ASN 2016 Conference Agenda & Scientific Sessions

Click to view a specific day:

Saturday, 3/19

Sunday, 3/20

Monday, 3/21

Tuesday, 3/22

Wednesday, 3/2







SATURDAY, MARCH 19

9:00 am - 6:00 pm



ASN Registration Desk Open

9:00 am - 12:00 pm



PMW01: Abcam Session & Networking Lunch ASTROCYTE-NEURON NETWORKS REGULATE GLUTAMATE TO INFLUENC E BASAL GANGLIA OUTPUT PATHWAY





\$10 Workshop Fee (includes lunch)

More details

Chair: David Baker, PhD

Keynote: Alfonso Araque, PhD; University of Minnosota

Speakers: <u>Darwin Berg, PhD</u>; University of California, San Diego

Chris Dulla, PhD; Tufts University

12:00 pm - 5:00 pm



ASN Council Meeting I

1:00 pm - 3:00 pm



PMW02 - Allen Institute Symposium:

FROM SINGLE CELL TRANSCRIPTOMES TO FUNCTIONAL CIRCUITS: NEW FINDINGS FROM THE ALLEN INSTITUTE FOR BRAIN SCIENCE FRONTLINE









\$No Charge

More details

Chair: Jane Roskams, PhD

PMW02-01 - Mapping Cortical Areas in GCaMP6 Reporter Mice with Widefield

Jack Waters, PhD

PMW02-02 - Adult Cortical Cell Taxonomy by Single Cell Transcriptomics Bosiljka Tasic, PhD

PMW02-03 - Mapping the Mouse Brain Mesoscale Cconnectome Julie Harris, PhD

PMW02-04 - Human- and Primate-Specific Features of Neocortical Development, Structure and Function Ed Lein, PhD

3:00 pm - 3:30 pm

Coffee Break

3:30 pm - 6:30 pm





PMW03 - Allen Institute Workshop:

HANDS-ON WORKSHOP: NAVIGATING THE ALLEN BRAIN ATLAS RESOURCES







Chair: <u>Jane Roskams</u>, <u>PhD</u> Speaker: <u>Terri Gilbert</u>, <u>PhD</u>

4:00 pm - 5:30 pm

ASN Public Forum

7:00 pm - 9:00 pm

ASN President's Welcome Reception

SUNDAY, MARCH 20

7:00 am - 6:00 pm

ASN Registration Desk Open

8:15 am - 8:30 am

President's Welcome & Introductions

ASN President 2015 - 2017 New Member Recognition Travel Awardees Recognition

8:30 am - 9:30 am

Presidential Lecture 01:

SAVING THE SYNAPSE: DEVELOPMENTAL CRITICAL PERIODS AND ALZHEIMER'S DISEASE



Chair: Tika Benveniste, PhD

Carla J. Shatz, PhD - Stanford University

9:15 am - 10:00 am

Coffee Break: View Posters & Visit Exhibits

10:00 am - 12:00 pm

Plenary Lecture PL01:

MECHANISMS REGULATING MAMMALIAN BRAIN DEVELOPMENT







Chair: Bruce D. Carter, PhD Co-Chair: Carla J. Shatz, PhD

PL01.01 - Cortical Interneuron Fate Determination Stewart A. Anderson, MD - Children's Hospital of Philadelphia

PL01.02 - Epigenetic Regulation of Neuronal Connectivity in the Brain Azad Bonni, MD, PhD - Washington University School of Medicine

PL01.03 - Control of Cortical Progenitor Potential by Shh Signaling Sam Pleasure, MD, PhD - University of California San Francisco

PL01.04 - Chromatin Regulation of Neuronal Differentiation Anne West, MD, PhD - Duke University

12:00 pm - 1:30 pm



Lunch with Plenary Speaker: Carla Shatz, PhD

Ticket Required (\$15) - Limited to 20 Student/Post Docs

12:00 pm - 1:30 pm



Student / Post Doc Luncheon Sponsored by ASN NEURO

Ticket Required - Limited to Students / Post Docs only

1:30 pm - 3:30 pm

S01 - Myelination: A Biological Process Driven by the Cytoskeleton













Chair: <u>Donna J. Osterhout, PhD</u> Co-Chair: <u>J. Bradley Zuchero, PhD</u>

S01.01 - Submembranous Cytoskeleton Stabilizes Specialized Membrane Domains

at Nodes of Ranvier

Keiichiro Susuki, PhD - Wright State University

S01.02 - How Does the Actin Cytoskeleton Drive Myelin Wrapping? J. Bradley Zuchero, PhD - Stanford University

