

ALZHEIMER'S DISEASE-RELATED DEMENTIAS SUMMIT 2016

PROGRAM MATERIALS

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NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE

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March 29-30, 2016



NIH National Institute of
Neurological Disorders
and Stroke



ALZHEIMER'S DISEASE-RELATED DEMENTIAS SUMMIT 2016

MARCH 29-30
2016

Welcome Message from Dr. Walter J. Koroshetz

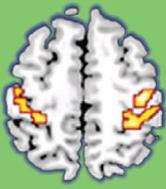


Welcome to the “Alzheimer’s Disease-Related Dementias (ADRD) Summit 2016.” Together with the National Institute on Aging’s Alzheimer’s Disease Research Summits in 2012 and 2015, and the NINDS-led ADRD Conference in 2013, the ADRD Summit responds to the National Alzheimer’s Project Act (NAPA) signed into law in 2011 by President Barak Obama. Like the previous meetings, the goal of the ADRD Summit 2016 is to solicit input from internationally recognized experts and to develop prioritized recommendations to guide scientific research during the next 5 to 10 years. In addition, the Summit will report progress on the research recommendations set by the 2013 ADRD Conference, and will revise those recommendations

based on scientific advances over the last 3 years. The group assembled will focus on frontotemporal, Lewy body, mixed, and vascular contributions to cognitive impairment and dementia. Discussion will also focus on the associated diagnostic challenges and issues related to health disparities as we pursue a better scientific understanding of these various types of dementia.

On behalf of the National Institute of Neurological Disorders and Stroke (NINDS), I’d like to thank the many people who helped to make the Summit possible, including David Holtzman, the Scientific Chair, and the Session Chairs: David Bennett, Thomas Carmichael, Susan Dickinson, Dennis Dickson, Howard Fillit, Steven Greenberg, Michael Hutton, Jennifer Manly, Karen Marder, David Knopman, and William Seeley. I also want to thank the leadership and staff of the National Institute on Aging, whose assistance has been invaluable, as well as our sponsors: the FNIH, the NIH Office for Disease Prevention, the Alzheimer’s Association, Accelerate Cure/Treatments for Alzheimer’s Disease, the American Heart Association/American Stroke Association, The Association for Frontotemporal Degeneration, Axovant Sciences, the BrightFocus Foundation, and the LEAD Coalition.

We appreciate your active participation in the Summit, which will include many opportunities for public questions and comment. With your input, we hope to make a significant contribution to the National Plan’s goal to prevent and effectively treat Alzheimer’s disease, including Alzheimer’s disease-related dementias, by 2025.



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Sponsored by the
National Institute of Neurological Disorders and Stroke
in partnership with:
National Institute on Aging
National Institutes of Health Office of Disease Prevention
Foundation for the National Institutes of Health
Alzheimer's Association
Accelerate Cure/Treatments for Alzheimer's Disease (ACT-AD)
American Heart Association/American Stroke Association
Association for Frontotemporal Degeneration (AFTD)
Axovant Sciences
BrightFocus Foundation
LEAD Coalition (Leaders Engage on Alzheimer's Disease)

About our cover:

Program cover images highlight task-free fMRI data linking patterns of neurodegeneration to interconnected brain systems, one for each dementia subtype. In corticobasal syndrome, a subtype of FTD, the target network "epicenters" are found in the perirolandic cortex (as shown). Images provided courtesy of Dr. William Seeley. For further information see Zhou et al., *Neuron*, 2012: 1216-27.



Agenda

Tuesday, March 29, 2016

7:00 a.m. Registration

8:00 a.m. Welcoming Remarks

Ronald Petersen, M.D., Ph.D., Chair, Advisory Council on Alzheimer's Research, Care, and Services

8:10 a.m. Introduction and Perspective

Walter Koroshetz, M.D., Director, National Institute of Neurological Disorders and Stroke

8:20 a.m. Progress and Updating Research Recommendations for the Alzheimer's Disease-Related Dementias

David Holtzman, M.D., Scientific Chair, and Roderick Corriveau, Ph.D., National Institute of Neurological Disorders and Stroke

SESSION 1: Multiple Etiology Dementias – Diagnosing Dementia in the 21st Century

Chairs: David Bennett, M.D., and David Knopman, M.D.

8:40 a.m. Session Introduction – Revised Recommendations: Reconciling the Gap between Aspirational and Operational Goals

David Knopman, M.D.

8:45 a.m. Recommendation 1: The Problems of Clinical Diagnosis of Cognitive Impairment in Primary Care and Potential New Strategies

Sandy Weintraub, Ph.D., and B. Gwen Windham, M.D., M.H.S.

9:05 a.m. Recommendation 4: Progress Highlight – The Overlap of Different Neurodegenerative and Cerebrovascular Etiologies

David Bennett, M.D.

9:20 a.m. Recommendation 2: Improving Differential Diagnosis in Neurology Practice

Neill Graff-Radford, M.B.B.C.H., F.R.C.P. (UK)

9:40 a.m. Recommendation 3: Progress Highlight – Prospects for Biomarker Diagnosis in Non-AD Dementias (VCID, LBD, FTLT)

Bradley Boeve, M.D., and Helena Chui, M.D.

10:00 a.m. **Open Microphone Discussion and Panel – Multiple Etiology Dementias**
Sanjay Asthana, M.D.; Lisa Barnes, Ph.D.; David Bennett, M.D.; Bradley Boeve, M.D.; Helena Chui, M.D.; Neill Graff-Radford, M.B.B.C.H., F.R.C.P. (UK); David Knopman M.D.; Chiadi Onyike, M.D., M.H.S.; Sandra Weintraub, Ph.D.; B. Gwen Windham, M.D., M.H.S.

10:20-10:35 a.m. **BREAK**

SESSION 2: Non-Governmental Organizations

Chairs: Susan Dickinson, M.S., C.G.C., and Howard Fillit, M.D.

10:35 a.m. **Introduction**
Susan Dickinson M.S., C.G.C., and Howard Fillit, M.D.

10:45 a.m. **Focus Area 1: Catalyzing Research through Unique Programs and Partnerships**
*Susan Dickinson, M.S., C.G.C., Association for Frontotemporal Degeneration
Rodney Pearlman, Ph.D., Bluefield Project to Cure Frontotemporal Dementia
Simon Ridley, Ph.D., Alzheimer’s Research U.K.
Todd Sherer, Ph.D., Michael J. Fox Foundation for Parkinson’s Research
Howard Fillit, M.D., Alzheimer’s Drug Discovery Foundation*

11:30 a.m. **Open Microphone Discussion and Panel – Non-Governmental Organizations**
Maria Carrillo, Ph.D.; Susan Dickinson, M.S., C.G.C.; Guy Eakin, Ph.D.; Howard Fillit, M.D.; Costantino Iadecola, M.D.; Rodney Pearlman, Ph.D.; Todd Sherer, Ph.D.; Simon Ridley, Ph.D.; Angela Taylor

SPECIAL JOINT SESSION: Nomenclature Discussion – Led by the Non-Governmental Organizations and the Multiple Etiology Dementias Committees

11:45 a.m. **Non-Governmental Organization Focus Area 2: Nomenclature Standards When Discussing Dementia**
Angela Taylor, Lewy Body Dementia Association

12:05 p.m. **Multiple Etiology Dementias Focus Area 4: Nomenclature – Problems and Suggestions for Moving Forward**
David Knopman, M.D.

12:20 p.m. **Open Microphone Discussion and Panel – Nomenclature Discussion**
Lisa Barnes, Ph.D.; David Bennett, M.D.; Maria Carrillo, Ph.D.; Susan Dickinson, M.S., C.G.C.; Howard Fillit, M.D.; David Holtzman, M.D.; Jennifer Manly, Ph.D.; Angela Taylor; David Knopman M.D.; Simon Ridley PhD; Virginia G. Wadley, Ph.D.

12:35-1:30 p.m. LUNCH ON YOUR OWN

SESSION 3: Alzheimer's Disease-Related Dementias (ADRD) Health Disparities

Chair: Jennifer Manly, Ph.D.

1:30 p.m. Introduction to Health Disparities in Alzheimer's Disease-Related Dementias
Jennifer Manly, Ph.D.

1:35 p.m. Focus Area 1: Treatment and Prevention Strategies
Sid O'Bryant, Ph.D.

1:50 p.m. Progress Highlight 1: Mechanisms of Health Disparities in ADRD Part 1
Sid O'Bryant, Ph.D.

2:00 p.m. Focus Area 2: Monitoring Changes in ADRD Disparities
Maria Glymour, Sc.D.

2:10 p.m. Focus Area 3: Assessment
Jennifer Manly, Ph.D.

2:25 p.m. Progress Highlight 2: Mechanisms of Health Disparities in ADRD Part 2
Maria Glymour, Sc.D.; Jennifer Manly, Ph.D.; Virginia G. Wadley, Ph.D.

2:35 p.m. Focus Area 4: Community Partnerships, Recruitment, and Retention
Virginia G. Wadley, Ph.D.

2:50 p.m. Open Microphone Discussion and Panel – ADRD Health Disparities
Hector M. González, Ph.D.; Maria Glymour, Sc.D.; Jennifer Manly, Ph.D.; Sid O'Bryant, Ph.D.; Virginia G. Wadley, Ph.D.

3:20-3:35 p.m. BREAK

SESSION 4: Lewy Body Dementias

Chairs: Dennis Dickson, M.D., and Karen Marder, M.D., M.P.H.

3:35 p.m. Introduction
Dennis Dickson, M.D.

3:40 p.m. Focus Area 1: Summary of Progress, Changes to Recommendations 1 & 2
Jennifer Goldman, M.D., M.S.

- 3:55 p.m.** **Progress Highlight 1: Standardization and Inclusion of Multiple Stakeholders; Development of the NACC Module for LBDs**
James Galvin, M.D., M.P.H.
- 4:05 p.m.** **Focus Area 2: Summary of Progress, Changes to Recommendations 3 & 4**
Carlie Tanner, M.D., Ph.D.
- 4:20 p.m.** **Progress Highlight 2: Big Data Opportunities**
Todd Golde, M.D., Ph.D.
- 4:30 p.m.** **Focus Area 3: Summary of Progress, Changes to Recommendations 5 & 6**
Clemens Scherzer, M.D., and Joel Perlmutter, M.D.
- 4:45 p.m.** **Focus Area 4: Summary of Progress, Changes to Recommendations 7 & 8**
Eliezer Masliah, M.D.
- 5:00 p.m.** **Open Microphone Discussion and Panel – Lewy Body Dementias**
Dennis Dickson, M.D.; James Galvin, M.D., M.P.H.; Jennifer Goldman, M.D., M.S.; Todd Golde, M.D., Ph.D.; Joel Perlmutter, M.D.; Karen Marder, M.D., M.P.H.; Eliezer Masliah, M.D.; Clemens Scherzer, M.D.; Carlie Tanner, M.D., Ph.D.; Laura Volpicelli-Daley, Ph.D.
- 5:25 p.m.** **End of Day 1**

Wednesday, March 30, 2016

7:30 a.m. **Registration**

SESSION 5: Frontotemporal Lobar Degeneration

Chairs: Michael Hutton, Ph.D., and William Seeley, M.D.

8:00 a.m. **Introduction**

Michael Hutton, Ph.D., and William Seeley, M.D.

Focus Area 1, Basic Science

8:05 a.m. **Basic Science: Review of Changes in the 2016 Recommendations**

Michael Hutton, Ph.D.

