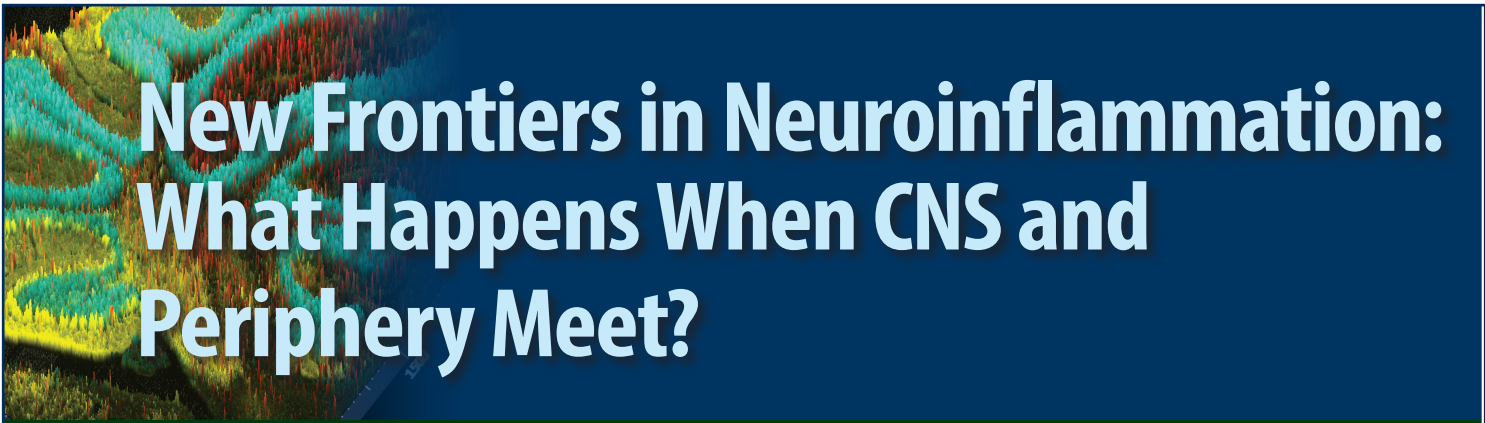




New Frontiers in Neuroinflammation: What Happens When CNS and Periphery Meet?

June 17–21, 2018 | Keystone Resort | Keystone, Colorado | USA

Scientific Organizers:

Marco Prinz, University of Freiburg, Germany

Jonathan Kipnis, University of Virginia, USA

Irene Knuesel, Roche Innovation Center Basel, Switzerland

*joint with the conference on **Advances in Neurodegenerative Disease Research and Therapy***

As the Greek name implies, glia are commonly known as the glue of the nervous system but, as non-neuronal cells, they essentially shape many key functions of the central nervous system (CNS). In contrast to other glial cells, microglia are more closely related to the peripheral immune system than to the neuroectoderm, making them unique within the CNS. Recent data suggest that brain-resident microglia are functionally distinct from the bone marrow-derived macrophages that invade the CNS under pathological conditions. During the last few years, the advent of novel tools in imaging, genetics and immunology, in particular high-throughput sequencing methods, has dramatically improved research of microglial biology. Recent studies making use of these new methodologies have yielded unexpected results that challenge the traditional view of microglia as simply scavengers of the diseased CNS. This conference will highlight the latest developments in the function of microglia for the CNS during health and disease.

Session Topics:

- Immune Privilege, Blood-Brain Barrier and Microglia I & II
- Crosstalk of Microglia with Other CNS Cells
- Myeloid Cells and Neuroinflammation
- Imaging of the Healthy and Diseased CNS
- Myeloid Cells as Targets of Drug Discovery and Biomarkers
- Myeloid Gene Regulation
- Microglia and CNS Diseases

Abstract Deadline: March 15, 2018

Discounted Registration Deadline: April 18, 2018



Submitting an abstract is an excellent opportunity to gain exposure for your work. Abstracts submitted by the abstract deadline will also be considered for short talks on the program.

