



Great Lakes Glia 2022

Sunday October 9th - Tuesday October 11th

Park Place Hotel, Traverse City, MI



Session 1: Oligodendrocyte development and myelination: molecular mechanisms in health and disease

Chair: Pablo Paez, University of Buffalo

Leandro Marziali, PhD, University at Buffalo

Yannick Poitelen, PhD, Albany Medical College

Yungki Park, PhD, University at Buffalo

A Novel Stress-Activated Inhibitor of Myelination

Role of YAP and TAZ in Oligodendrocytes

Regulatory Mechanism Governing Myrf Expression for Oligodendrocyte Differentiation

Modulation of Oligodendrocyte Development and Myelination by Voltage-Gated Calcium Channels

Pablo Paez, PhD, University of Buffalo

Keynote Presentation

Keith Murai

Director, Center for Research in Neuroscience

McGill University, Montreal, Canada

“Astrocyte Heterogeneity and Nanoarchitecture in the CNS”

Keith Murai, Ph.D.



Session 2: Astrocyte Heterogeneity in Health and Disease

Chair: Keith Murai, McGill University and Doug Feinstein, University Illinois, Chicago

Zila Martinez, PhD, The Children’s Hospital of Philadelphia

José Otero, MD., PhD, The Ohio State University College of Medicine

Ryan Gilbert, PhD, Rensselaer Polytechnic Institute

Isobel Scarisbrick, PhD, Mayo Clinic

Generation of Astrocyte Diversity: Lessons from Transcriptional Regulation of the Glutamate Transporter 1 (GLT1)

Brainstem Astrocytes and their Regulation of Autonomic Homeostasis

Biomaterial Approaches to Augment Astrocyte Reactivity

Modulating Astrocyte Metabolism to Promote CNS Regeneration

Session 3: Microglia in Health and Disease

Chair: Jyoti Watters, University of Wisconsin-Madison

Jyoti Watters, PhD, University of Wisconsin-Madison

Kathryn Lenz, PhD, The Ohio State University

Tyler Ulland, PhD, University of Wisconsin-Madison

Sebastian Wemeburg, PhD, University of Massachusetts

Sleep Disordered Breathing During Pregnancy Causes Microglia-Dependent Respiratory Deficits and Persistent Neuroinflammation in Adult Male Offspring

Prenatal Allergic Inflammation, Mast Cell-Microglia Interactions, and Sex-Specific Programming of Motivated Behavior

Inhibition of the Nlrp3 Inflammasome by β -hydroxybutyrate Decreases Alzheimer’s Disease Pathology

Microglia and the Elimination and Recovery of Synapses in Demyelinating Disease

Keynote Presentation

R. Douglas Fields

Chief, Nervous System Development and Plasticity Section

NICHD, Bethesda, MD, USA

“Regulation of Myelin and Conduction Velocity by Action Potentials”

Doug Fields, Ph.D



Session 4: Contribution of Glia-Associated Mechanisms to Pathological Endophenotypes of Complex Behaviors

Chair: Robert McCullumsmith, The University of Toledo

Sarah Elzinga, PhD, University of Michigan

Robert McCullumsmith, MD, PhD, The University of Toledo

Sinead O’Donovan, PhD, The University of Toledo

Hayley McLoughlin, PhD, University of Michigan

Metabolism and Obesity effects on Microglia

Animal Model of Loss Effects on Microglia

Effects of Psychotropic Medications on Astrocytes Using a Bioinformatics Approach

Non-neuronal Contributions to Neurodegeneration: A Role for Oligodendrocytes in Spinocerebellar Ataxia

Session 5: Glial Responses to Disease and Therapy in Demyelinating Conditions

Chair: Ernesto Bongarzone, University Illinois, Chicago

Sarah Lutz, PhD, University Illinois, Chicago

Stephen Crocker, PhD, University Connecticut

Anne Boullerne, PhD, University Illinois, Chicago

Ernesto R. Bongarzone, PhD, University Illinois, Chicago

Glial Response to Respiratory SARS-CoV-2 Infection is Modified by Age

Impact of Cellular Aging on Glial Responses and CNS Remyelination

Rediscovery of Pio del Rio Hortega Myelinic Channel System using Fluorescent Markers

Adult-Onset Focal Demyelination after Neonatal AAV-Gene Therapy in Leukodystrophies