8:10 a.m. **Key Progress 1: Tau Pathology Spreading**

Virginia Lee, Ph.D.

8:20 a.m. **Key Progress 2: C9ORF72 Expansion and the Role of RAN Translation**

Leonard Petrucelli, Ph.D.

8:30 a.m. Key Progress 3 & 4: TDP-43 Mechanism and Animal Models

Manuela Neumann, M.D., Ph.D.

8:40 a.m. Open Microphone Discussion and Panel - Focus Area 1

John Hardy, Ph.D.; Michael Hutton, Ph.D.; Virginia Lee, Ph.D.; Manuela Neumann, M.D., Ph.D.; Leonard Petrucelli, Ph.D.; Rosa Rademakers, Ph.D.; Jonathan Rohrer, M.D., Ph.D.; Erik Roberson, M.D., Ph.D.; William Seeley, M.D.

Focus Area 2, Clinical Science

8:50 a.m. Clinical Science: Review of Changes in the 2016 Recommendations

William Seeley, M.D.

8:55 a.m. Key Progress 1: Genetics Update

Rosa Rademakers, Ph.D.

9:05 a.m. Key Progress 2: Tau PET, Application to Non-AD Tauopathies

Brad Dickerson, M.D.

9:15 a.m. Key Progress 3 & 4: FTD Cohort Studies, Towards a Clinical Trial Platform

Adam Boxer, M.D., Ph.D.

9:25 a.m. Open Microphone Discussion and Panel - Focus Area 2

Bradley Boeve, M.D.; Adam Boxer, M.D., Ph.D.; Brad Dickerson, M.D.; John Hardy, Ph.D.; Michael Hutton, Ph.D.; Manuela Neumann, M.D., Ph.D.; Leonard Petrucelli, Ph.D.; Rosa Rademakers, Ph.D.; Jonathan Rohrer, M.D., Ph.D.; William Seeley, M.D.

9:50-10:10 a.m. BREAK

SESSION 6: Vascular Contributions to Cognitive Impairment and Dementia (VCID)

Chairs: S. Thomas Carmichael, M.D., Ph.D., and Steven Greenberg, M.D., Ph.D.

10:10 a.m. Introduction and Rationale for Changes in 2016 Recommendations

S. Thomas Carmichael, M.D., Ph.D., and Steven Greenberg, M.D., Ph.D.

10:30 a.m. Emerging Biomarkers for VCID

Jin-Moo Lee, M.D., Ph.D.

- 10:45 a.m.** **New Genetic Candidates and Tools for VCID**
Martin Dichgans, M.D.
- 11:00 a.m.** **Special Populations, Aging, and Other Vascular Risk Factors**
Sudha Seshadri, M.D.
- 11:15 a.m.** **The M²OVE AD Consortium: Decoding Molecular Ties between Vascular Disease and Alzheimer's**
Suzanne Craft, Ph.D.
- 11:25 a.m.** **Hot Topic: Redefining the Neurovascular Unit**
Costantino Iadecola, M.D.
- 11:40 a.m.** **Open Microphone Discussion and Panel – VCID**
Geert Jan Biessels, M.D., Ph.D.; S. Thomas Carmichael, M.D., Ph.D.; Suzanne Craft, Ph.D.; Martin Dichgans, M.D.; Steven Greenberg, M.D.; Ph.D.; Atticus Hainsworth, Ph.D.; Costantino Iadecola, M.D.; Jin-Moo Lee, M.D., Ph.D.; Julie Schneider, M.D.; Sudha Seshadri, M.D.; Donna Wilcock, Ph.D.; Roxana Carare, M.D.; David Kleinfeld, Ph.D.; Gary Rosenberg, M.D.; Eric Smith, M.D.; Heather Snyder, Ph.D.
- 12:00-1:00 p.m.** **LUNCH ON YOUR OWN**
- 1:00 p.m.** **Scientific Chair's Highlights and Cross-Cutting Themes**
David Holtzman, M.D., Scientific Chair
- 1:20 p.m.** **Further Public Input and Open Microphone Discussion**
David Holtzman, M.D., Scientific Chair; David Bennett, M.D.; S. Thomas Carmichael, M.D., Ph.D.; Susan Dickinson, M.S., C.G.C.; Dennis Dickson, M.D.; Howard Fillit, M.D.; Steven Greenberg, M.D., Ph.D.; Michael Hutton, Ph.D.; David Knopman, M.D.; Jennifer Manly, Ph.D.; Karen Marder, M.D., M.P.H.; William Seeley, M.D.
- 2:00 p.m.** **Adjourn**



Biographies

Scientific Chair, ADRD Summit 2016

David Holtzman, MD received his BS and MD from Northwestern University followed by a Neurology residency at UCSF. He did post-doctoral research at UCSF and moved to Washington University in 1994. Dr. Holtzman's accomplishments include showing in part how apoE4 contributes to Alzheimer's disease, how synaptic activity and sleep affect amyloid- β ($A\beta$) levels dynamically in vivo, performing initial studies that led to development of an anti- $A\beta$ antibody now in 3 phase III trials, and an anti-tau antibody now in phase I clinical trials. He has received a number of honors including being a recipient of a Paul Beeson Physician Faculty Scholar award in Aging research, the Potamkin prize from the American Academy of Neurology for research on Alzheimer's disease, the MetLife award for Alzheimer's disease research, a MERIT award from the NIA, election to the National Academy of Medicine of the National Academy of Sciences, an alumni merit award from the Northwestern Feinberg School of Medicine, being appointed to the National Advisory Council of the NINDS and the NIH Council on Research on Dementia, the Chancellor's award for innovation and entrepreneurship and the Carl and Gerty Cori award from Washington University, and being elected Fellow of the AAAS. Holtzman has trained over 50 graduate students, post-doctoral fellows, and physician-scientists, many of whom have gone on to successful careers in academia and industry.

Chair of the Advisory Council on Alzheimer's Research, Care, and Services

Ronald C. Petersen, MD, PhD is Professor of Neurology, Mayo Clinic College of Medicine, the Cora Kanow Professor in Alzheimer's Disease Research, and a Mayo Clinic Distinguished Investigator. He is Director of the Mayo Alzheimer's Disease Research Center, the chair of the Advisory Council on Research, Care and Services for the National Alzheimer's Project Act and is on the World Dementia Council. Dr. Petersen is a recipient of the 2004 MetLife Foundation Award for Medical Research in Alzheimer's Disease, the 2005 Potamkin Prize for Research in Pick's, Alzheimer's and Related Disorders as well as the Zaven Khachaturian Award and Henry Wisniewski Award for Lifetime Achievement from the Alzheimer's Association.

Session Chairs

David Bennett, MD is the Robert C. Borwell Professor of Neurological Sciences and director of the Rush Alzheimer's Disease Center. Dr. Bennett received a bachelor's degree in physiology from the University of Michigan, Ann Arbor, in 1979. He earned his doctorate in medicine from Rush Medical College in Chicago, IL in 1984. Following his medical internship, Dr. Bennett returned to Rush for

residency training in neurology and a research fellowship in dementia. He is internationally known for his research regarding the causes, treatment, and prevention of Alzheimer's disease and other common neurologic conditions of aging. Dr. Bennett's primary research interest is understanding the neurobiologic pathways linking genetic and environmental risk factors to loss of cognition, and understanding why many older persons are able to live with severe Alzheimer's disease changes in the brain without suffering from memory loss (cognitive or neural reserve). He is principal investigator of several studies funded by the National Institute on Aging, including the Rush Alzheimer's Disease Core Center, the Religious Orders Study, Rush Memory and Aging Project, and MPI of two AMP-AD grants. He also directs the Regional Alzheimer's Disease Assistance Center for Northern Illinois. He serves on numerous state, national, and international advisory and editorial boards, and has more than 575 peer-reviewed manuscript publications.

S. Thomas (Tom) Carmichael, MD, PhD is a neurologist and neuroscientist in the Department of Neurology at the David Geffen School of Medicine at UCLA. Dr. Carmichael is Professor and Vice Chair in the Department and co-Director of the UCLA Stem Cell Center, with active laboratory and clinical interests in stroke and neurorehabilitation and how the brain repairs from injury. He received his MD and PhD degrees from Washington University School of Medicine in 1993 and 1994, and completed a Neurology residency at Washington University School of Medicine, serving as Chief Resident in 1997-1998. Dr. Carmichael was a Howard Hughes Medical Institute postdoctoral fellow at UCLA from 1998-2001, with studies on mechanisms of the formation of new connections in the brain after stroke (axonal sprouting), with a clinical emphasis on neurorehabilitation and stroke. He has been on the UCLA faculty since 2001. Dr. Carmichael's laboratory studies the molecular and cellular mechanisms of neural repair after stroke and other forms of brain injury. His research focuses on the processes of axonal sprouting and neural stem cell and progenitor responses after stroke, and on neural stem cell transplantation. Dr. Carmichael is an attending physician on the Neurorehabilitation and Stroke clinical services at UCLA.

Susan L-J Dickinson, MS, CGC joined The Association for Frontotemporal Degeneration (AFTD) as Executive Director in February 2008. Under her leadership, AFTD has expanded dramatically in scale and impact, from a \$400,000 organization with a part-time staff of three, to a \$2.8 million organization with 15 full-time staff. During her tenure, AFTD has expanded programs to meet and advocate for the needs of FTD families, and invested in specific strategies to advance FTD research and drug development, including a multi-year, \$5 million initiative to identify biomarkers for FTD. Susan is a certified genetic counselor with more than 25 years' experience facilitating communications among lay, scientific and medical communities for the benefit of patients, their families and professionals. She holds a MS in genetic counseling from Arcadia University and a BA in biology and psychology from Swarthmore College.

Dennis W. Dickson, MD concentrates his research on the neuropathologic characterization of brains from prospective and longitudinal research cohorts sponsored by the National Institute on Aging, such as the Mayo Clinic Alzheimer's Disease Research Center and the Einstein Aging Study. Dr. Dickson's research areas focus on non-Alzheimer's degenerative diseases, including frontotemporal degenerations with or without motor neurons disease, Lewy body dementia and atypical Parkinsonian disorders such as progressive supranuclear palsy and multiple system atrophy, which are supported by funding from National Institute of Neurological Disorders and Stroke. He is director of the brain bank for neurodegenerative disorders at Mayo Clinic, supported in part by the Mangurian Foundation Lewy body Dementia Program. These studies aim to understand the molecular pathology of neurodegenerative disorders that will lead to improved diagnostic accuracy and future therapies. Dr. Dickson's professional highlights include the 2011 Potamkin Prize for Research in Pick's, Alzheimer's and Related Diseases from the American

Academy of Neurology and the 2001 MetLife Foundation Award for Medical Research. He is past President of the American Association of Neuropathologists.

Howard Fillit, MD is an internationally recognized geriatrician and neuroscientist and expert in Alzheimer's disease. He is the Founding Executive Director and Chief Science Officer of the Alzheimer's Drug Discovery Foundation (ADDF), a not-for-profit corporation whose mission is to rapidly accelerate the discovery and development of drugs to prevent and treat Alzheimer's disease. Dr. Fillit has had a distinguished academic medicine career and is currently a clinical professor of geriatric medicine and palliative care, medicine and neurosciences at The Icahn School of Medicine at Mount Sinai Medical Center in New York. Throughout his career, Dr. Fillit has maintained a limited private practice in consultative geriatric medicine with a focus on Alzheimer's disease. He has also served as a consultant, founder, member of the Board of Directors, and member of the Scientific and Clinical Advisory Boards for pharmaceutical, biotechnology and health care companies.

