SUNDAY, JUNE 5
Arrival and Registration

MONDAY, JUNE 6
Welcome and Keynote Session (Joint)
Rudolph E. Tanzi, Massachusetts General Hospital, USA
New Insights into Pathogenesis and Therapeutics Options in Alzheimer's Disease
Thomas C. Südhof, Stanford School of Medicine, USA
Synapse Biology in Alzheimer's Disease

Genetics of Neuro-Immune Interactions (Joint)
John Hardy, University College London, Institute of Neurology, UK
Identifying Genetic Variants Contributing to Neurodegenerative Diseases
David Sulzer, Columbia University, USA
Inflammation and Immunity in Parkinson's Disease
Alison Goate, Icahn School of Medicine at Mount Sinai, USA
Alzheimer's Disease Susceptibility Alleles Implicate Endolysosomal Function in Microglia

Short Talk(s) Chosen from Abstracts

Workshop 1: Imaging of the CNS in Health and Disease (Z1)
Short Talks Chosen from Abstracts

Synaptic Mechanisms and Molecular Events (Z2)
Pietro V. De Camilli, Yale University School of Medicine, USA
Synaptic Membrane Endocytosis
Morgan H. Sheng, Broad Institute, USA
Mechanisms of Synapse Loss in Neurodegenerative Disease
Maria Grazia Spillantini, University of Cambridge, UK
Synaptic Dysfunction in Parkinson's Disease
Volker Haucke, Leibniz Forschungsinstitut für Molekulare Pharmacologie, Germany
Synaptic Vesicle Exo-Endocytosis and Reformation

Short Talk(s) Chosen from Abstracts

Understanding Immune Receptors in the CNS (Z1)
Greg E. Lemke, The Salk Institute for Biological Studies, USA
TAM Receptor Regulation of Neurodegenerative Disease
Shilpa Sambashivan, Nura Bio, USA
Intracellular Receptors for NAD in Neurodegeneration
Marco Colonna, Washington University School of Medicine, USA
ITAM Signaling in Neurodegeneration

Short Talks Chosen from Abstracts

Poster Session 1

TUESDAY, JUNE 7
Autophagy and Disease (Z2)
Ivan Dikic, Goethe University Medical School, Germany
ER-phagy: From Molecular Principles to Pathogenesis of Neuropathies
Xinnan Wang, Stanford University School of Medicine, USA
Redox Mechanisms in Aging and Neurodegeneration
Myriam Heiman, Massachusetts Institute of Technology, USA
Genome-Wide in vivo CNS Screening Identifies Genes that Modify CNS Neuronal Survival and Mutant Huntingtin Toxicity
Ai Yamamoto, Columbia University, USA
Selective Autophagy in the CNS

Short Talk(s) Chosen from Abstracts

Microglia, Other Glial Cells and Macrophages in Neurodegenerative Diseases (Z1)
Michael T. Heneka, German Center for Neurodegenerative Diseases, Germany
Detrimental Effects of Inflammasome Activation and ASC Spec as a Plaque Nucleating Event in Alzheimer's Disease
Rosa C. Paolicelli, University of Lausanne, Switzerland
Metabolic Control of Microglial Function
Marco Prinz, University of Freiburg, Germany
Brain Macrophages in Neurodegenerative Diseases
Dorothy Schafer, University of Massachusetts Medical School, USA
Microglial regulation of synaptic connectivity in demyelinating disease

Short Talks Chosen from Abstracts

Workshop 2: iPSC and Organoids for the Study of Neurodegeneration (Z1)
Short Talks Chosen from Abstracts

Endolysosomal Dysfunction in Neurodegeneration (Z2)
Dimitri Krainc, Northwestern University, USA
Convergence of Mitochondrial and Lysosomal Dysfunction
Ralph A. Nixon, New York University, Langone Medical Center, USA
Defective Endolysosomal Function in Disease
Roberto Zoncu, University of California, Berkeley, USA
mTOR and Lysosomes in Nutrient Sensing and Growth Control

Short Talk(s) Chosen from Abstracts

The Role of Brain Immune System in Shaping the CNS Connectivity (Z1)
Jun R. Huh, Harvard Medical School, USA
Impact of Gut Bacteria in Neurodevelopmental Abnormalities

* Session Chair † Invited but not yet accepted Program current as of September 21, 2021. Meal formats are based on meeting venue. For the most up-to-date details, visit https://www.keystonesymposia.org.
Katerina Akassoglou, University of California, San Francisco, USA
Microglia Regulation of Brain Network Hyperexcitability.