Upper image of cerebellar inflammation courtesy of A Cougnoux, F Porter, National Institute of Child Health and Human Development, NIH

Meeting Hashtag: #KSneuroinflam

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on Molecular and Cellular Biology

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Advances in Neurodegenerative Disease Research and Therapy (Z3)

Scientific Organizers: Li Gan, Leonard Petrucelli and Morgan H. Sheng

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SUNDAY, JUNE 17

Arrival and Registration

MONDAY, JUNE 18

Welcome and Keynote Address (Z4)

Dorian B. McGavern, National Institutes of Health, USA
CNS Myeloid Cell Dynamics Under Steady State & Inflammatory Conditions

Welcome and Keynote Address (Z3)

Huda Y. Zoghbi, HHMI/Baylor College of Medicine, USA
Insights From Rare Disorders Shed Light on Common Neurodegenerative Diseases

Immune Privilege, Blood-Brain Barrier and Microglia I (Z4)

Josef Priller, Charité – Universitätsmedizin Berlin, Germany
From Bone Marrow to Brain: How Myeloid Cells Can Enter The CNS
Jonathan Kipnis, University of Virginia, USA
Lymphatics in the CNS and Their Role in Neurological Diseases
Richard Daneman, University of California, San Diego, USA
Regulation of the Blood-Brain Barrier in Health and Disease
Short Talk(s) Chosen from Abstracts

Genetics to Epigenetics in Neurodegenerative Diseases (Z3)

John Hardy, University College London, Institute of Neurology, UK
Genomics and Pathways to Neurodegeneration
Alison Goate, Mount Sinai School of Medicine, USA
Genetic Studies Implicate Microglial Function in Alzheimer's Disease Risk
Li-Huei Tsai, Massachusetts Institute of Technology, USA
Single-Cell Transcriptomic Analysis of Mouse and Human Brains During Neurodegeneration
Short Talk(s) Chosen from Abstracts

Immune Privilege, Blood-Brain Barrier and Microglia II (Z4)

Marco Prinz, University of Freiburg, Germany
Turnover of CNS Macrophages
Doron Merkler, University of Geneva, Switzerland
Interaction between Neurons, Phagocytes and T Cells in Neuroinflammation
Michal Schwartz, Weizmann Institute of Science, Israel
From Protective Autoimmunity to Immune Checkpoint Blockade to Combat Alzheimer's Disease
Short Talk Chosen from Abstracts

Aging in Health and Disease (Z3)

Andrew G. Dillin, University of California, Berkeley, USA
Aging in Protein, Homeostasis and Stress
Ana Maria Cuervo, Albert Einstein College of Medicine, USA
Contribution of Aging of Selective Autophagy to Neurodegeneration
Tony Wyss-Coray, Stanford University School of Medicine, USA
Dissecting the Role of Cerebrovascular Dysfunction in Brain Aging
Short Talk Chosen from Abstracts

Poster Session 1

TUESDAY, JUNE 19

Cross Talk of Microglia with Other CNS Cells (Z4)

Mikael Simons, Technische Universität München / German Center for Neurodegenerative Diseases, Germany
Cholesterol Metabolisms as Key Regulator of Phagocyte Function during Remyelination
Francisco J. Quintana, Harvard Medical School, USA
Astrocytes and Microglia
Anna Victoria Molofsky, University of California, San Francisco, USA
Astrocyte-Microglial Communication in Developmental Synapse Remodeling
Burkhard Becher, University of Zurich, Switzerland
T Cell Entry into the CNS: How Myelin is Presented
Short Talk(s) Chosen from Abstracts

Innate Immunity (Z3)

Adriano M. Aguzzi, University Hospital of Zürich, Switzerland
Protein Aggregation and Pathways of Toxicity
Christian Haass, Ludwig-Maximilians University Munich, Germany
Loss of TREM2 Function Increases Amyloid Seeding but Reduces Plaque Associated ApoE
Christopher K. Glass, University of California, San Diego, USA
Genomic Approaches to Dissect Innate Immunity in Neurodegeneration
Li Gan, Gladstone Institutes and University of California, San Francisco, USA
Microglia in Tau Proteostasis and Toxicity
Short Talk(s) Chosen from Abstracts

Myeloid Cells and Neuroinflammation (Z4)

Masaaki Murakami, Hokkaido University, Japan
Neural Stimulation Modulate the Formation of Immune Cell Gateways into the CNS

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Akihiko Yoshimura, Keio University, Japan

Regulation of Inflammation after Stroke by Macrophages and Regulatory T Cells

Robyn S. Klein, Washington University School of Medicine, USA
CNS Innate Immunity and Post-Viral Cognitive Dysfunction

Short Talk Chosen from Abstracts

Neuronal and Network Dysfunction in Neurodegeneration (Z3)

Huaxi Xu, Sanford Burnham Prebys Medical Discovery Institute, USA
A Novel Mechanism for Memory/Synaptic Dysfunction in Tauopathy

Zayd M. Khaliq, NINDS, National Institutes of Health, USA
Dendritic Ca²⁺ Signaling in Substantia Nigra Dopamine Neuron Subpopulations