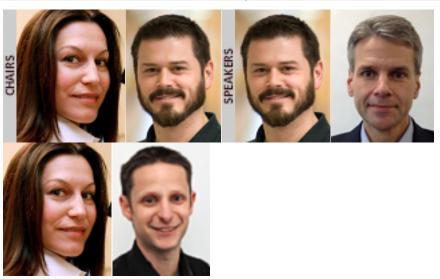
S01.03 - A Glutamate Transporter-CaMKIIbeta Signaling Axis as a Regulator of Oligodendrocyte Morphogenesis and CNS Myelination

<u>Babette Fuss, PhD - Virginia Commonwealth University</u>

S01.04 - Fyn Signaling and the Cytoskeleton in Oligodendroglia Donna J. Osterhout, PhD - Upstate Medical University

1:30 pm - 3:30 pm

S02 - Axon-Glia Interactions in Development and Disease



Chair: Tara M. DeSilva, PhD Co-Chair: Marc R. Freeman, PhD

S02.01 - Axon-Glia Interaction in Drosophila

Marc R. Freeman, PhD - Howard Hughes Medical Institute

S02.02 - Glial Development and Myelination in Zebrafish William Talbot, PhD – Stanford University

S02.03 - Glutamatergic Signaling in Myelination and Demyelination in Rodent Models of Development and Disease

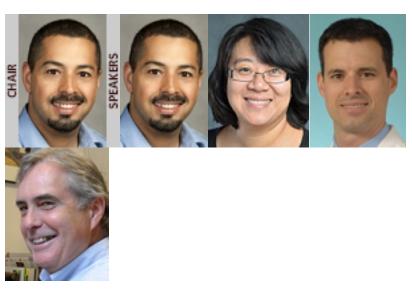
Tara M. DeSilva, PhD - University of Alabama, Birmingham

S02.04 - Mechanisms of Neuroglial Damage in Mouse Models of Multiple Sclerosis

Martin Kerschensteiner, PhD - University of Munich

3:30 pm - 4:00 pm Coffee Break: View Posters & Visit Exhibits

4:00 pm - 5:30 pm C01 - Keeping Time: Roles of Circadian Genes in the Formation & Repair of Neural Circuits



Chair: Gregorio Valdez, PhD

C01.01 - Roles of Clock Genes in Circuit Pruning and Repair Gregorio Valdez, PhD - Virginia Tech

C01.02 - Targeting a Molecular Pathway in Intractable Pediatric Focal Epilepsy Judy Liu, MD, PhD - Children's National Health System

C01.03 - Regulation of Neuronal Homeostasis by Clock Genes Eric Musiek, PhD – Washington University in St. Louis

C01.04 - Glial Cell Regulation of Rhythmic Behavior F. Rob Jackson, PhD – Tufts University

4:00 pm - 5:30 pm

C02 - Astrocytes as Excitation-Energy Coupling Hubs



Chair: Robert Zorec, PhD Co-Chair: Arne Schousboe, DSc C02.01 - Noradrenaline and Aerobic Glycolysis in Astrocytes Gerald Dienel, PhD - University of Arkansas

C02.02 - Regulation of Glycogen Breakdown in Astrocytes by Distinct GP Isoforms Helle Waagepetersen, PhD - University of Copenhagen

C02.03 - Lactate Receptor Mediated Signaling Linda H. Bergersen, PhD - University of Copenhagen

C02.04 - Adrenergic Control of Astrocyte Function Robert Zorec, PhD - University of Ljubljana, Slovenia

4:00 pm - 5:30 pm OR01 - Selected Poster Presentations

5:30 pm - 7:00 pm Poster Session I - Authors Present

Wine & Cheese

7:00 pm - 10:00 pm

Neurochemical Research Editorial Board Dinner

7:30 pm - 10:00 pm Student / Post Doc Mingle

Ticket Required - Limited to Students / Post Docs only

MONDAY, MARCH 21

7:00 am - 5:00 pm



ASN Registration Desk Open

8:15 am - 8:30 am General Session - Opening Remarks

Jordi Folch-Pi Award Presentation
ASN NEURO Award Presentation

8:30 am - 9:30 am

Presidential Lecture 02:

REGULATION OF NEURAL-IMMUNE INTERACTIONS FOLLOWING CNS INJURY AND INFECTION



Dorian McGavern, PhD - NIH / NINDS

9:30 am - 10:00 am

Coffee Break: View Posters & Visit Exhibits

10:00 am - 12:00 pm

Plenary Lecture PL02:

FROM THE SYNAPSE TO THE BLOOD BRAIN BARRIER, GLIA'S UNIQUE ROLES IN BRAIN FUNCTION AND DYSFUNCTION





Chair: Michael A. Fox, PhD Co-Chair: Dorian McGavern, PhD

PL02.01 - title tba

Brian K. Kaspar, Ohio State University

PL02.02 - Astrocyte-endothelial Communication in Neuroinflammation Alexandre Prat, University of Montreal