Anne Schaefer, Icahn School of Medicine at Mount Sinai, USA
Control of Neuronal Activity by Microglia

Short Talks Chosen from Abstracts

Poster Session 2

Wednesday, June 8

Mitochondrial Defects in Neurodegeneration (Z2)
Dalton James Surmeier, Northwestern University, USA
Bioenergetic Determinants of Selective Neuronal Vulnerability in Parkinson’s Disease

Richard J. Youle, NINDS, National Institutes of Health, USA
Neuroinflammation Stemming from Mitochondrial DAMPs Linked to Parkinson’s Disease’s Genes and Mitophagy Defects

Yvette C. Wong, Northwestern University, USA
Mitochondria-Lysosome Contact Sites: Roles and Regulation in Homeostasis and Neurodegenerative Diseases

Short Talk(s) Chosen from Abstracts

Application of Next Generation Technologies to Profile Neuro Immune Interactions (Z1)
Frederic Geissmann, Memorial Sloan Kettering Cancer Center, USA
Mosaicism in the Central Nervous System and Neurodegeneration

Li-Huei Tsai, Massachusetts Institute of Technology, USA
The Use of Induced Pluripotent Stem Cells to Model Alzheimer’s Disease

Ido Amit, Weizmann Institute, Israel
The Power of ONE: Immunology in the Age of Single Cell Genomics

Christopher K. Glass, University of California, San Diego, USA
Decoding Microglia Enhancers in Health and Disease

Short Talk(s) Chosen from Abstracts

Workshop: Cellular Pathways Driving Disease (Z2)
Short Talks Chosen from Abstracts

Neuronal Pathways in Disease (Z2)
David M. Holtzman, Washington University, USA
Innate Immunity, ApoE, and Neurodegeneration

Virginia M. Y. Lee, University of Pennsylvania School of Medicine, USA
Pathogenic Neuronal Mechanisms in Parkinson’s and Alzheimer’s Disease

Martin Kampmann, University of California, San Francisco, USA
CRISPR-based Functional Genomics for Neurological Disease

Danielle Posthuma, Vrije Universiteit Amsterdam, Netherlands
BrainScapes

Short Talk(s) Chosen from Abstracts

Brain Immune System in Neuroinflammation (Z1)
Menna Clatworthy, University of Cambridge, UK
Plasma Cells in the Meninges

Malu G. Tansey, University of Florida, USA
Immune Function and Inflammation in Parkinson’s Disease

Francisco J. Quintana, Harvard Medical School and the Broad Institute of MIT and Harvard, USA
Impact of Aryl Hydrocarbon Receptor in Multiple Sclerosis

Short Talk(s) Chosen from Abstracts

Poster Session 3

Thursday, June 9

Translational Considerations in Neurodegenerative Research (Z2)
Alfred W. Sandrock Jr., Biogen, Inc., USA
Introduction “Challenges of going from Bench to Bedside in Neurology”

Richard Hargreaves, Bristol-Myers Squibb, USA
Moving Drug Candidates from Drug Discovery into First-in-Human Studies

Carole Ho, Denali Therapeutics Inc., USA
Phase 2 Trial Design Considerations: How to Achieve Proof of Biology and Proof of Efficacy

Short Talk(s) Chosen from Abstracts

Blood Brain Barrier (BBB), Glymphatics and Lymphatics (Z1)
Jonathan Kipnis, Washington University School of Medicine, USA
Meningeal Sinuses and Lymphatics in the Epicenter of CNS Immune Surveillance

Zsuzsanna Fabry, University of Wisconsin, USA
How does the Meningeal Lymphatics Respond to Neuroinflammation in Autoimmunity, Infection, and Trauma?

Berislav Zlokovic, University of Southern California, USA
Pericytes Play an Important Role in Maintaining the BBB

Chenghua Gu, Harvard Medical School, USA
Lipid Transport-Dependent Suppression of Caveolae-Mediated Transcytosis in BBB

Short Talks Chosen from Abstracts

Workshop 3: Immunotherapy of Neurodegeneration (Z1)
Short Talks Chosen from Abstracts

Future Directions for Therapeutics (Z2)
Anabella Villalobos, Biogen, USA
Small Molecule Therapeutics for CNS
C. Frank Bennett, Ionis Pharmaceuticals, Inc., USA
Oligonucleotide-based Therapeutic Approaches
Speaker to be Announced
Short Talk(s) Chosen from Abstracts

Aging, Metabolism and Neurodegeneration (Z1)
Katrin Andreasson, Stanford University, USA
Myeloid Cell Metabolism in Aging
Tony Wyss-Coray, Stanford University School of Medicine, USA
Systemic Regulation of Brain Aging
Douglas R. Green, St. Jude Children’s Research Hospital, USA
Autophagy in Alzheimer’s Disease

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Z1)

FRIDAY, JUNE 10
Departure