Steven Greenberg, MD, PhD is Professor of Neurology at Harvard Medical School, holds the John J. Conway Endowed Chair in Neurology, directs the Hemorrhagic Stroke Research Program, and is Vice-Chair of Neurology for Faculty Development at the Massachusetts General Hospital. He has served in many national and international leadership roles in the fields of stroke and neurology including president of the International CAA Association, chair of the NIH Acute Neurologic Injury and Epilepsy grant review committee, session co-chair for the NINDS Alzheimer's Disease-Related Dementias Summit, and chair of the American Heart Association International Stroke Conference. Dr. Greenberg has authored over 240 research articles, chapters, reviews, and editorials in the areas of hemorrhagic stroke and small vessel brain disease. Dr. Greenberg received his undergraduate degree in Biochemistry from Harvard University and MD and PhD degrees from Columbia University under the graduate research training of Dr. James Schwartz.

Michael Hutton, PhD obtained his PhD from the University of Cambridge in 1993 under the supervision of Eric Barnard. He moved to the University of South Florida in Tampa as a Post-Doctoral scientist working for Professor John Hardy in 1994 on the Genetics of Alzheimer's Disease. Dr. Hutton established an independent laboratory focused on Alzheimer's diseases and related Dementias at the Mayo Clinic Jacksonville in 1996. He was appointed a full Professor of Neuroscience at the Mayo Clinic College of Medicine in 2003. In 1998, Dr. Hutton's Laboratory, identified genetic mutations in MAPT (tau), on chromosome 17q21, in patients with Frontotemporal Dementia (FTD). Not only did this work determine the cause of the disease in these patients but it also demonstrated that tau dysfunction is sufficient to cause neurodegeneration. This was a critical observation because similar tau dysfunction is observed in a range of other conditions including Alzheimer's disease. As a result, this discovery led to renewed interest in the role of tau in neurodegenerative disease. Dr. Hutton's group went on to make the first mouse models that develop Neurofibrillary Tangles, a defining hallmark of the pathology in FTD and Alzheimer's disease. These mice have become a key tool for studying the mechanism of tau-associated neurodegeneration and also for validating therapeutic hypotheses. Crossing these mice with lines that develop amyloid plaques further provided the first in vivo evidence that A β is able to drive tangle formation, a key issue for understanding the etiology of Alzheimer's disease. Dr. Hutton received the Potamkin and MetLife prizes for his work on tau in 2000 and 2001 respectively. In 2006, Dr. Hutton's group at the Mayo Clinic identified mutations in Progranulin, a second gene on Chromosome 17q21, that also causes FTD. This finding finally resolved a 10 year old mystery regarding the genetic causes of FTD. In addition, the nature of the mutations demonstrated that partial loss of functional Progranulin alone leads to disease development (haploinsufficiency) opening up a new avenue of research into the causes of FTD. Dr. Hutton moved

to Merck Research Laboratories, in July 2007, in order to translate his academic research into novel treatments for Alzheimer's disease. As a Senior Director at Merck he assembled a research team that focused on drug development with an emphasis on tau-based targets. Dr. Hutton subsequently joined Eli Lilly in May 2009 as the Chief Scientific Officer heading Neurodegenerative Disease drug discovery and was appointed UK Neuroscience leader in 2012. He is based at the Lilly Research Centre in Surrey with research teams both in the UK and Indianapolis (USA) that are developing therapies for Alzheimer's disease and Parkinson's disease. Eli Lilly's Alzheimer's program has delivered multiple drug candidates to clinical development including an anti-amyloid antibody (solanezumab) that was recently reported to slow cognitive decline in mild AD in Phase 3 and a BACE1 inhibitor designed to reduce the production of A β . The current preclinical program also includes multiple programs focused on tau-based drug development and on symptomatic therapies.

David Knopman, MD is a 1972 graduate of Dartmouth College, a 1973 graduate of Dartmouth Medical School and a 1975 graduate of the University of Minnesota Medical School. He did his internship at Hennepin County Medical Center, Minneapolis, a Neurology residency at the University of Minnesota and a fellowship in Behavioral Neurology at Hennepin County Medical Center and the University of Minnesota. He is a Professor of Neurology in the Mayo Clinic College of Medicine, a Consultant in Neurology at the Mayo Clinic, and a co-investigator in the Mayo Alzheimer's Disease Research Center. His research and clinical interests are in dementing illnesses. He is an author on over 400 articles on various topics in dementia including aspects of clinical trials, epidemiology, vascular dementia, frontotemporal dementia and Alzheimer's. He was the Deputy Editor of Neurology from 2009 to 2015. He was co-chair of the NIA-AA committee that drafted the revised criteria for Alzheimer's disease dementia. He is currently vice chair of the Medical and Scientific Advisory Council of the Alzheimer's Association, and chair of the Medical Advisory Council of the Association for Frontotemporal Degeneration.

Jennifer Manly, PhD is an Associate Professor of Neuropsychology and Neurology at the G.H. Sergievsky Center and the Taub Institute for Research in Aging and Alzheimer's disease at Columbia University. She completed her graduate training in neuropsychology at the San Diego State University / University of California at San Diego Joint Doctoral Program in Clinical Psychology. After a clinical internship at Brown University, she completed a postdoctoral fellowship at Columbia University. Her research on cognitive and genetic aspects of aging and Alzheimer's disease among African Americans and Hispanics has been funded by the National Institute on Aging and the Alzheimer's Association. She has authored over 160 peer-reviewed publications and eight chapters. She serves as the Chair of the Publications Committee for the International Neuropsychological Society. She joined the Alzheimer's Association Medical & Scientific Research Board in 2012.

Karen S. Marder, MD, MPH is the Sally Kerlin Professor of Neurology at Columbia University Medical Center. She has served as the Chief of the Division of Aging and Dementia since 1991 and has directed the United Council for Neurologic Subspecialties fellowship in Behavioral Neurology and Neuropsychiatry since its inception. Her research and clinical care have focused on the epidemiology and treatment of cognitive, behavioral and motor impairments in a range of neurodegenerative diseases, including Parkinson's disease (PD), Huntington's disease, HIV dementia, and Alzheimer's disease and related disorders. Since 1998 she has focused on characterizing the earliest motor and non-motor signs associated with genetic forms of PD. She served as Co-Chair and then Chair of the executive committee of the Parkinson's Study Group (2006-2012), a consortium of North American investigators at 120 sites who participate in collaborative PD research. She is Associate Director of the Irving Institute for Clinical and Translational research (CTSA) and Co-PI of the Columbia-Weill Cornell NeuroNEXT site, whose

goal is to conduct five to seven Phase II biomarker informed neurological clinical trials over a 7-year period.

William W. Seeley, MD graduated from Brown University in 1994 with a degree in Psychology. He attended medical school at the University of California, San Francisco (UCSF), where he first encountered patients with frontotemporal dementia. He completed a neurology residency at Harvard Medical School, with training at the Massachusetts General and Brigham & Women's Hospitals, before returning to UCSF for a Behavioral Neurology fellowship with Bruce Miller. Dr. Seeley's research seeks to clarify mechanisms of selective vulnerability in frontotemporal dementia by blending anatomy, neuroimaging, and pathology with molecular-genetic analyses. He further hopes to accelerate drug discovery by developing network-based neuroimaging biomarkers for predicting and monitoring disease progression. His work was recognized in 2011 with a Fellowship from the John D. and Catherine T. MacArthur Foundation. He is Associate Professor of Neurology and Pathology at UCSF and Director of the UCSF Neurodegenerative Disease Brain Bank.

Panelists

Sanjay Asthana, MD is Associate Dean for Gerontology, Director of the NIA-funded Wisconsin Alzheimer's Disease Research Center (ADRC), Director of the Madison VAMC Geriatric Research, Education and Clinical Center (GRECC), Head of the Division of Geriatrics & Gerontology and the Duncan G. and Lottie H. Ballantine endowed Chair in Geriatrics at the University of Wisconsin School of Medicine and Public Health. The major focus of Dr. Asthana's research is on the psychopharmacology and neuroendocrinology of estrogen and related gonadal steroids, as it relates to Alzheimer's disease (AD), cognition and mood. Additional areas of his research expertise include clinical trials in patients with MCI and AD. As Director of the Wisconsin ADRC, Dr. Asthana oversees and collaborates on studies identifying antecedent biomarkers of preclinical stages of AD and clinical trials evaluating emerging treatments and prevention strategies for AD. As a geriatrician, a unique feature of his research studies is inclusion of outcomes directly relevant to the care of older adults with dementia. Funded continuously for over 22 years, Dr. Asthana has published extensively in the fields of estrogen therapy, AD and geriatrics, serves on numerous NIH study sections, provides consultation to academic as well as non-academic institutions and oversees multiple national and international collaborations in dementia research.

Lisa Barnes, PhD is Professor in the departments of Neurological Sciences and Behavioral Sciences, and a cognitive neuropsychologist at the Rush Alzheimer's Disease Center at Rush University Medical Center in Chicago. She received her PhD in biopsychology from the University of Michigan and completed a postdoctoral fellowship at UC Davis Center for Neuroscience. Her research has focused on risk factors for cognitive decline and Alzheimer's disease in African Americans. She has expertise designing, conducting, and analyzing longitudinal studies of racial disparities, aging, and Alzheimer's disease, including clinical-pathologic studies. She is Principal Investigator of the NIA-funded Minority Aging Research Study, a longitudinal epidemiologic study of over 700 older African Americans designed to examine the neuropathologic basis of cognitive impairment. She is the Core Leader of the Clinical Core of the Rush Alzheimer's Disease Core Center, and Director of the Rush Center of Excellence on Disparities in HIV and Aging. She has published extensively on racial disparities in aging-related conditions. Dr. Barnes is also considered an expert on minority recruitment for longitudinal studies and does extensive education in the community on awareness of Alzheimer's diseases and other dementias. She has received numerous awards and fellowships, and serves on several national committees.

Geert Jan Biessels, MD, PhD is Professor of Neurology at the Brain Center Rudolf Magnus of the University Medical Centre Utrecht, the Netherlands, with a chair on cerebrovascular disease and cognition. He obtained his PhD in 1997 and was certified as a neurologist in 2004. His research focuses on vascular cognitive impairment (VCI), cognitive dysfunction due to vascular disease. Current aims are to improve detection of the vascular burden in dementia and increase understanding of underlying disease processes. Using the unique properties of high field 7T-MRI his group managed to detect cerebral microinfarcts in vivo. The technique has now been translated to 3T-MRI, greatly facilitating further studies into the clinical significance of microinfarcts. The next goal is to non-invasively image structure and function of the small vessels themselves, thus getting closer to the core processes of small vessel disease. Cognition and dementia in people with diabetes is another key topic. His group has characterized the severity and trajectories of stages of cognitive dysfunction in type 2 diabetes and established underlying structural brain changes with MRI. He is the PI of two large multicentre randomized clinical trials on prevention of cognitive decline in patients with type 2 diabetes. In 2015 he received the senior investigator award from the European Stroke Organisation (ESO). His research has led to publication of over 200 papers he has authored or co-authored.