Morgan H. Sheng, Genentech, Inc., USA
Mechanisms of synapse loss revealed by proteomic analysis of postsynaptic density in tauopathy mouse model

Short Talk Chosen from Abstracts

Poster Session 2

WEDNESDAY, JUNE 20

Imaging of the Healthy and Diseased CNS (Z4)

Wenbiao Gan, Skirball Institute Program of Molecular Neurobiology, USA

The Role of Microglia in Learning-Dependent Synaptic Plasticity

Martin Kerschensteiner, Ludwig Maximilians University Munich, Germany

In Vivo Analysis of Phagocyte Phenotypes and Effector Function

Melanie Meyer-Luehmann, University of Freiburg, Germany
Microglia Contribution to the Propagation of Abeta Pathology

Francesca Peri, European Molecular Biology Laboratory, Germany
Microglia and Neuronal Interactions

Short Talk(s) Chosen from Abstracts

Protein Trafficking and Degradation (Z3)

Leslie M. Thompson, University of California, Irvine, USA
A Systems Biology Approach to Understanding ALS Pathogenesis in iPSC-Derived Motor Neurons

Baris Bingol, Genentech, Inc., USA
Lysosomal Degradation in Parkinson's Disease

Bess Frost, Barshop Institute for Longevity and Aging Studies, USA
Jump Around, Jump Around: Transposable Element Activation in Tauopathy

David M. Holtzman, Washington University, USA
Effects of ApoE in Tau-Mediated Neurodegeneration

Short Talk(s) Chosen from Abstracts

Myeloid Cells as Targets of Drug Discovery and Biomarkers (Z4)

Irene Knuesel, Roche Innovation Center Basel, Switzerland
Therapeutic Effects of Anti-Amyloid-Beta Immunotherapy on Myeloid Cell Transcriptome

Melanie Greter, University of Zurich, Switzerland
Microglia Gene Modifications

David R. Owen, Imperial College London, UK
Imaging Microglia in Humans

Short Talk Chosen from Abstracts

Disease Modeling (Z3)

Albert R. La Spada, University of California, San Diego, USA
Deconstructing Polyglutamine Neurodegeneration: From Pathways of Neuron Demise to Therapeutic Intervention

Speaker to be Announced

Yadong Huang, Gladstone Institute of Neurological Disease and UCSF, USA

Modeling and Drug Screening of AD Using Patients-Derived iPSCs

Short Talk Chosen from Abstracts

Poster Session 3

THURSDAY, JUNE 21

Myeloid Gene Regulation (Z4)

Speaker to be Announced

Ido Amit, Weizmann Institute, Israel

The Power of ONE: Immunology in the Age of Single Cell Genomics

Marco Colonna, Washington University School of Medicine, USA
Cytokines and Microglia

Bahareh Ajami, Stanford University School of Medicine, USA
Single-Cell Mass Cytometry Reveals Molecular Signatures of Inflammation in Contrasting Models of Neuroinflammation versus Neurodegeneration

Short Talk(s) Chosen from Abstracts

RNA Metabolisms and New Mechanisms of Toxicity (Z3)

J. Paul Taylor, St. Jude Children's Research Hospital, USA
Disturbance of Phase Transitions in Neurological Disease

Aaron D. Gitler, Stanford University School of Medicine, USA
Expanding Mechanisms of C9orf72 Mutations in ALS and FTD

Leonard Petrucelli, Mayo Clinic Jacksonville, USA
C9 Biology and Biomarkers

Guojun Bu, Mayo Clinic, USA
Central and Peripheral ApoE4 in Cognition and Dementia

Short Talk(s) Chosen from Abstracts

Microglia and CNS Diseases (Z4)

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Shane Antony Liddelow, NYU Langone Medical Center, USA

What Do Reactive Astrocytes Do?

Florent Ginhoux, Singapore Immunology Network, Singapore

Talk Title to be Announced

Philip L. De Jager, Columbia University Medical Center, USA

*The Genetic and Population Architecture of Aged Human Microglia:
Role in Accelerating Tau Pathology and Cognitive Decline*

Biomarker and Therapeutics (Z3)

William J. Jagust, University of California, Berkeley, USA

Imaging Tau and Beta-Amyloid in the Human Brain

C. Frank Bennett, Ionis Pharmaceuticals, Inc., USA

Antisense Oligonucleotide Based Therapies for Neurological Diseases

Rita Balice-Gordon, Sanofi, Inc., USA

Translational Challenges in Neuroscience Drug Development

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Z4)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Z3)

FRIDAY, JUNE 22

Departure