**MONDAY, JUNE 7**

**Welcoming Remarks and Keynote Session (Joint) (7am Denver/Mountain Time Start)**
- **Eric J. Huang**, University of California, San Francisco, USA
- **Beth Stevens**, Boston Children's Hospital, Harvard Medical School, USA

**Disease Mechanisms and Therapeutic Targets (Joint) (8:10am Denver/Mountain Time Start)**
- **Holly Kordasiewicz**, Ionis Pharmaceuticals, USA
- **Joseph W. Lewcock**, Denali Therapeutics, USA
- **Kate Monroe**, Denali Therapeutics, USA
- **Johan Luthman**, Lundbeck, Denmark
- **Raz Dvir Szternfeld**, Weizmann Institute of Science, Israel
- **Christian D. Wrann**, Massachusetts General Hospital, USA
- **Elise Marsan**, University of California, San Francisco, USA
- **Mapping Immune Cell States in Health and Disease (11am Denver/Mountain Time Start) (EK49)**
  - **Francisco J. Quintana**, Harvard Medical School and the Broad Institute of MIT and Harvard, USA
  - **Beth Stevens**, Boston Children's Hospital, Harvard Medical School, USA

**Neuroimmune Interactions in Health and Disease (EK49)**
- **Scientific Organizers**: Beth Stevens, Jonathan Kipnis and Kate Monroe
- **June 7-9, 2021 • Virtual at your computer**
- **Sponsored by Cell Research, Synthego, and Ultragenyx Pharmaceutical Inc.**

**From Therapeutic Targets to Clinic (11am Denver/Mountain Time Start) (EK48)**
- **Joseph W. Lewcock**, Denali Therapeutics, USA
- **Valina L. Dawson**, Johns Hopkins University School of Medicine, USA
- **Alison Goate**, Icahn School of Medicine at Mount Sinai, USA

**Poster Session 1 (Joint) (1pm Denver/Mountain Time Start)**
- **Microglia Biology and Disease Pathogenesis**
  - **Andy P. Tsai**, University of California, San Francisco, USA
- **Immune Contributions to Early-Onset Neurodegenerative Disease**
  - **Jennifer Yokoyama**, University of California, San Francisco, USA
- **IPSC-Derived Dopaminergic Neurons and Parkinson's Disease**
  - **Lorenz Studer**, Memorial Sloan Kettering Cancer Center, USA

**TUESDAY, JUNE 8**

**Genetic Contributions to Neurodegeneration (7am Denver/Mountain Time Start) (EK48)**
- **Valina L. Dawson**, Johns Hopkins University School of Medicine, USA
- **Alison Goate**, Icahn School of Medicine at Mount Sinai, USA

**Neuroimmune Regulation of Sleep and Brain States (7am Denver/Mountain Time Start) (EK49)**
- **Jonathan Kipnis**, Washington University School of Medicine, USA
- **Maria Lehtinen**, Harvard Medical School, USA
- **Maiken Nedergaard**, University of Rochester, USA
- **Sleep Regulation and Disease Roles of the Glymphatic System**
  - **David M. Holtzman**, Washington University, USA

**For the most up-to-date details, visit [https://www.keystonesymposia.org](https://www.keystonesymposia.org).**
Constanze Martha Depp, Max Planck Institute for Experimental Medicine, Germany
[NOT AVAILABLE ON DEMAND] Short Talk: Aging-Associated Myelin Dysfunction Drives Amyloid Deposition in Alzheimer’s Disease

Cellular Pathways Targeted by Neurodegeneration (8:20am Denver/Mountain Time Start) (EK48)
* Alison Goate, Icahn School of Medicine at Mount Sinai, USA
* Valina L. Dawson, Johns Hopkins University School of Medicine, USA
Mechanism of A-Synuclein-Mediated Neurodegeneration
Christian Hoffmann, German Center for Neurodegenerative Diseases - DZNE, Germany
Short Talk: Synapsin and Synaptic Vesicle Condensates Recruit alpha-Synuclein
Kathryn M. Hixson, UNC Chapel Hill, USA
Short Talk: Identification of Small Molecule Drugs that Target Apolipoprotein E4-Catalyzed Amyloid-B Fibrillation: A New Therapeutic Approach to Alzheimer’s Disease

Immune Mechanisms of Synapse Function and Dysfunction (11:10am Denver/Mountain Time Start) (EK49)
* Beth Stevens, Boston Children's Hospital, Harvard Medical School, USA
* Jonathan Kipnis, Washington University School of Medicine, USA
Dorothy Schafer, University of Massachusetts Chan Medical School, USA
Short Talk: Clinical Implications of Autoimmune Mechanisms of Cognitive Dysfunction

Networking Lounge (Joint) (2:30pm Denver/Mountain Time Start)

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Dorothy Schafer, University of Massachusetts Chan Medical School, USA
Short Talk: Clinical Implications of Autoimmune Mechanisms of Cognitive Dysfunction

Networking Lounge (Joint) (2:30pm Denver/Mountain Time Start)
**KEYSTONE SYMPOSIA**
on Molecular and Cellular Biology