Brad Boeve, MD is a neurologist with subspecialty training in behavioral/cognitive neurology and sleep medicine. Over the past 15 years he has been focused on the clinical, sleep, neuropsychological, genetic, neuroimaging, and neuropathologic aspects of the neurodegenerative disorders which manifest as cognitive impairment and/or parkinsonism. These disorders include mild cognitive impairment and/or mild parkinsonian signs, dementia with Lewy bodies/Parkinson's disease with dementia, the frontotemporal lobar degeneration (FTLD)-spectrum disorders, and the rapidly progressive dementias such as Creutzfeldt-Jakob disease and the autoimmune/inflammatory encephalopathies. The prodromal features of evolving Lewy body disease (namely REM sleep behavior disorder) and presymptomatic and early symptomatic phases of the genetically-mediated FTLD-spectrum disorders are his particular interests. He has worked with many colleagues in the Mayo Alzheimer's Disease Research Center, Mayo Clinic Study of Aging, Mayo Center for Sleep Medicine, and Morris K. Udall Center of Excellence for PD Research at Mayo Clinic, as well as multiple colleagues at other academic institutions, to advance knowledge in the Alzheimer's disease-related dementias.

Adam L. Boxer, MD, PhD is an Associate Professor of Neurology at the University of California, San Francisco (UCSF) where he directs the Neurosciences Clinical Research Unit. He also directs the Alzheimer's Disease and Frontotemporal Lobar Degeneration (FTLD) Clinical Trials Program at the UCSF Memory and Aging Center. Dr. Boxer's research is focused on developing new treatments and biomarkers for neurodegenerative diseases, particularly those involving tau and TDP-43. He is the Principal Investigator of the Advancing Research and Treatment for FTLD (ARTFL; <https://www.rarediseasesnetwork.org/cms/ARTFL>) Clinical Research Consortium, a collaborative project funded by the National Institutes of Health to create a 15 center North American research network to support the development of new therapies for FTLD including PSP and CBD. He also leads the Four Repeat Tauopathy Neuroimaging Initiative (4RTNI), a multicenter, longitudinal biomarker study focused on PSP and CBD. He was the PI for two recently-completed, multicenter, randomized, placebo controlled clinical trials of memantine for FTLD and davunetide for PSP. He leads the FTLD Treatment Study Group (FTSG), an academic-industry collaborative group working to speed the development of new therapies for FTLD. He is a recipient of the 2013 Part the Cloud Award for Translational Research from the Alzheimer's Association.

Roxana O Carare MD, PhD is a medically qualified Associate Professor in clinical anatomy and experimental neuropathology in the University of Southampton. Having graduated in general

medicine in 1994 in Bucharest, Roxana completed her PhD in experimental neuropathology in 2006, in the University of Southampton, UK. The main international recognition for Roxana Carare has come from the neuroanatomy and neuropathology interdisciplinary research she leads, demonstrating the unique intramural lymphatic drainage pathways by which fluid and soluble amyloid are eliminated from the brain along basement membranes within the walls of cerebral capillaries and arteries. The focus of Roxana's research is to manipulate the pathways to improve the clearance of amyloid and interstitial fluid from the ageing brain, preventing neurodegenerative diseases. Roxana is part of the Academic Committee of British Neuropathological Society. The Carare team has won prestigious British and International awards, most recently Roxana has received a Dementia Research Leader award from Alzheimer's Society UK and is Finalist for Venus Award Influential Woman of the year 2016. Of Romanian heritage, Roxana is Honorary Consul of Romania, Advisor for Age UK Southampton and Patron of Libra Foundation.

Maria C. Carrillo, PhD is Chief Science Officer, Medical and Scientific Relations, at the Alzheimer's Association. At the Association, Dr. Carrillo has a wide range of responsibilities, including oversight of the Association's granting process and communication of scientific findings within and outside of the organization. Dr. Carrillo is responsible for overseeing the international science division for the Alzheimer's Association and is responsible for sharing the global landscape of research and ongoing investigations with a wide range of constituents. Dr. Carrillo also manages several Association initiatives. One of these is the Alzheimer's Association International Conference, the largest international discussion on Alzheimer's and related dementias in the world. Another is the Alzheimer's Association Research Roundtable, which provides a forum for pharmaceutical companies to discuss trends in Alzheimer research and therapeutic targets. Other Association programs managed by Dr. Carrillo include the management of the World-Wide Alzheimer's Disease Neuroimaging Initiative (WW-ADNI), which is a multi-country research effort aimed at finding biomarkers for early detection of Alzheimer's. Dr. Carrillo is a member of the Genworth Financial Medical Advisory Board and an Advisory Committee member for The Shriver Report, and co-editor of *Modernizing the Diagnosis of Alzheimer's Disease*. Dr. Carrillo is also a co-author of the NIA-AA revised criteria, and Appropriate Use Criteria for Amyloid Imaging. She is on the Advisory Committee for the World Health Organization Dementia Setting Priorities & Portfolio Analysis and leads the GAAIN effort which aims to create a federated network to support all publicly accessible data in dementia, and works with the OECD on Big Data Solutions for Global Dementia Research. Dr. Carrillo has published extensively in the area of Alzheimer's disease on early diagnosis and biomarker standardization efforts, in addition to global challenges to progress for research in Alzheimer's and dementia. She also was the Alzheimer's Expert Scientific Consultant for the movie *Still Alice* (2014). Dr. Carrillo received her Ph.D. from Northwestern University's Institute for Neuroscience in 1996. Since graduating from Northwestern, she completed a postdoctoral fellowship in the Division of Neurological Sciences at Rush University Medical Center in Chicago, where she later took a position as an assistant professor. Before joining the Association Dr. Carrillo was a Health Sciences Advisor at the University of Chicago.

Helena Chui, MD is internationally recognized for her research in Alzheimer's disease and vascular cognitive impairment. She is the principal investigator for the NIA-funded Alzheimer Disease Research Center, as well as multi-institutional program projects on vascular dementia. Dr. Chui is the author of over 180 publications and has served on the editorial board for *Stroke*, *Alzheimer Disease and Associated Disorders*, and *JAMA Neurology*. At the University of Southern California, she holds the Raymond and Betty McCarron endowed Chair at the Keck School of Medicine and serves as the Chair of the Department of Neurology.

Suzanne Craft, PhD received her degree specializing in Neuropsychology from the University of Texas at Austin, and then completed fellowships in Behavioral Neuroscience at Boston University and Harvard Medical School. She is Professor of Medicine at Wake Forest School of Medicine. Her research investigates the mechanisms through which peripheral and brain insulin resistance contributes to the development of Alzheimer's disease. Based on this work, her laboratory has now begun trials of intranasal insulin, exercise, and dietary intervention as possible therapeutic or preventative approaches for Alzheimer's disease. She is a recipient of an NIH MERIT award, an Alzheimer's Association Zenith Award, and a special grant from the National Alzheimer's Plan to carry out a multisite study of intranasal insulin for the treatment of early AD.

Marc Diamond, MD is the founding Director of the Center for Alzheimer's and Neurodegenerative Diseases, and is a Professor of Neurology and Neurotherapeutics. Dr. Diamond completed an internship, residency, and chief residency in neurology at the University of California, San Francisco (UCSF) in 1997. After a postdoctoral fellowship, he was a faculty member in the Neurology Department at UCSF from 2002-2009. From 2009-2014 he was the David Clayson Professor of Neurology at Washington University in St. Louis, before he was recruited to UT Southwestern. His research focuses on molecular mechanisms of neurodegeneration in Alzheimer's disease and related disorders, with the goal of developing novel therapies and diagnostic tools. A therapeutic antibody he co-developed at Washington University in St. Louis is now entering clinical trials for treatment of dementia. The Center for Alzheimer's and Neurodegenerative Diseases is comprised of a multidisciplinary group of investigators who are focused on understanding the basis of progressive protein aggregation in human disease. They are using this knowledge to hasten the day when neurodegeneration can be detected presymptomatically and stopped before it causes disability.

Martin Dichgans, MD is Professor of Neurology at Ludwig-Maximilians-Universität (LMU, Munich, Germany) and the Founding Director of the Institute for Stroke and Dementia Research at LMU. He is Director of the Munich Stroke Center, President of the German Stroke Society (DSG), and on the Executive Committee of the European Stroke Organization (ESO). His major research interest is in the mechanisms, diagnosis and treatment of small vessel disease, stroke and vascular cognitive impairment (VCI). His methodological focus is in genetics, molecular biology, imaging and the conduction of investigator-initiated studies. Dr. Dichgans authored over 200 research articles, reviews, and editorials. He served as a principal investigator on multiple national and European research grants, and in leadership positions at national and international conferences on stroke and dementia. Dr. Dichgans was a principal investigator in a number of clinical trials including a multicenter trial on VCI. He is on the editorial board of the journals Stroke, International Journal of Stroke, European Stroke Journal, and Frontiers in Stroke. Dr. Dichgans serves as chair of the scientific advisory board of the EU ERANET Neuron. He also serves on the scientific boards of the DFG-funded Excellence Cluster Munich Cluster for Systems Neurology (SyNergy) and the Graduate School for Systemic Neurosciences (GSN).

Brad Dickerson, MD is the Director of the Massachusetts General Hospital Frontotemporal Disorders Unit and Center for Translational Brain Mapping in Boston. He is also a behavioral neurologist in the MGH Memory Disorders Unit and co-investigator on the Neuroimaging Core of the Alzheimer's Disease Research Center. He is an Associate Professor of Neurology at Harvard Medical School. Dr. Dickerson runs a multidisciplinary clinic caring for patients with various forms of cognitive impairment and dementia, as well as providing training for clinical and research fellows. His research employs quantitative structural, functional, and molecular neuroimaging techniques, along with quantitative behavioral and psychophysiologic measures, to investigate dementias as well as normal aging. He has published more than 100 articles in peer-reviewed

scientific journals as well as many book chapters, and has edited two recent books on dementia. He has won a number of awards, including the American Academy of Neurology Norman Geschwind Award in Behavioral Neurology, and honorable mention for the Schwartz Center for Compassionate Care award.

Guy S. Eakin, PhD is responsible for the development and implementation of BrightFocus Foundation's global research strategies. He leads efforts to propel innovative research through strategic initiatives, partnerships, and the highly successful BrightFocus Foundation research funding portfolio. This program manages more than 150 ambitious projects directed at eliminating Alzheimer's disease, macular degeneration, and glaucoma. In addition to advancing novel therapeutics, BrightFocus Foundation maintains one of the broadest non-profit catalogues of research into the root causes of these disorders. Dr. Eakin serves on boards and advisory committees in the fields addressed by BrightFocus Foundation, and speaks to the news media on its behalf, including interviews with the New York Times, TEDMED, and National Public Radio. He is moderator of BrightFocus Chats, a popular monthly series of patient-oriented teleconferences on low vision diseases such as macular degeneration. Prior to coming to BrightFocus in 2006, Dr. Eakin worked in medical research at Memorial Sloan Kettering Cancer Center in New York City, and at the University of Texas, M.D. Anderson Cancer Center in Houston, Texas. During his research career, he pioneered new ways of visualizing complex microscopic events in living cells and animals. Dr. Eakin earned a PhD in developmental biology from Baylor College of Medicine, and a bachelor's degree in biology from Indiana University.

James E. Galvin, MD, MPH is Professor of Integrated Medical Sciences and Associate Dean for Clinical Research at the Charles E. Schmidt College of Medicine, Florida Atlantic University and is the Director of the Institute for Healthy Aging and Lifespan Studies (I-HeAL). Dr. Galvin has authored 175 scientific publications on healthy brain aging, cognitive health, memory loss, Alzheimer's disease, Lewy Body dementia, and related disorders. Dr. Galvin's research has been funded by the National Institutes of Health, Centers for Disease Control, Michael J Fox Foundation, American Federation for Aging Research, Alzheimer's Association, Association for Frontotemporal Degeneration, New York State Department of Health, Florida Department of Health, and Alzheimer Drug Discovery Foundation.

