research interests have focused on early detection of cognitive changes related to preclinical Alzheimer's disease as well as the impact of cognitive reserve on early detection. She is a recognized leader in the development of cognitive outcome measures for secondary prevention trials and the feasibility of mobile technology for assessing cognition in the clinic and home environment.

SYMPOSIUM SPEAKERS



TIMOTHY HOHMAN, PHD

Dr. Timothy Hohman is an Associate Professor of Neurology, cognitive neuroscientist, and computational geneticist. Dr. Hohman received his BA from Gordon College, followed by his MA from American University. He received his doctoral degree in neuroscience from American University. He completed a fellowship as part of the National Institutes of Health Graduate Partnership Program in the Laboratory of Behavioral Neuroscience at the National Institute on Aging and his postdoctoral training at Vanderbilt where he was a T32 postdoctoral research fellow as part of the Neurogenomics training program. Dr. Hohman's research leverages advanced computational approaches from genomics, proteomics, and neuroscience to identify novel markers of Alzheimer's disease risk and resilience. Within the Vanderbilt Memory and Alzheimer's Center, Dr. Hohman is the director of the Biomarker Core, oversees the development of neuroimaging, proteomic, and big-data analytical pipelines, and is the Principal Investigator of the Computational Neurogenomics Team focused on Alzheimer's Resilience and Sex Differences. Dr. Hohman directs the Genomics Core for the Preclinical Alzheimer's Disease Consortium and is co-chair of the Alzheimer's Disease Sequencing Project (ADSP) Harmonization Consortium.

PRASHANTHI VEMURI, PHD

Dr. Vemuri is an Associate Professor in the Department of Radiology, Mayo Clinic Rochester and an imaging researcher in the population-based sample of Mayo Clinic Study of Aging. She has a broad background in engineering and clinical neuroscience, with specific training and expertise in imaging of neurodegenerative disorders. Her areas of research are 1) Investigating mechanisms through which protective and risk factors influence AD imaging biomarkers and outcomes and 2) Developing and validating imaging-based biomarkers to improve the understanding and management of Alzheimer's disease and cerebrovascular disease. Dr. Vemuri has over 150 peer-reviewed journal articles and numerous conference abstracts and book chapters to her credit. Her research work is supported by the National Institutes of Health (NIA and NINDS). She also leads MRI cores for large multi-center clinical studies on stroke (DISCOVERY) and Alzheimer's disease (LEADS and US POINTER). She is the Chair of a large international professional area interest group on Reserve, Resilience, and Protective Factors and serves on several national and international committees.

SYMPOSIUM SPEAKERS

THOMAS PERLS, MD, MPH

Tom Perls MD, MPH is Professor of Medicine at Boston University School of Medicine. Dr. Perls received his Geriatrics training at both Mount Royal Hospital in Melbourne, Australia and at Harvard Medical School and he obtained his Master's degree in public health at Harvard. He is a senior physician in Geriatrics and cares for patients at Boston Medical and a Fellow of the American College of Physicians, The American Geriatrics Society and the Gerontological Society of America. In 1995, Dr. Perls began and continues to direct the longest running and largest study of centenarians, their siblings and offspring in the world, the New England Centenarian Study. This study also includes over 600 semi-supercentenarians (ages 105-109 years) and 200 supercentenarians (ages 110-119 years). Additionally, he is Principal Investigator of the Boston center of the National Institute on Aging-funded multi-center Long Life Family Study, a longitudinal study, established in 2006, of nearly 5,000 participants belonging to ~550 families demonstrating rare clustering for survival to extreme old age. He is also PI of several other NIH funded studies of exceptional longevity that emphasize the generation and analyses of multiple omics data.

Claudia Kawas, M.D., Al and Trish Nichols Chair in Clinical Neuroscience and Professor of Neurobiology & Behavior and Neurology, at the University of California, Irvine (UCI), is a geriatric neurologist and researcher in the areas of aging and dementia. Her work is concentrated on the epidemiology of aging and Alzheimer's disease, determinants of successful aging, disability and frailty, clinical-pathological investigations, clinical trials, and most recently, a longitudinal study in cognitive and functional abilities of the Oldest-old. Dr. Kawas is a graduate of Swarthmore College, Pennsylvania and completed her medical studies at the University of Louisville, Kentucky and her neurology residency training and fellowship at Albert Einstein College of Medicine, New York. At UCI, she is Co-PI of The 90+ Study and Associate Director of the Institute for Memory Impairments and Neurological Disorders. Dr. Kawas serves on several committees including the Medical and Scientific Advisory Council of the National Alzheimer's Association, The Dana Foundation, and the United States Food & Drug Administration. Over the past 35 years, Dr. Kawas has published more than 200 peer-reviewed manuscripts and has worked on numerous longitudinal studies of aging and dementia.

CLAUDIA KAWAS, MD

OUR SPONSORS

BU Alzheimer's Disease Center

BU

Evans Center
For Interdisciplinary
Biomedical Research

American
Heart
Association

Framingham Heart Study
Brain Aging Program