# Alzheimer's Disease Genetics Global Symposium: Pathway to Translation

*Supported by the Alzheimer's Association and the National Institute on Aging*

Virtual Conference
July 25, 2021 — On-demand webinars become available
Sept. 1, 2021 — Live Q&A discussion

**Welcome**    **Margaret A. Pericak-Vance, Ph.D., organizing committee**

**Overview**    **Maria Carrillo, Ph.D., Alzheimer's Association**
Alzheimer's Association Impact on Global Research: Fueling Discovery at Any Given Moment

**Francis Collins, M.D., Ph.D., National Institute on Aging**
Alzheimer's Genes to Drugs: Getting the Translation Right

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**Session 1:**    **Genetics: Discovery and Risk Scores**
Lead: Elizabeth Blue, Ph.D.
- Identification of risk variants: The how and why behind deciding validated risk variants.
- Using genetic ancestry to identify risk-variants specific to ethnically diverse populations.
- Combining information across loci using genetic risk scores (GRS) or polygenic risk scores (PRS).

**Introduction: Elizabeth Blue, Ph.D.**

**Keynote: Julie Williams, B.Sc., Ph.D.**
How Can the Genetic Architecture of AD Inform Disease Mechanism?

**Jeffery Vance, M.D., Ph.D.**
APOE4, Ancestry and Clinical Implications

**Giuseppe Tosto, M.D., Ph.D.**
Polygenic Risk Scores for AD: Applications and Optimization for Diverse Populations

**Sudha Seshadri, M.D.**
Endophenotypes Provide Novel Insight into the Genetics of Alzheimer's Disease

**Amit Khera, M.D., M.Sc.**
Human Genetics of Cardiometabolic Disease

**David Pulford, Ph.D.**
Genetics in Drug Discovery: Cognitive Decline in Alzheimer's Disease

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**Session 2:**     **Genes and the Environment Across Populations**
Lead: Jonathan Haines, Ph.D.
- Environmental risk factors and interventions.
- Gene X environment interactions.

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

**Keynote: Rufus Akinyemi, M.B.B.S., M.Sc., Ph.D., M.W.A.C.P., F.M.C.P.**
The Epidemiology and Genetics of AD in Africa

**Richard Mayeux, M.D., M.Sc.**
The Comorbid Effects of Cerebrovascular Disease and Genetic Risk in AD

**Ralph Sacco, M.D, M.S., F.A.H.A., F.A.A.N.**
Vascular Risk Factors and Cognitive Decline in Diverse Populations

**Kristine Yaffe, M.D.**
Modifiable Risk Factors for ADRD

**Jinkook Lee Ph.D.**
Harmonized Diagnostic Assessment: The Longitudinal Aging Study in India

**Eden Martin, Ph.D.**
Sex Differences in Alzheimer's Disease and Implications for Precision Medicine

**Session 3:**     **Biomarkers and Endophenotypes**
Lead: Richard Mayeux, M.D., M.Sc.
- Application in a clinical setting.
- Consideration of ancestry.
- Biomarkers really point to precision medicine because they can help lead to diagnosis of AD vs. other.

**Introduction: Richard Mayeux, M.D., M.Sc.**

**Keynote: Peter St George-Hyslop, M.D.**
TREM2 and sTREM2 Signalling in Microglia

**Henrik Zetterberg, M.D., Ph.D.**
Update on Fluid Biomarkers for Neurodegenerative Diseases

**Jeff Dage, Ph.D.**
Measuring Phosphorylated Tau in Blood as a Biomarker for Alzheimer's Disease

**Yakeel Quiroz-Gaviria, Ph.D.**
Imaging and Blood Biomarkers in the Colombian Kindred with Autosomal Dominant AD

**Christian Haass, Ph.D.**
Modulation of Protective Microglial Activities in Alzheimer's Disease

**Nathan Price, Ph.D.**
Mechanistic and Dynamic Systems Modeling of Alzheimer's Disease Across Lifespan

**Allan Levey, M.D., Ph.D.**
Brain Proteomics Therapeutic Target and Biomarker Discovery

**Beau Ances, M.D. M.Sc., Ph.D.**
Gut Microbiome Alterations Associated with Alzheimer's Disease

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**Session 4:**     **Towards Precision Medicine**
Lead: Eric McDade, D.O.
- Patient perspectives and impact.
- Current applications.
- Development of ADRD approaches.

**Introduction: Eric McDade, D.O.**

**Keynote: Phil De Jager, M.D., Ph.D.**
Multi-Scale Data Integration to Transition Genetic Associations to Therapeutics

**Cornelia Van Duijn, Ph.D.**
Bridging the Gap Between Genetic Research and Prevention

**Robin Bennett, M.S., C.G.C., Ph.D.**
Genetic Counseling and Testing for Alzheimer's Disease: A View from the Trenches

**Stephanie Malia Fullerton, D.Phil.**
From Gene Discovery to Clinical Translation: Ethical and Social Implications

**Bruce Lamb, Ph.D.**
Understanding Neuroimmune Biology and Targets in AD Through MODEL-AD and TREAT-AD

**Ralph Minter, Ph.D., F.R.S.B.**
Finding Novel Targets Via Antibody Repertoire Analysis of Resilient Patients

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**Session 5:**        **Therapeutic Targets**
Lead: Carlos Cruchaga, Ph.D.
- Functional mapping.
- Druggable targets.
- Clinical trials.

**Introduction: Carlos Cruchaga, Ph.D.**

**Keynote: Brian Traynor, M.D., Ph.D.**
Using Genomics to Identify Therapeutic Targets for Non-Alzheimer's Dementias

**Rudy Tanzi, Ph.D.**
Targeting Innate Immunity in Alzheimer's Disease

**Hervé Rhinn, Ph.D.**
Genetically-Defined Therapies for Neurodegenerative Disorders

**Ralph Nixon, M.D., Ph.D.**
Pathways to Endosome Dysfunction in Alzheimer's Disease

**John "Keoni" S.K. Kauwe III, Ph.D.**
-Omics Analysis to Small Molecule Drug Development: RAB10 and NEK7

**Paul Thompson, Ph.D.**
Artificial Intelligence Approaches for Discovery in Alzheimer's Disease Biobanks

**Eric McDade, D.O.**
Targeting Pre-Symptomatic AD Using Autosomal Dominant AD

**Janna Hutz, Ph.D.**
Maximizing the Application of Human Genetics for AD Drug Discovery

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**Summary**          **Badri Vardarajan, Ph.D., organizing committee**