Maria Glymour, ScD is an associate professor at the University of California, San Francisco. She is a social epidemiologist trained at the Harvard School of Public Health and Columbia University Mailman School of Public Health. Her research focuses on social inequalities in old age health, including cognitive function, dementia, and stroke. She is interested in overcoming such methodological problems encountered in neuroepidemiology and social epidemiology as statistical biases in common longitudinal analyses, selective attrition in dementia studies, and accounting for time-varying confounding to identify causal determinants of dementia and cognitive losses. She currently focuses on longitudinal trajectories of functioning and determinants of resilience in the context of stroke and dementia; genetic instrumental variables analyses to assess the intersection of vascular disease and cognitive outcomes; and lifecourse social determinants of stroke and cognitive aging.

Todd Golde, MD, PhD is a Professor of Neuroscience at the University of Florida, where he directs the Center for Translational Research in Neurodegenerative Disease and the NIH-funded Alzheimer's Disease Research Center in Florida. Dr. Golde received his MD PhD from Case Western Reserve University. He completed a residency in Laboratory Medicine at University of Pennsylvania. After beginning his independent career at University of Pennsylvania, he moved to Mayo Clinic Florida where he rose from Assistant Professor of Pharmacology to both Professor of

Neuroscience and chair of Mayo Clinic's internationally recognized Department of Neuroscience. Dr. Golde has published over 200 peer-reviewed manuscripts that have been cited over 18,000 times. Dr. Golde is well known for his translational research in Alzheimer's disease and his work on γ -secretase modulators, the role of innate immunity in Alzheimer's disease, and more generally immunotherapy for neurodegenerative diseases. His scientific honors include the Paul Beeson Physician Faculty Scholar, an Alzheimer's Association Zenith, and MetLife Foundation Awards. In addition to his research and intramural administrative activities, Dr. Golde is an active advocate for AD and neurodegenerative disease research at the state, national and international levels. He serves on two state boards that provide input regarding AD initiatives in the State of Florida and serves on the national medical and scientific advisory boards for the Alzheimer's Association, BrightFocus Foundation and AFAR.

Jennifer G. Goldman, MD, MS is an Associate Professor in the Department of Neurological Sciences, Section of Parkinson's Disease and Movement Disorders at Rush University Medical Center in Chicago, IL, USA. Dr. Goldman is a movement disorder neurologist with specialty training in Behavioral Neurology and Neuropsychiatry. Her research focuses on understanding and improving treatments for cognitive and behavioral features of Parkinson's disease, Lewy body disorders and other parkinsonian syndromes using neuroimaging and other biomarkers. Dr. Goldman graduated from Princeton University and received her MD from Northwestern University Medical School. She completed her neurology residency training at Washington University in St. Louis, followed by a movement disorder fellowship and a Master of Science degree in Clinical Research at Rush University in Chicago. As a movement disorder specialist, Dr. Goldman treats patients with Parkinson's disease, Dementia with Lewy bodies, atypical parkinsonian disorders, dystonia, and other movement-related conditions. Her work has been funded by NIH, Michael J. Fox Foundation, Rush University, and the Parkinson's Disease Foundation, among others. She has published multiple research articles and book chapters on Parkinson's disease, cognition, and other movement disorders. Dr. Goldman is the co-chair of the Parkinson's Study Group Biomarkers Working Group and on the Steering Committees of the Movement Disorders Society Task Force on Parkinson's disease-Mild Cognitive Impairment (PD-MCI) and Michael J. Fox Foundation BioFIND biomarkers study. She also serves on the Lewy Body Dementia Association Scientific Advisory Committee, Movement Disorder Society PanAmerican Education Committee, and the Dystonia Foundation's Medical Advisory Committee for Musicians with Dystonia.

Hector M. González, PhD is a Michigan State University Associate Professor of Epidemiology and Biostatistics in the College of Human Medicine. He is a licensed clinical neuropsychologist with clinical research training and experience in Alzheimer's Disease Research Centers in California and Michigan. Dr. González was a clinical research fellow and later became a co-investigator of the Sacramento Area Latino Study on Aging (SALSA), which is a landmark dementia study among Latinos. He was Principle Investigator of the Hispanic Community Health Study/Study of Latinos (SOL) Neurocognitive Reading Center, which is the largest and most in-depth study of Latino neurocognitive health to date. Dr. González is PI of the Study of Latinos-Investigation of neurocognitive aging (SOL-INCA), which is a study examining midlife risks for Alzheimer's disease and related dementias among diverse US-based Latinos. Dr. González's research efforts are primarily focused on population-based cardiovascular and neuroepidemiologic studies of midlife markers of brain aging, neurocognitive decline, and ethnic/racial inequalities in Alzheimer's disease and related dementias among diverse Latinos.

Neill R. Graff-Radford, MBBCH, FRCP (UK) is the David Eisenberg Chair of Neurology at Mayo Clinic. He completed a Neurology Residency at the University of Colorado Health Science Center in Denver, a fellowship in Behavioral Neurology with Dr. Damasio in Iowa where he stayed on the

faculty for 7 years. He has been at Mayo Clinic Jacksonville for 27 years and was promoted to full Professor at the Mayo College of Medicine in 1994. He served as Chair of the Department of Neurology for 10 years until 2004. Dr. Graff-Radford's early work was on the anatomy of Diencephalic amnesia and the different clinical syndromes related to thalamic strokes. He has published extensively in the area of Normal Pressure Hydrocephalus and is working on ventriculomegaly being a biomarker for gait and cognitive decline. He has worked in the field of plasma biomarkers for Alzheimer's disease and is now exploring their possible role in Lewy body disease. He has published many clinicopathological studies including several on Posterior Cortical Atrophy and most recently on the different pathological variants of Alzheimer's disease. With his large collections of cases and controls he has contributed to the genetics of Alzheimer's disease, Frontotemporal Dementia, Corticobasal Degeneration and Lewy body disease. He is the Clinical Core Leader of Jacksonville's component of the Mayo Alzheimer's Disease Research Center.

Atticus H Hainsworth, PhD is a Senior Lecturer in Cerebrovascular Disease at St George's University of London, UK. He is an expert in the pathology of cerebral small vessel disease, the primary cause of Vascular Contributions to Cognitive Impairment and Dementia (VCID). His interests are in the pathological processes that underlie small vessel disease and the associated white matter lesions. He has explored pathogenic mechanisms of small vessel disease in human brain tissue derived from large cohorts (primarily the OPTIMA and MRC-CFAS cohorts). He has also provided systematic reviews of animal models relevant to VCID. Dr. Hainsworth received his undergraduate training in Natural Sciences from Cambridge University and his PhD in Physiology and Biophysics from Rush Medical Center, Chicago. He is Chief Investigator on the PASTIS trial, testing tadalafil for possible repurposing in VCID.

John Hardy, PhD was a lecturer at Imperial College where he led the group that found the first mutation in the amyloid gene that caused Alzheimer's disease. He moved to the US in 1992 and by 1998 was part of the consortium, which identified mutations in the tau gene in Pick's disease. During 2001 at NIH, he was part of the group that found triplications in the synuclein gene that caused Parkinson's disease. He returned to the Institute of Neurology (UCL) in 2007 and most recently he led the group that found TREM2 variants in Alzheimer's disease– the first high risk variant for the disorder found in 20 years. His many awards include the Anna Marie Opprecht Prize for work on Parkinson's disease, several others for Alzheimer's disease, the 2011 Khalid Iqbal Lifetime Achievement Award, and IFRAO European Grand Prize. He is an elected member of the Academy of Medical Sciences, received an Honorary MD degree from the University of Umea, an F.R.S. from the Royal Society in 2009 and O.Sc. from the University of Newcastle in 2010. He is also the recipient of the Breakthrough Prize in Life Sciences.

Michael Hutton, PhD is the Chief Scientific Officer for Neurodegenerative Disease at Eli Lilly, a position he has held since joining the company in 2009. He was appointed UK Site Scientific Leader in 2012 and leads drug discovery for Alzheimer's disease, Parkinson's disease, and frontotemporal dementia. Eli Lilly's Alzheimer's program has delivered multiple drug candidates to clinical development, including an anti-amyloid antibody (solanezumab) that was recently reported to slow cognitive decline in mild AD in Phase 3 and a BACE1 inhibitor. Prior to joining Lilly, Dr. Hutton worked at Merck and at the Mayo Clinic Jacksonville. During his time at Mayo, his team played a major role in determining the causes of frontotemporal dementia with the discovery of mutations in tau and progranulin and the mechanism by which these lead to neurodegeneration. He was awarded the Potamkin Prize and MetLife Foundation Award in 2000 and 2001, respectively for his work on frontotemporal dementia.

Costantino Iadecola, MD is the Anne Parrish Titzell Professor of Neurology and Director of the Feil Family Brain and Mind Research Institute (BMRI) at Weill Cornell Medical College, New York, a position he has held since 2012. Dr. Iadecola received the MD degree from the University of Rome, Italy, in 1977 and completed post-doctoral training and residency training in neurology at Cornell University Medical College-New York Hospital. After spending 10 years at the University of Minnesota, Dr. Iadecola was recruited back to Cornell in 2001 as Professor and Head of the Division of Neurobiology. In 2012, he was appointed Director of the BMRI, a new academic department at Weill Cornell. Dr. Iadecola's research deals with the mechanisms of normal and abnormal cerebrovascular regulation, and on the molecular pathology of ischemic brain injury and neurodegeneration. A major area of interest relates to the interactions between cardiovascular risk factors, stroke, vascular dementia and Alzheimer's disease. Dr. Iadecola has authored over 280 journal articles and plays a leadership role in national and international networks for stroke and dementia research. Dr. Iadecola is a recipient of two Javits Awards (2009 and 2015) from the NIH/NINDS, the Willis Award, the highest honor in stroke research bestowed by the American Heart Association (AHA), and of the Zenith Fellow Award from the Alzheimer's Association. In 2015 he received the Excellence Award for Hypertension Research (Novartis-AHA), in recognition of his seminal work on the impact of hypertension on the brain and Alzheimer's disease pathology. He is on several editorial boards, including the Annals of Neurology, Circulation Research, and the Journal of Cerebral Blood Flow and Metabolism, and has been active in various editorial capacities for Stroke, Hypertension, Circulation, Clinical Science, the Proceedings of the National Academy of Sciences, and the Journal of Neuroscience. In 2015 he was elected to the Association of American Physicians.

Gene G. Kinney, PhD is a founding member of the Prothena executive team where he serves as Chief Scientific Officer and Head of Research and Development, with responsibility for the company's scientific strategy and R&D pipeline and operations. Between 2009 and 2012, he was Senior Vice President of Pharmacological Sciences for Elan Pharmaceuticals, Inc; and while in that position, Dr. Kinney also served as Head of Nonclinical Research for Janssen Alzheimer Immunotherapy R&D. In these roles he provided core contributions towards the development of bapineuzumab, one of the first immunotherapies tested against Alzheimer's disease. From 2001 to 2009, he was Senior Director, Head of Central Pharmacology and acting lead for Bioanalytics & Pathology at the Merck Research Laboratories, where he contributed to the strategic direction and oversight of drug discovery activities and led a number of non-clinical discovery and clinical development programs targeted for the treatment of neurodegenerative and psychiatric conditions. Dr. Kinney also held positions at Bristol-Myers Squibb and was an Assistant Professor at the Emory University School of Medicine, Department of Psychiatry and Behavioral Sciences.