PL02.03 - Biological Adaptions of Malignant Glia Harald Sontheimer, Virginia Tech

PL02.04 - Glia Targets for Cognitive Enhancement and the Treatment of Alzheimer's Disease

Philip Haydon, Tufts University

12:00 pm - 1:30 pm



Ticket Required (\$25 Faculty / \$15 Student)

12:00 pm - 1:30 pm



1:30 pm - 3:30 pm

S03 - Complement in CNS Health and Disease



Chair: Robyn S. Klein, MD, PhD

S03.01 - Repair from the Perspective of an Inflammatory Niche and the Complement Cascade

Aileen Anderson, PhD - University of California, Irvine

S03.02 - Complement Eliminates Specific Synapses in Health & Disease Beth Stevens, PhD – Harvard University

S03.03 - Complement as a Modulator of Neurodegeneration in Alzheimer's Disease

Andrea Tenner, PhD - University of California, Irvine

S03.04 - Post-Infectious Cognitive Dysfunction and CNS Complement Robyn S. Klein, MD, PhD - Washington University, St. Louis

1:30 pm - 3:30 pm

S04 - Astrocyte Heterogeneity: From Molecular Subtypes to Function and Pathology





Chair: Michael B. Robinson, PhD

S04.01 - Decoding Cellular and Functional Diversity of Astrocytes and their Malignant Analogues
Benjamin Deneen, PhD - Baylor College of Medicine

S04.02 - Astrocytes in Neural Circuit Formation and Function Anna Victoria Molofsky, MD, PhD - University of California, San Francisco

S04.03 - Genetic Control of Morphogenesis and Function of Astrocytes in Drosophila

Tobias Stork, PhD - University of Massachusetts

S04.04 - Molecularly Defined Astrocyte Subpopulations in the Adult Brain Cortex and Spinal Cord

Jeffrey D. Rothstein, MD, PhD - Johns Hopkins University

3:30 pm - 4:00 pm Coffee Break: View Posters & Visit Exhibits

4:00 pm - 5:30 pm

C03 - Neural Development and Regeneration



Chair: Wengin Luo, MD, PhD Co- Chair: Tracy Tran, PhD

C03.01 - Floor Plate-Derived Neuropilin 2 Functions as a Secreted Semaphorin Sink to Facilitate Commissural Axon Midline Crossing Tracy S. Tran, PhD - Rutgers University

C03.02 - Roof Plate Derived Radial Glia Like Cells Promote Ipsilateral

Longitudinal Axonal Growth of Dorsal Column Fibers
Wengin Luo, MD, PhD - University of Pennsylvania, Perelman School of Medicine

C03.03 - Seeing is Believing: "Peripheral Nerve Regeneration in Zebrafish" Michael Granato, PhD - University of Pennsylvania, Perelman School of Medicine

C03.04 - AKT Coordinates the Signaling of mTORC1 and mTORC2 To Promote CNS Axon Regeneration

Yang Hu, MD, PhD - Lewis Katz School of Medicine at Temple University

4:00 pm - 5:30 pm

C04 - Dissecting the Effects of Chronic Stressors on Glial Activation and Neurological Disorder in the CNS



Chair: <u>Justin Brooks</u>, <u>PhD</u> Co-Chair: <u>Yelena Grinberg</u>, <u>PhD</u>

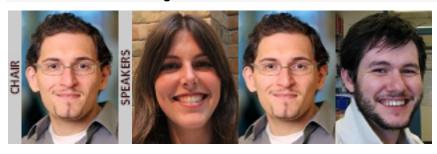
C04.01 - Autoimmune Targeting of Astrocytes Results in Progressive Seizures Yelena Grinberg, PhD – University of California, Riverside

C04.02 – Role of Exosomes in Promoting CNS Myelination/Remyelination Aya Pusic, PhD - University of Chicago

C04.03 - CNS Effects of Drugs of Abuse in a Model of NeuroAIDS Christina Schier, PhD - Virginia Commonwealth University

4:00 pm - 5:30 pm

C05 - Functions of Astrogliosis





Chair: Joshua Burda, PhD- Marian Kies awardee

C05.01 - Reactive Astrocytes and Synaptic Plasticity Giulia Tyzack, PhD – University of Cambridge

C05.02 - Heterogeneity of Reactive Astrocytes Joshua Burda, PhD - University of California, Los Angeles

C05.03 – Novel In Vitro Systems to Study Reactive Astrocytes Shane Liddelow, PhD - Stanford University

C05.04 – Glial Phagocytic Functions in the Drosophila Brain Marc Freeman, PhD – University of Massachusetts

5:45 pm - 8:00 pm



Young Investigators: Funding Opportunities & Mingle



Presentation followed by Pizza & Beer

5:30 pm - 7:30 pm



ASN Business Meeting - All Members Welcome!

