**SATURDAY, JUNE 5**

Arrival and Registration

**SUNDAY, JUNE 6**

Welcome and Keynote Address (Joint)

Christopher K. Glass, University of California, San Diego, USA
Exploiting Dynamic Enhancer Landscapes to Infer Pathogenic Mechanisms in Neurodegenerative Diseases

Speakers to be Announced

Disease Mechanisms and Therapeutic Targets (Joint)

Holly Kordasiewicz, Ionis Pharmaceuticals, USA
*is Antisense Oligonucleotide Therapeutics for Neurodegenerative Diseases*

Joseph W. Lewcock, Denali Therapeutics, USA
*Therapeutic Strategies for the Treatment of Neurodegenerative Disease Based on Human Genetics*

Morgan H. Sheng, Broad Institute, USA
*Severe Mental Illness: From Genes to Mechanism to Targets*

Richard Hargreaves, Celgene, USA
*What is Target ID, Anyway?*

Short Talks Chosen from Abstracts

Workshop 1: Integrating the "Omics" Approaches to Microglial Function and Dysfunction in Neurodegeneration (Z3)

Short Talks Chosen from Abstracts

Workshop 1: New Tools and Approaches to Track and Manipulate Immune Cells in vivo (Z4)

Short Talks Chosen from Abstracts

Genetic Contributions to Neurodegeneration (Z3)

Alison Goate, Icahn School of Medicine at Mount Sinai, USA
*Genetic Variations and Its Implications to Alzheimer's Disease*

Chris Shaw†, UK Dementia Research Institute, UK
*Talk Title to be Announced*

Jennifer Yokoyama, University of California, San Francisco, USA
*Immune Contributions to Early-onset Neurodegenerative Disease*

Short Talks Chosen from Abstracts

Mapping Immune Cell States in Health and Disease (Z4)

Beth Stevens, Boston Children's Hospital, Harvard Medical School, USA
*Mapping Microglia State to Function in Health and Disease*

Christopher K. Glass, University of California, San Diego, USA
*Genome Wide Approaches to Define Myeloid Cell Identity and Function*

Melanie Greter†, University of Zurich, Switzerland
*Cytokine Control of Myeloid Developmental State*

Shane Antony Liddelow, New York University Langone Medical Center, USA
*Redefining Astrocytes States in Health and Disease*

Short Talks Chosen from Abstracts

**MONDAY, JUNE 7**

From Therapeutic Targets to Clinic (Z3)

Charlotte J. Sumner, Johns Hopkins School of Medicine, USA
*The Evolving Challenges of Gene Targeted Therapeutics for SMA*

Beverly L. Davidson, Children's Hospital of Philadelphia and University of Pennsylvania, USA
*Virus-Based Gene Therapy for Huntington's Disease*

Lorenz Studer, Memorial Sloan Kettering Cancer Center, USA
*IPSC-Derived Dopaminergic Neurons and Parkinson's Disease Therapy*

Short Talks Chosen from Abstracts

Neuroimmune Regulation of Sleep and Brain States (Z4)

Maiken Nedergaard, University of Rochester, USA
*Sleep Regulation and Disease Roles of the Glymphatic System*

David M. Holtzman, Washington University, USA
*Mechanisms Linking Sleep, Innate Immunity, and Neurodegeneration*

Marco Colonna, Washington University School of Medicine, USA
*ILCs and Sleep*

Short Talks Chosen from Abstracts

Workshop 2: Modeling Neurodegeneration using IPSC and Organoids (Z3)

Short Talks Chosen from Abstracts

Workshop 2: Building Better Models of Human Disease (Z4)

*Kate Monroe*, Denali Therapeutics, USA

Short Talks Chosen from Abstracts

Cellular Pathways Targeted by Neurodegeneration (Z3)

Valina L. Dawson, Johns Hopkins University School of Medicine, USA
*Mechanism of A-Synuclein-Mediated Neurodegeneration*

Roy R. Parker, HHMI/University of Colorado, USA
*Stress Granule Dynamic in Neurodegenerative Diseases*

* Session Chair † Invited but not yet accepted  Program current as of May 20, 2020. Program subject to change. Meal formats are based on meeting venue. For the most up-to-date details, visit https://www.keystonesymposia.org.
**Neurodegenerative Diseases: Genes, Mechanisms and Therapeutics (Z3)**

Scientific Organizers: Eric J. Huang, Alison Goate and Richard M. Ransohoff

Supported by the Directors' Fund

**NeuroImmune Interactions in Health and Disease (Z4)**

Scientific Organizers: Beth Stevens, Jonathan Kipnis and Kate Monroe

June 5-9, 2021 • Keystone Resort • Keystone, CO, USA

Supported by the Directors’ Fund

Scholarship Deadline: February 17, 2021 / Abstract Deadline: March 9, 2021 / Discounted Registration Deadline: April 6, 2021

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**Phase Separation, Protein Aggregation and Transmission (Z3)**

J. Paul Taylor, St. Jude Children’s Research Hospital, USA
Phase Separation of RNA Binding Proteins in Neurodegeneration

Sjors Scheres†, MRC Laboratory of Molecular Biology, UK
CryoEM Analyses of Proteinopathy in Neurodegeneration

Virginia M. Y. Lee, University of Pennsylvania School of Medicine, USA
Tau and A-Synuclein Aggregation and Spreading

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**Immune Mechanisms of Synapse Function and Dysfunction (Z4)**

Baljit S. Khakh, David Geffen School of Medicine, UCLA, USA
Probing Neuronal-Glia-Immune Signaling on Synaptic Circuits in Health and Disease

Dorothy Schaefer, University of Massachusetts Medical School, USA
Neuro-Immune Cross Talk and Neural Circuit Plasticity

Betty Diamond, Feinstein Institute for Medical Research, USA
Autoimmune Mechanisms of Cognitive Dysfunction

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**Modeling Neuro-Immune Interactions in Neurodegeneration (Z3)**

Li-Huei Tsai, Massachusetts Institute of Technology, USA
Transcriptomics of Neuron-Glia in Alzheimer’s Disease

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Fred H. Gage, The Salk Institute for Biological Studies, USA  
Cerebral Organoids and Neurodegeneration

Hui-Hsin Tsai, Biogen, USA  
Modeling Neuro Immune Interaction in Organotypic Brain Slices

Mathew M. Blurton-Jones, University of California, Irvine, USA  
Neuro-Immune Interactions in AD Models

Impact of Peripheral Signals and the Gut-Brain Axis (Z4)

Daniel Mucida, Rockefeller University, USA  
Neuronal Regulation of Innate Immune Cells

Elaine Y. Hsiao, University of California, Los Angeles, USA  
Microbiome Interactions with the Nervous System in Health and Disease

Henrique Veiga-Fernandes, Champalimaud Research, Portugal  
Neuronal Regulation of Innate Lymphoid Cells

Brian Kim, Washington University School of Medicine, USA  
The Neuroimmune Basis of Chronic Itch

Tony Wyss-Coray, Stanford University School of Medicine, USA  
How Young Blood Rejuvenates Old Brains

Short Talks Chosen from Abstracts

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)  
(3Z)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)  
(4Z)

THURSDAY, JUNE 10

Departure