David Kleinfeld, PhD is a Distinguished Professor of Physics and of Neurobiology at UC San Diego. He currently holds the Experimental Biophysics Endowed Chair. Kleinfeld takes engineering and physiological approaches to bridge phenomena at different levels in the brain. Kleinfeld pioneered, catalyzed by initial work with W. Denk and J. A. Squier, linear and non-linear optical tools to measure and perturb the flow of blood in cortical vessels. Kleinfeld's team used these tools to reveal that the 2-D surface network of cortex and the 3-D underlying capillary network are insensitive to single perturbations to flow, but that occlusion of even a single vessel that bridges these networks results in a microstroke and a cognitive deficit. Further, using optics and machine learning to automate histology, his team created the first angiome, a complete 3-D vascular network that serves to predict patterns of blood flow in cortex. Kleinfeld brought the notion of active sensing, i.e., that sensation and motor control of the sensors are inexplicably linked, to the study of vibrissa somatosensation. His team performed the first neuronal recordings, from brainstem through cortex, in alert and whisking animals. This body of work revealed that rodents code

vibrissa-based touch in terms of phase in the whisk cycle, i.e., "location through motion." In a technical tour-de-force, Kleinfeld and M. Deschênes discovered the central pattern generator that drives whisking, showed that it is paced by inspiration, and conceived the notion of breathing as a master oscillator to coordinate orofacial motor actions into behaviors. Kleinfeld is a tireless mentor to young scientists. He co-directed and/or lectures in postgraduate schools in three subfields in which he supplied original contributions: Computational Neuroscience, Optical Imaging, and Neuroinformatics.

Jin-Moo Lee, MD, PhD is Professor of Neurology, Radiology, and Biomedical Engineering at Washington University School of Medicine; Director of the Cerebrovascular Disease Section in the Department of Neurology; and Co-Director of the Stroke and Cerebrovascular Center at Barnes-Jewish Hospital and Washington University. He has authored over 120 research articles, chapters, reviews and editorials on stroke and Alzheimer's Disease, and the interface of these two diseases of the elderly. His research spans the translational spectrum from cell and animal models of neurological diseases to clinical studies involving genetics and multimodal neuroimaging. Dr. Lee has been continuously funded by the NIH since 2000. He graduated from Yale College with a degree in Molecular Biophysics and Biochemistry, then attended Weill Cornell Medical College, earning an MD and PhD in developmental neuroscience. After completing residency training at the University of Pennsylvania, he completed a neurovascular fellowship at Washington University, where he subsequently joined the faculty in the Department of Neurology.

Virginia Lee, PhD obtained her PhD in Biochemistry, University of California San Francisco (1973) and an MBA at the Wharton School (1984). She is the John H. Ware 3rd Professor in Alzheimer's Research and directs the Center for Neurodegenerative Disease Research at the University of Pennsylvania. Her work was instrumental in demonstrating that tau, α -synuclein and TDP-43 proteins form unique brain aggregates with a central role in numerous neurodegenerative diseases, including Alzheimer's, Parkinson's, frontotemporal dementias and amyotrophic lateral sclerosis. She is a member of the Institute of Medicine and American Academy of Arts and Sciences and her research on Alzheimer's disease has won her numerous awards.

Eliezer Masliah, MD received his Medical Doctor Degree from the National Autonomous University of Mexico in 1982. After completing a post-graduate residency training in Pathology at the National Institutes of Health in Mexico City in 1986, Dr. Masliah completed a fellowship in Neuropathology and neurodegenerative disorders at the University of California, San Diego in 1989. Dr. Masliah was recruited both by the Departments of Neurosciences and Pathology at the University of California, San Diego where he is currently Tenured Professor, Director of the Laboratory of Experimental Neuropathology and attending physician at the UCSD-Medical Center. His work is focused on understanding the mechanisms of synaptic degeneration and misfolded protein aggregation and propagation in Alzheimer's disease (AD) and Parkinson's disease (PD) as well as other neurodegenerative disorders. Dr. Masliah's laboratory is credited with developing novel experimental models of AD, PD, MSA and HIV neurotoxicity. His laboratory was first to investigate the role of alpha-synuclein in neurodegenerative disorders and at developing gene therapy approaches, antibodies and small molecules targeting alpha synuclein for the treatment of AD, PD, dementia with Lewy bodies and MSA. Dr. Masliah has published over 800 original research articles, 75 books chapters, over 15 patents and 4 programs initiated in his laboratory have now advanced to Phase I clinical trials.

Ian McKeith MD, FRC Psych, FSB, FMedSci is Professor of Old Age Psychiatry at Newcastle University. His dementia research career has included clinicopathological brain banking studies, population-based epidemiology and clinical trials. His current programme is based in the

Newcastle Biomedical Research Unit in Lewy Body dementia with a focus on early diagnostics and novel therapeutics. He established the Consortium on Dementia with Lewy Bodies, which developed consensus guidelines for clinical and pathological diagnosis, and treatment, which are now used globally. From 2005-2015 he was Director of the UK National Dementias and Neurodegenerative Diseases Research Network (DeNDRoN) responsible for delivering clinical trials within NHS in England. He is an NIHR Senior Investigator, founding President of the Lewy Body Society national charity and a member of several international editorial and advisory boards. He has published over 400 peer-reviewed articles with over 35,000 citations and has received Lifetime Achievement Awards from the UK Royal College of Psychiatrists in 2008, and from the American Alzheimer's Association International Conference (AAIC) in 2015.

Manuela Neumann, MD is Professor of Neuropathology at the University of Tübingen, Germany, Medical Director of the Department of Neuropathology of the University Hospital, and senior research group leader at the German Center for Neurodegenerative Diseases. Her main research focus is to unravel the molecular pathology and underlying pathomechanisms of neurodegenerative diseases by studying human tissues and animal models. She is internationally recognized for her pioneering work on the identification and characterization of TDP-43 and FET proteins in frontotemporal dementia and amyotrophic lateral sclerosis. She has published over 130 peer-reviewed articles and has received several prestigious research awards, including the IFRAD European Grand Prix and the Alzheimer Research Award from the Hans&Ilse Breuer Foundation in 2012. Manuela Neumann serves as a member of the editorial board of *Acta Neuropathology* and of the Board of Directors of the International Society for Frontotemporal Dementia (ISFTD), and she is co-organizer of the 10th International Conference of Frontotemporal Dementias in 2016.

Sid O'Bryant, PhD is an Associate Professor in the Institute for Healthy Aging at the University of North Texas Health Science Center. Dr. O'Bryant's areas of research include cognitive aging among Mexican Americans and blood-based biomarkers of cognitive loss and Alzheimer's disease. He is the PI of the Health & Aging Brain among Latino Elders (HABLE) study, which seeks to identify mechanisms of health disparities in cognitive aging. He has also generated a blood-based algorithm for detecting and discriminating amongst neurodegenerative diseases which has been validated across species, tissue types, assay platforms cohorts (clinic and community-based) and ethnicities. His recent work has demonstrated that blood-biomarkers related to MCI and AD varies according to ethnicity. Dr. O'Bryant completed his PhD in clinical psychology with a neuropsychology emphasis from the University at Albany, his neuropsychology internship at the University of Mississippi/Jackson VA consortium, and his fellowship at the New Orleans VA Medical Center. His work has been funded by the Alzheimer's Association, NIH/NIA, Environmental Protection Agency, the State of Texas as well as numerous private foundations. He has published over 130 research articles. He is the founding Chair of the international Blood-Based Biomarker Group Professional Interest Area (PIA) of the International Society to Advance Alzheimer's Research and Treatment (ISTAART).

Chiadi Onyike, MD, MHS is a neuropsychiatrist and clinical epidemiologist, an Associate Professor of Psychiatry and Behavioral Sciences at the Johns Hopkins University, and the Director of the Hopkins Young-Onset Dementias Program. His work focuses on dementia in young and middle-age adults and, particularly, on the epidemiology, neuropsychiatry and treatment of the frontotemporal dementias, young-onset Alzheimer disease, vascular dementias, and related disorders. He is a member of the Medical Advisory Council of the Association for Frontotemporal Dementias, the FDA Advisory Committee for Central and Peripheral Nervous System Drugs, and the State of Maryland's Virginia I. Jones Committee on Alzheimer's Disease and Related Disorders, and served for six years on the Board of Directors of the Alzheimer's Association in Maryland.

Rodney Pearlman, PhD is President of The Bluefield Project to Cure Frontotemporal Dementia. Bluefield is a non-profit foundation based in San Francisco that manages a consortium of 17 researchers focused on developing treatments for this devastating neurodegenerative disease. He was involved in founding several biotech companies, including Saegis Pharmaceuticals until its acquisition by H. Lundbeck A/S. The Saegis developed compound Idalopirdine (SGS518) is currently in pivotal studies in Alzheimer's disease. Rodney was formerly Senior Vice President of Research and Development at the gene therapy company Valentis, and previously a Director of Pharmaceutical Research and Development at Genentech. At Genentech his team developed novel formulations, processes and delivery systems for a number of recombinant human proteins. He also led the Project team for Nutropin human growth hormone through its NDA approval. Rodney taught at the University of Texas in Austin and was previously a Senior Scientist with Eli Lilly and Company. Rodney received his PhD in pharmaceutical chemistry from the University of Kansas in the area of delivery of drugs to the brain. He received his B. Pharm. from the Victorian College of Pharmacy, Monash University, Melbourne, Australia.

Joel S. Perlmutter, MD is the Elliott Stein Family Professor of Neurology, Professor of Radiology, Neurobiology, Occupational Therapy and Physical Therapy at Washington University in St. Louis. He is the Head of Movement Disorders for the Department of Neurology and is the director of the NeuroClinical Research Unit. His research interests include development of biomarkers for PD, investigations of pathophysiology of PD and dystonia, investigations of dementia in PD, studies of deep brain stimulation and development of new neuroimaging methods. His research spans animal models and patient-oriented research; he has published more than 230 peer-reviewed articles. He is co-PI of the Dystonia Coalition (PI: Hydar Jinnah at Emory), a multicenter U54 for studying focal dystonias. He serves on the Scientific Advisory Boards of the American Parkinson Disease Association and the Dystonia Medical Research Foundation. He has had 25 years of continuous NIH funding for his research. He is a fellow of the American Academy of Neurology and the American Neurological Association. He is also a member of the Movement Disorders Society, the International Basal Ganglia Society and the Society for Neuroscience. He is currently on the Editorial Board of Neurology.

Leonard Petrucelli, PhD is Professor of Neuroscience at the Mayo Clinic Jacksonville is ushering in a new era of neurodegenerative disease research. Dr. Petrucelli's team has been at the forefront of research investigating the cellular mechanisms that cause neurodegeneration in diseases characterized by abnormal protein aggregation, such as Alzheimer's disease, frontotemporal dementia (FTD) and amyotrophic lateral sclerosis (ALS). In expanding upon his commitment to understanding the causes of such diseases, Dr. Petrucelli is now emphasizing translational research geared toward identifying and developing therapies for treatment and prevention. Dr. Petrucelli's lab aims to identify molecular culprits, including identifying the role epigenetic events may play in disease, and to develop therapeutic strategies to improve the prognosis for patients with neurodegenerative disorders. By combining expertise in drug discovery, cell biology and induced pluripotent stem cell (iPSC) modeling, his lab aims to design and optimize selective and potent compounds that can be developed into a therapy for patients who have C9orf72-related disorders and develop therapeutic inhibitors for the treatment of Alzheimer's disease and FTD. Given that no biomarker currently exists for clinicians to definitively diagnose ALS or FTD, identifying potential biomarkers and therapeutic targets may greatly aid future drug discovery.