**Neurodegenerative Diseases: Genes, Mechanisms and Therapeutics (EK48)**

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

*Sponsored by BlueRock Therapeutics, Cell Research, Genentech, Ionis Pharmaceuticals, Inc. and Ultragenyx Pharmaceutical Inc.*

**NeurolImmune Interactions in Health and Disease (EK49)**

*Scientific Organizers: Beth Stevens, Jonathan Kipnis and Kate Monroe*

**June 7-9, 2021 • Virtual at your computer**

*Sponsored by Cell Research, Synthego, and Ultragenyx Pharmaceutical Inc.*

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*Eric J. Huang, University of California, San Francisco, USA*

**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

Cryo-EM Structures of Amyloid Filaments from Human Brain

*Virginia M. Y. Lee*, University of Pennsylvania School of Medicine, USA

Tau and A-Synuclein Aggregation and Spreading

**Alyssa Coyne**, Johns Hopkins University School of Medicine, USA

Short Talk: Nuclear Accumulation of CHMP7 Initiates Nuclear Pore Complex Injury and Subsequent TDP-43 Dysfunction in Sporadic and Familial ALS

**Roberta Romano**, University of Salento, Italy

Short Talk: Role of RAB7A Mutations in Charcot-Marie-Tooth Type 2B Disease

**Gloria Choi**, Massachusetts Institute of Technology, USA

Neuroimmune Interactions Shaping Social Behavior

**Jeffrey Stogsdill**, Harvard University, USA

Short Talk: Pyramidal Neuron Subtype Diversity Governs Microglia States in the Neocortex

**Jiapei Chen**, University of California, San Francisco, USA

Short Talk: Role of Microglia-Vascular Interaction in Angiogenesis and Germinial Matrix hemorrhage in the Prenatal Brain

**Jason Shepherd**, University of Utah, USA

Short Talk: The Role of Virus-Like Intercellular Communication in Neuroinflammation

**Modeling Neuro-Immune Interactions in Neurodegeneration (11am Denver/Mountain Time Start) (EK48)**

*Li-Huei Tsai*, Massachusetts Institute of Technology, USA

Fred H. Gage, The Salk Institute for Biological Studies, USA

Cerebral Organoids and Neurodegeneration

**Emmy Li**, University of California, San Francisco, USA

Short Talk: CRISPRi-based Genetic Screens in iPSC-Derived 3D Neuron-Astrocyte-Microglia Assemblies

**T Cell Brain Communication (9:20am Denver/Mountain Time Start) (EK49)**

*Dorothy Schafer**, University of Massachusetts Chan Medical School, USA

**Burkhard Becher**, University of Zürich, Switzerland

**Anthony J. Filiano**, Duke University, USA

T Cell-Neural Interactions in Health and Disease

**Frauke Zipp**, Johannes-Gutenberg-Universität Mainz, Germany

Immune Regulatory Processes within the Central Nervous System

**Celia E. Shiau**, University of North Carolina at Chapel Hill, USA

Short Talk: Neutrophil Trafficking to Brain Driven by Peripheral Inflammatory Macrophages Modulates CNS Control of Behavior

**Stefan Bittner**, University Medical Center Mainz, Germany, Germany

Short Talk: Direct Modulation of Neuronal Firing Patterns and Local Networks by Invading Lymphocytes

**Ethan G. Hughes**, University of Colorado Anschutz Medical Campus, USA

Short Talk: Microglia Engulf Myelin during Immune-Mediated Cortical Demyelination

**Impact of Peripheral Signals and the Gut Brain Axis (10:55am Denver/Mountain Time Start) (EK49)**

*Burkhard Becher*, University of Zürich, Switzerland

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*Session Chair † Invited but not yet accepted     Program current as of November 12, 2021.*

For the most up-to-date details, visit [https://www.keystonesymposia.org](https://www.keystonesymposia.org)
Daniel Mucida, Rockefeller University, USA
Neuronal Regulation of Innate Immune Cells
*Elaine Y. Hsiao, University of California, Los Angeles, USA
The Microbiome as a Modifier of Environmental Risk for Cognitive Impairment
Henrique Veiga-Fernandes, Champalimaud Research, Portugal
Neuronal Regulation of Innate Lymphoid Cells
Brian Kim, Washington University School of Medicine, USA
Neuroimmune Regulation of Itch
Francisco J. Quintana, Harvard Medical School and the Broad Institute of MIT and Harvard, USA
Microbial Regulation of Astrocyte Responses
Charlotte R. Wayne, Columbia University Irving Medical Center, USA
Short Talk: Mechanisms of Th17 Cell-Mediated Microglial Activation and BBB Dysfunction in Post-Infectious Basal Ganglia Encephalitis
Malu G. Tansey, University of Florida, USA
Short Talk: Colitis Disrupts Inflammatory Gene Networks and Nigrostriatal Integrity in the Brain and LRRK2 G2019S Mutant Mice Display Enhanced Vulnerability

Poster Session 2 (Joint) (1:30pm Denver/Mountain Time Start)
Career Roundtable (Joint) (2:30pm Denver/Mountain Time Start)

Holly Kordasiewicz, Ionis Pharmaceuticals, USA
Philip L. De Jager, Columbia University Medical Center, USA
Lorenz Studer, Memorial Sloan Kettering Cancer Center, USA