Alzheimer’s Disease Genetics Global Symposium
Supported by the Alzheimer’s Association and the National Institute on Aging

Organizing Committee: Margaret A. Pericak-Vance, Ph.D., Alison Goate, DPhil, Elizabeth Blue, Ph.D. and Badri Vardarajan, Ph.D.

Introduction
Recent progress understanding AD genetics in the context of the National Plan to Address AD
Eliezer Masliah, M.D.

AD Genetics: From Gene Discovery to Function
Chair: Gerard Schellenberg, Ph.D.

Alzheimer disease genetics: Where we've been and where we're going
Gary Beecham, Ph.D.

Alzheimer’s disease genetics: Gene and locus discovery and evaluation
Gerard Schellenberg, Ph.D.

Biological pathways implicated by recent GWAS and sequencing studies
Brian Kunkle, Ph.D., M.P.H.

Use of genomic annotation to identify AD-related biological function
William S. Bush, Ph.D.

AD Genetics Around the World
Chairs: Richard Mayeux, M.D., M.P.H. and Cornelia van Duijn, DPhil

Introduction
Richard Mayeux, M.D., M.P.H.

Genetic variability and Alzheimer’s disease across Europe
Jean Charles Lambert, Ph.D.

AD genetics around the world: Alzheimer’s genetic research across Asia: Capturing diversity from India to Korea, China and Japan
Sudha Seshadri, M.D.

Alzheimer’s genetic research in African populations from Ibadan to America
Hugh Hendrie, M.D.

Recent advances in genetic studies in Alzheimer’s disease in African Americans
Margaret A. Pericak-Vance, Ph.D.
Alzheimer’s genetic research across the Americas — Admixture — tranethnic studies
Giuseppe Tosto, M.D., Ph.D.

Genetic epidemiology of Alzheimer’s disease in high risk Puerto Ricans: A study on the PSEN1-G206A mutation carrier families
Joseph H. Lee, Ph.D.

From genetics to clinical care and prevention: Lessons from Colombian families with autosomal dominant Alzheimer’s disease
Yakeel Quiroz, Ph.D.

Summary
Cornelia van Duijn, DPhil

Pathways I — APP and Presenilin
Chairs: Shea Andrews, Ph.D. and Alan Renton, Ph.D.

Introduction
Shea Andrews, Ph.D.

Gamma-secretase function, APP metabolism and the impact of APP, PSEN1 and PSEN2 variants
Lucia Chávez-Gutiérrez, Ph.D.

The amyloid pathway implicated by genetics of Alzheimer’s disease and the value of epigenetic studies
Ekaterina Rogaeva, Ph.D.

What we have learned about the amyloid cascade hypothesis and future directions: Deposited proteins mark clearance failures
John Hardy, Ph.D.

Autosomal dominant Alzheimer’s disease: Primary and secondary prevention of dominantly inherited AD
Randy Bateman, M.D.

Summary
Alan Renton, Ph.D.

Pathways II — Neuroinflammation and Neuroimmunity
Chair: Phil De Jager, M.D., Ph.D.

Introduction
Badri N. Vardarajan, Ph.D.

Deciphering the complex genetics of Alzheimer’s disease: From variants to mechanisms
Edoardo Marcora, Ph.D.
AD susceptibility: Are peripheral or CNS myeloid cells involved?  
*Phil De Jager, M.D., Ph.D.*

Genetic guides directionality of immune modulation needed for benefit in Alzheimer’s disease  
*Todd Golde, M.D., Ph.D.*

2 Å atomic structure and function of CD33 splice forms in relationship to AD risk  
*Peter St. George-Hyslop, M.D.*

Therapeutic targeting of microglia function for AD: Novel TREM2 antibody approaches  
*Kate Monroe, Ph.D.*

Summary  
*Alison Goate, DPhil*

**Pathways III — Endocytosis**  
*Chairs: Bruno Benitez, M.D., Carlos Cruchaga, Ph.D. and Brian Kunkle, Ph.D., M.P.H.*

Introduction  
*Bruno Benitez, M.D.*

Pathobiology of endosomes in the etiology of Alzheimer’s disease and related disorders  
*Ralph Nixon, M.D., Ph.D.*

The autophagy/lysosomal pathway and AD: Insights from genetics  
*Steve Finkbeiner, M.D., Ph.D.*

The CD2AP susceptibility network regulates endocytosis and synaptic proteostasis in Alzheimer’s disease  
*Josh Shulman, M.D., Ph.D.*

Summary  
*Carlos Cruchaga, Ph.D.*

**Pathways IV — Cholesterol and APOE**  
*Chair: Jeffery M. Vance, Ph.D., M.D.*

Introduction  
*Jonathan L. Haines, Ph.D.*

History, overview of APOE and Alzheimer’s disease  
*Michael Greicius, M.D., M.P.H.*
The neurobiology of \textit{APOE} in relation to how it influences the pathogenesis of Alzheimer's disease

\textit{David M. Holtzman, M.D.}

\textit{ABCA7}: Diversity in AD risk and pathogenic mechanisms

\textit{Holly Cukier, Ph.D.}

Ancestry of origin and \textit{APOE}: New insights into AD risk in diverse populations

\textit{Timothy Thornton, Ph.D.}

\textit{APOE2} and protective variants

\textit{Gyungah Jun, Ph.D.}

Imaging and biomarker studies with \textit{APOE}

\textit{Clifford Jack, M.D.}

Summary, clinical applications and future directions

\textit{Jeffery M. Vance, Ph.D., M.D.}

\textbf{Pathways V — Neuronal Signaling and Tau}

\textit{Chair: Lindsay Farrer, Ph.D.}

Introduction

The importance of tau and neuronal signaling genes to deciphering Alzheimer's disease

\textit{Lindsay Farrer, Ph.D.}

Genetic support for the role of \textit{MAPT} and related genes in ADRD

\textit{Jennifer Yokoyama, Ph.D.}

Tau PET and CSF endophenotypes: From genetic associations to precision medicine

\textit{Andrew Saykin, PsyD}

Biological support for \textit{MAPT} (Tau) and other genes in the neuronal signaling pathway: Insights into novel pathways for disease therapy

\textit{Benjamin Wolozin, M.D., Ph.D.}

Summary

\textit{Elizabeth Blue, Ph.D.}