Rosa Rademakers, PhD is consultant and Professor of Neuroscience at Mayo Clinic in Florida and is recognized as the Mildred A. and Henry Uihlein II Professor of Medical Research. Her research is focused on the molecular genetics analyses of neurodegenerative diseases, with a special interest in frontotemporal dementia (FTD), amyotrophic lateral sclerosis (ALS) and early-

onset Alzheimer's disease (AD). Her research program aims to provide new insights into disease pathogenesis and to identify novel targets for therapy through the discovery and subsequent study of novel disease genes. Dr. Rademakers has been at the forefront of neurodegenerative disease research since playing a critical role in the discovery of progranulin (PGRN) as the first causal gene implicated in FTD with TDP-43 pathology. In 2011, her laboratory made the landmark discovery that C9ORF72 repeat expansions were the long sought-after cause of ALS and FTD linked to chromosome 9p. She also identified novel causal mutations in MAPT, TARDBP, FUS, VCP, TAF15, hnRNPA1 and hnRNPA2/B1, confirmed ATXN2 as a risk factor for ALS and contributed significantly to the identification of the uncharacterized transmembrane protein 106B (TMEM106B) as the first genetic risk factor for FTD. Dr. Rademakers has published over 200 peer-reviewed original articles and reviews and her research is supported by multiple NIH grants. She has received the Paolo Gontijo Medicine Award and the acclaimed Sheila Essey Award for ALS Research from the ALS Association in partnership with the American Academy of Neurology. She is also the recipient of the 2016 Potamkin Prize for Research in Pick's, Alzheimer's and Related Disorders of the American Academy of Neurology.

Simon Ridley PhD is Director of Research at Alzheimer's Research UK, where he is responsible for the NGO's \$45m research portfolio covering Alzheimer's and other dementias. He is an active participant in research funding partnerships and cross-funder activity. Simon is also a regular UK public and media spokesperson on dementia research matters. He received his PhD from the University of Cambridge and had prior careers in academic and biopharma research.

Erik Roberson, MD, PhD is an Associate Professor of Neurology and Neurobiology and the Virginia B. Spencer Professor of Neuroscience at the University of Alabama at Birmingham, where he also serves as Director of the Alzheimer's Disease Center, Co-Director of the Center for Neurodegeneration and Experimental Therapeutics, and Co-Director of the McKnight Brain Institute. He received his AB with highest honors from Princeton University and earned his MD and PhD in neuroscience at Baylor College of Medicine in Houston. He was a resident and chief resident in neurology at the University of California San Francisco (UCSF), then completed fellowships in behavioral neurology with Dr. Bruce Miller at UCSF and neurodegenerative disease research with Dr. Lennart Mucke at the Gladstone Institute of Neurological Disease. Dr. Roberson's laboratory studies Alzheimer's disease and frontotemporal dementia, focusing on questions about the role of tau and neuronal hyperexcitability, mechanisms of behavioral dysfunction induced by mutant tau or loss of progranulin, and identification of new therapeutic strategies. Dr. Roberson also cares for patients in the UAB Memory Disorders Clinic and conducts clinical trials for tauopathies.

Jonathan Rohrer MD, PhD is an Honorary Consultant Neurologist at the National Hospital for Neurology and Neurosurgery and MRC Clinician Scientist at the UCL Institute of Neurology. His research focuses on the neuroimaging and neuropsychology of frontotemporal dementia (FTD), particularly in relation to their underlying genetic causes. Since 2011 he has co-ordinated the Genetic FTD Initiative, GENFI, a multicentre cohort study of presymptomatic genetic FTD (www.genfi.org.uk). He has also set up FTD UK (www.ftduk.org), an annual scientific meeting of UK researchers who work in the FTD field, and runs a website (www.ftdtalk.org) dedicated to providing research updates to the general public about FTD.

Gary A. Rosenberg, MD is a professor in the departments of Neurology, Neurosciences, Cell Biology and Physiology, and Mathematics and Statistics at the University of New Mexico Health Sciences Center. He graduated from the Albert Einstein College of Medicine in New York and trained there in neurology. He recently was appointed Director of a new Memory and Aging Center in the medical school, which will be one of the first in the Southwest. For the past 30 years he

served as the Chairman of Neurology. He discovered that the matrix metalloproteinases break down the blood-brain barrier in many neurological diseases, including vascular dementia. His current NIH funded research involves identifying biomarkers in the CSF and neuroimaging in patients with vascular cognitive impairment and Alzheimer's disease that can be used in identifying neuroinflammation, and developing anti-inflammatory agents in animal models that can be translated into clinical trials.

Clemens Scherzer, MD is a physician-scientist at Harvard and Brigham and Women's Hospital. Dr. Scherzer leads the Neurogenomics Lab and Parkinson Personalized Medicine Program. He co-founded and co-directs the Biomarkers Program of the Harvard NeuroDiscovery Center and is Associate Professor of Neurology at Harvard Medical School. Dr. Scherzer uses genomics and big data to develop a proactive and personalized medicine for Parkinson's disease. His interdisciplinary lab includes computer scientists, genome biologists, and clinicians. The lab's goal is to map the entire genome space, epigenome space, and clinical data space in order to identify the disease driver active in an individual patient and to match tailored drugs and tests. This ParkinsonDiscovery Engine is powered by massive genome, biology, and health data being generated from the Harvard Biomarkers Study, today with more than 2,400 participants one of the largest longitudinal biobanks for Parkinson's in the world. To understand how the human genome encodes human brain cells in health and disease, Dr. Scherzer is leading the BRAINCODE project with funding from the NIH and the Department of Defense. This initiative is establishing a Brain Cell encyclopedia of all transcribed Elements in 140 autopsy brains using ultra-deep, cell-type specific, total RNA sequencing. Dr. Scherzer completed his neurology residency at Emory University and has been on the Harvard faculty since 2003. He is the recipient of the Dr. Paul Beeson and the George C. Cotzias Memorial Awards. He is on the Steering Committee of the NIH Parkinson's Disease Biomarkers Program, on the Vision Setting Panel of the Department of Defense NETPR, and on the Scientific Advisory Board of the American Parkinson Disease Foundation, and serves on the Editorial Boards of *Neurogenetics* and *Biomarkers in Medicine*.

Julie A. Schneider, MD is a Professor of Pathology (Neuropathology) and Neurology at Rush University Medical Center and Rush Alzheimer's Disease Center in Chicago, IL. She completed her Neurology training at the University of Chicago and Neuropathology training at Emory University in Atlanta and is board certified in both specialties. Dr. Schneider has fellowship training in the neuropathology of dementia, is certified in Geriatric Neurology, and has a Master's Degree in Clinical Research with a focus in Epidemiology. She is the Associate Director and Neuropathology Core Leader of the Rush Alzheimer's Disease Center and the senior neuropathologist for the Religious Orders Study, the Rush Memory and Aging Project, and the Minority Aging Research Study. Dr. Schneider has extensive experience with clinical-pathologic epidemiologic studies of aging and dementia and has over 200 peer-reviewed publications and four book chapters. Dr. Schneider's research focuses on Alzheimer's and other degenerative pathologies, vascular diseases, and mixed brain pathologies and their role in age-related cognitive and motor decline. She is currently exploring risk factors, mechanisms, and the clinical expression of Alzheimer's and other dementias in persons with TDP-43 pathology and microvascular disease.

Sudha Seshadri, MD is a Professor of Neurology at the Boston University School of Medicine and a Senior Investigator at the Framingham Heart Study. Her research interests are in the risk factors, risk prediction and genomic epidemiology of Alzheimer's disease, mild cognitive impairment, vascular cognitive impairment, stroke and brain aging including MRI, PET and cognitive endophenotypes. She runs a dementia clinic, serves as in-patient attending, teaches medical students and residents and has mentored over 25 physician and epidemiologist post-doctoral fellows in the past 10 years. She receives research grant support from the National Institutes of

Health as Principal investigator on 6 grants. She leads the Neurology Phenotype Working Group within the Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) consortium, is a Principal Investigator on the International Genomics of Alzheimer Project and the Alzheimer Disease Sequencing Project and serves as Chair -Elect of the METASTROKE consortium. She serves on an Institute of Medicine Committee for the Prevention of Dementia and Cognitive Decline, Chairs the NIH NAME (Neurological, Aging and Musculoskeletal Epidemiology) Study Section and is on the Editorial board of Stroke and Neurology. She has published 3 books, many chapters and ~225 peer-reviewed publications, H-index 62, >19,000 citations.

Todd Sherer, PhD is the Chief Executive Officer of The Michael J. Fox Foundation for Parkinson's Research (MJFF), reporting to the Board of Directors. Formally trained as a neuroscientist, he directs the organization's research strategy and is responsible for the organization's overall scientific and fundraising direction to speed treatment breakthroughs and a cure for Parkinson's disease. Dr. Sherer has been a key architect of the Foundation's strategy to define high-priority research areas for Parkinson's disease — therapeutic targets and approaches that are closest or most critical to practical relevance in patients' daily lives — in order to leverage donor-raised capital to push projects in these areas toward the clinic. He has played a major role in the Foundation's efforts to increase the pharmaceutical industry's investment in Parkinson's disease drug development and engage the patient community to encourage and expand participation in clinical research. Today he is one of the world's foremost experts on the science and business of Parkinson's drug development, speaking frequently on these topics at conferences, to the media and to members of the Parkinson's community. Dr. Sherer's work with the Foundation began in 2003, when, as a postdoctoral fellow at Emory University in Atlanta, he was awarded MJFF funding to investigate the role of environmental factors in Parkinson's disease. He joined the Foundation's staff full time as Associate Director, Research Programs, in April 2004. He was promoted to Vice President, Research Programs, in June 2006 and Chief Program Officer in November 2010, finally assuming the role of Chief Executive Officer in May 2011. Dr. Sherer is a member of the Board of Directors of the Parkinson's Action Network and participates in the Institute of Medicine of the National Academies Forum on Neuroscience and Nervous System Disorders. He is a member of the National Center for Advancing Translational Sciences Advisory Council and serves on the Cures Acceleration Network Review Board. During his career as a bench researcher, Dr. Sherer published over 30 peer-reviewed articles in scientific journals. He earned his PhD in Neuroscience from the University of Virginia and holds a BS in Psychology from Duke University in Durham, North Carolina.

Eric Smith, MD is Associate Professor of Neurology, Radiology and Community Health Sciences at the University of Calgary, where he directs the Cognitive Neurosciences Clinic and is a member of the Calgary Stroke Program. He holds the endowed Katthy Taylor Chair in Vascular Dementia at the University of Calgary. Dr. Smith's research uses neuroimaging to investigate the risk factors for, and consequences of, cerebral small vessel disease in healthy populations and in patients with mild cognitive impairment or cerebral amyloid angiopathy. This research has been funded by operating grants from the Canadian Institutes of Health Research (CIHR), Heart and Stroke Foundation of Canada (HSFC), Alzheimer Society of Canada, U.S. NINDS, and other agencies. He leads the Vascular Cognitive Impairment team of Canada's national research strategy for dementia, the Canadian Consortium on Neurodegeneration in Aging. He has published more than 200 articles and has a Google Scholar H Index of 60. Dr. Smith received his M.D. from McGill University in 1998, and then finished his neurology residency in the Partners program in 2002. He was Instructor of Neurology (2003-2006) then Assistant Professor of Neurology (2006-2008) at Harvard Medical School, and a member of the Department of Neurology at Massachusetts General Hospital, before moving to the University of Calgary in 2008. Dr. Smith's awards include the Robert J. Siekert Award from the

American Heart Association for most promising young investigator. He is an Assistant Editor of Stroke. He co-chairs the Stroke Best Practice Recommendations Advisory Committee of the Heart and Stroke Foundation of Canada.

Heather M. Snyder, PhD is Senior Director of Medical and Scientific Operations at the Alzheimer's Association. She manages the Association's International Research Grant Program, through which the Association funds research around the world. Snyder oversees the Association's relationship with the leading disease journals in clinical neurology, *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*, and its two companion open access journals. She is responsible for implementing the Alzheimer's Association Women's Alzheimer's Research Initiative and leads the Association's efforts to understand the role of vascular factors in Alzheimer's and dementia. Dr. Snyder received her PhD from Loyola University Chicago Stritch School of Medicine, her bachelor's degree in Biology and Religious Studies from The University of Virginia, and completed her postdoctoral fellowship at Children's Memorial Research Center, affiliated with Northwestern University, in Chicago. She serves as the board of directors for the Health Research Alliance.

Caroline M. Tanner, MD, PhD, FAAN is the Director of the Parkinson's Disease Research, Education and Clinical Center at the San Francisco Veterans Affairs Medical Center and Professor in the Department of Neurology, University of California – San Francisco. Her clinical practice specializes in movement disorders. Her research interests include investigations of the descriptive epidemiology, environmental and genetic determinants, biomarkers, early detection, nonmotor disease features and interventions for the secondary prevention, disease modification and symptomatic treatment of movement disorders and neurodegenerative diseases. Dr. Tanner and her colleagues have identified associations between exposures including certain pesticides, solvents and persistent environmental pollutants and increased risk of Parkinson's disease, and a greater risk in individuals with certain genetic variants (gene-environment interaction). Dr. Tanner is past co-chair of the Parkinson Study Group (PSG) and has conducted numerous clinical trials with the PSG and other groups. Other research interests include work to facilitate collaborative research and improve patient access to research and clinical care, locally and internationally, including telemedicine, use of mobile technology and patient reported outcomes. An additional area of focus is the identification of PD-associated biomarkers (Parkinson's Progression Markers Initiative, LABS-PD studies). Dr. Tanner serves on the Scientific Advisory Boards of the Michael J. Fox Foundation and the National Spasmodic Dysphonia Association, on the Linked Clinical Trials Committee of the Cure Parkinson's Trust, and on committees for NIH and the American Academy of Neurology (AAN). Her honors include the AAN Movement Disorders Research Award in 2012 and the White House Champions of Change for Parkinson's in 2015.

Angela Taylor is the Director of Programs with the Lewy Body Dementia Association (LBDA). She served on LBDA's Board of Directors for several years and then joined the staff in 2008. Ms. Taylor currently oversees all aspects of LBDA's mission delivery, including programs and resources for LBD families, educational initiatives, advocacy and research efforts. She also serves on the Advisory Council on Alzheimer's Research, Care and Services.

Laura Volpicelli-Daley, PhD joined the Center for Neurodegeneration and Experimental Therapeutics at UAB in 2013. She was previously a Senior Research Investigator in the laboratory of Virginia Lee, MBA, PhD, and John Trojanowski, MD, PhD in the Center for Neurodegenerative Disease at the University of Pennsylvania where she developed a novel model in which normal, endogenous α -synuclein can be corrupted to form inclusions with most of the features of those found in diseased brains. She also did postdoctoral fellowship in the Cell Biology department at

Yale University in the laboratory of Pietro De Camilli, MD, Howard Hughes Investigator and Co-Director of the Center for Neuroscience, Neurodegeneration and Repair, where she studied the contribution of lipid metabolism to neuronal function. In graduate school at Emory University, she studied the cell biology of acetylcholine receptors and their contribution to Alzheimer's disease in the laboratory of Allan Levey, MD, PhD, Chairman of the Neurology department and director of the Alzheimer's Disease Center. Dr. Volpicelli-Daley's goals are to determine how pathologic α -synuclein contributes to Parkinson's disease and Lewy Body Dementias from basic science/cell biology to behavior. She is also interested how other genes and proteins implicated in PD and LBD interact with α -synuclein to cause phenotypes associated with these diseases. The ultimate goal is to identify mechanisms that will help slow the progress of the disease.

Virginia G. Wadley, PhD is a licensed medical psychologist and Professor of Medicine in the Division of Gerontology, Geriatrics and Palliative Care at the University of Alabama at Birmingham (UAB), where she is director of the Dementia Research Program for the Comprehensive Center for Healthy Aging, associate director of the Edward R. Roybal Center for Translational Research on Aging and Mobility, and a scientist with the Evelyn F. McKnight Brain Institute. She completed her PhD at UAB following an internship in Medical Psychology at Duke University Medical Center, where she also completed postdoctoral training in Behavioral Medicine. Her research programs examine the relationship of cognitive function to everyday function in the contexts of normal aging, vascular disease, stroke, and Alzheimer's disease and related dementias, as well as the development of interventions to prevent and treat loss of function. Building on the work of her laboratory in the areas of 1) the relationship of visual attention and information processing speed to mobility and driving safety, and 2) functional change in Mild Cognitive Impairment (MCI). Dr. Wadley is PI of a 5-year NIA-funded clinical trial that is evaluating a cognitive processing speed training program for persons with MCI. This research also is identifying neural and genetic biomarkers related to training outcomes including driving skills and safety. Dr. Wadley also serves as an investigator overseeing cognitive and functional assessments within multiple national NIH-funded epidemiological, clinical, and experimental research protocols. Among these, she leads the cognitive working group for the NINDS-funded Reasons for Geographic and Racial Differences in Stroke (REGARDS) study, is vice chair of the MIND sub-study of the NIH-funded Systolic Pressure Intervention Trial (SPRINT), co-leads the cognitive assessment component of the NINDS-funded Carotid Restenting versus Endarterectomy Trial (CREST-2), and is an investigator and working group member for the NHLBI-funded CARDIA neurocognitive study.

Sandra Weintraub, PhD is Professor of Psychiatry and Behavioral Sciences, Neurology and Psychology at the Northwestern Feinberg School of Medicine in Chicago, and Head of Neuropsychology in the Cognitive Neurology and Alzheimer's Disease Center. She completed her undergraduate degree in psychology at McGill University and a doctoral degree at Boston University. She was head of neuropsychology at Beth Israel Hospital Harvard Medical School from 1978 to 1994 and since 1996 has been the Clinical Core leader of the Northwestern Alzheimer's Disease Center funded by the National Institute on Aging at the Feinberg School of Medicine. She was an honoree of the Chicago Rita Hayworth Gala of the Alzheimer's Association in 1997. She was the president of the International Neuropsychological Society in 2013 and has authored over 180 peer-reviewed papers and 41 book chapters and invited editorials. She has served on national and international committees proposing diagnostic criteria for dementia of the Alzheimer type, primary progressive aphasia, and behavioral variant frontotemporal dementia. Her work addresses the relationship between distinctive clinical neuropsychological profiles and underlying neuropathologic disease and translation of clinical neuropsychological profiles into non pharmacologic interventions. She has made major contributions to the study of aphasia in the

context of neurodegenerative brain disease and was the Cognition Domain Team leader for the NIH Toolbox for Assessment of Neurological and Behavioral Function.

Donna M. Wilcock, PhD is the Sweeney-Nelms Endowed Professor in Alzheimer's Disease Research and Associate Professor in the Sanders-Brown Center on Aging and the Department of Physiology at the University of Kentucky in Lexington, KY. Dr. Wilcock's research is focused on vascular cognitive impairment and dementia (VCID); the second most common cause of dementia behind Alzheimer's disease. In addition to being a major cause of dementia, Alzheimer's disease patients commonly have vascular dementia as a co-morbidity. She has projects to examine the molecular mechanisms of VCID, focusing primarily on inflammatory processes. Dr. Wilcock also has projects that determine the influence VCID has on the progression and severity of Alzheimer's disease, as well as how VCID affects response to Alzheimer's disease targeted therapeutics. Her research is currently funded by the National Institutes of Health and the Alzheimer's Association.

B. Gwen Windham, MD, MHS received her medical degree and residency training in internal medicine from the University of Mississippi Medical Center (UMMC). Dr. Windham then completed a clinical and research fellowship in geriatrics at Johns Hopkins Medical Institute where she was awarded the John A. Hartford Foundation Geriatrics Medicine Fellow Award. She worked as a staff clinician in the intramural clinical research program at the National Institute on Aging before transitioning to academia as a geriatrician and clinical investigator at UMMC. Dr. Windham's research goals are to identify and intervene upon risk factors for cognitive and physical dysfunction in older persons and to understand how functional measures should influence the clinical care of older patients. She is a principal investigator of an NIH grant examining the relations of adiposity trajectories to brain structure and cognitive decline in African Americans and the potential mediating effects of inflammation and adipokines on these relationships. She serves as a co-investigator and dementia adjudicator for the Atherosclerosis Risk in Communities (ARIC) Study and ARIC Neurocognitive Study. As part of her clinical practice, Dr. Windham helped establish and served as the clinical director of the Memory Impairment and Neurodegenerative Dementia (MIND) Center clinic, the first clinic in the state specializing in the evaluation and treatment of patients affected by dementia. She was the principal clinician involved in implementing dementia evaluations in remote areas of the state through telehealth, expanding access to care using digital and web-based technologies. Dr. Windham joined the ADRD committee in 2015.

Berislav Zlokovic, MD, PhD is Director of the Zilkha Neurogenetic Institute and Professor and Chair of the Department of Physiology and Biophysics at the University of Southern California, Keck School of Medicine, Los Angeles. Dr. Zlokovic's career focuses on studying the role of cerebral blood vessels and blood-brain barrier (BBB) in the pathogenesis and treatment of neurological disorders, such as Alzheimer's disease (AD) and stroke, as a foundation for developing new therapies for these disorders. Using animal models and studying human brain, his laboratory has shown that damage to the BBB and brain microcirculation can accumulate before neuronal dysfunction and injury. His research team has identified the cellular and molecular mechanisms in small cerebral blood vessels and neurovascular unit causing BBB disruption which leads to neuronal dysfunction and degeneration in models of AD, ALS, pericyte-deficient rodents and stroke. Discoveries of his research team have contributed to the development of clinical trials based on amyloid- β clearance in AD, and a new therapeutic approach for stroke based on activated protein C mutant that is currently under clinical assessment as a neuroprotective agent. Currently, he studies how genes that influence the risk for AD affect the brain vascular system (i.e., APOE4, PSEN1, PICALM, CLU) using transgenic models, human pluripotent stem cell technology and developing novel imaging and molecular biomarkers to evaluate neurovascular and BBB functions in the living human brain in relation to blood flow, brain connectivity and cognitive decline.



NIH Campus map and dining options

Dining

The Natcher Conference Center has a cafeteria that is located on the main level and open from 6:30 a.m. to 2:30 p.m.; there is also a convenience store and a vending machine. An alternate full-service cafeteria is located in nearby Lister Hill Center (building 38A), and there is a large food court in the NIH Clinical Center (Building 10), which is a 5-10 minute walk from Natcher.