TUESDAY, MARCH 22

7:00 am - 5:00 pm ASN Registration Desk Open

8:15 am - 8:30 am General Session - Opening Remarks

8:30 am - 9:30 am Presidential Lecture 03:

EPIGENETIC MECHANISMS IN MEMORY FUNCTION



J. David Sweatt, PhD - University of Alabama at Birmingham

9:30 am - 10:00 am

Coffee Break: View Posters & Visit Exhibits

10:00 am - 12:00 pm

Plenary Session PL03: DOWN THE MEMORY LANE



Chair: Vlad Parpura, MD, PhD Co-Chair: J. David Sweatt, PhD

PL03.01 - Mechanism of Rapid Antidepressant Effects Lisa Monteggia, PhD - UT Southwestern Medical Center

PL03.02 - Active DNA Demethylation Regulates Neuronal Flexibility Hongjun Sun, PhD - Johns Hopkins Medical Institute

PL03.03 - Novel Nucleobase Modifications Associated with Memory Formation Timothy Bredy, PhD - University of California, Irvine

PL03.04 - Targets of Histone Acetylation Important for Memory Storage Ted Abel, PhD - University of Pennsylvania

12:00 pm - 1:30 pm



Lunch with Plenary Speaker: David Sweatt, PhD

Ticket Required (\$15) - Limited to 20 Student/Post Docs

1:30 pm - 3:30 pm

S05 - Paradoxical Role of Interleukin-1beta in Central Nervous System

Pathology



Chair: James Hewett, PhD

S05.01 - Inflammasome Activation and IL-1 $\!\beta$ Affect Neurodegeneration in Juvenile Batten Disease

Tammy L. Kielian, PhD - University of Nebraska

S05.02 - Bimodal Actions of IL-1 β in Stroke-Related Models Sandra Hewett, PhD - Syracuse University

S05.03 - Sustained IL-1 β Over Expression Reduces Amyloid Plaques via Alternative Microglial Activation

M. Kerry O'Banion, PhD - University of Rochester

S05.04 - Endogenous Interleukin-1 β Suppresses Acute Epileptic Seizures and Status Epilepticus

James Hewett, PhD - Syracuse University

1:30 pm - 3:30 pm

S06 - Emerging Role of Glia in Neuronal Connectivity and Neurodegeneration





Chair: Wenzhen Duan, MD, PhD - Johns Hopkins

S06.01 - Neuronal-Oligodendrocyte Interactions Regulating CNS Function Wendy Macklin, MD, PhD - University of Colorado, Denver

S06.02 - Astrocyte Calcium Signaling Baljit S. Khakh, PhD - University of California, Los Angeles

S06.03 - NFkB and Complement Mediated Neuron-Glia Signaling in Neuronal Health and Alzheimer's Disease
Hui Zheng, PhD - Baylor College of Medicine

S06.04 - Dysmyelination in Huntington's Disease Wenzhen Duan, MD, PhD - Johns Hopkins

3:30 pm - 4:00 pm Coffee Break: View Posters & Visit Exhibits

4:00 pm - 5:30 pm

C06 - Dynamics of DNA Damage Responses, Brain Aging and Neurodegenerative Diseases



Chair: Muralidhar Hegde, PhD Co-Chair: Sankar Mitra, PhD

C06.01 - New Evidence for RNA/DNA Binding Proteins'-Mediated Genome Repair Defects in Motor Neuron Disease: Is Genome Damage/Repair Imbalance, a Common Basis?

Muralidhar Hegde, PhD - Houston Methodist Research Institute

C06.02 - Genomic Instability in Neurodegenerative/Neuropsychiatric Diseases:

Causes and Implications

Cynthia McMurray, PhD - Lawrence Berkeley National Laboratory

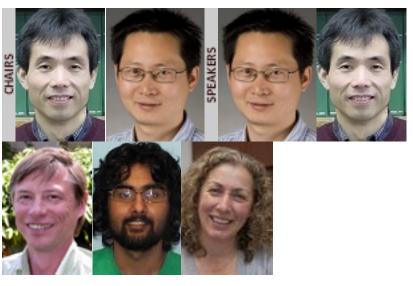
C06.03 - Cross-talk of Amyloids, Metal Toxicity and Genomic Instability in Aging and Neurological Diseases: Potential Preventive Role of Natural Products Jagannatha Rao, PhD - Institute for Scientific Research and Technology Services

C06.04 -Excision Repair, Brain Aging & Age-Related Neurodegenerative Diseases Vilhelm Bohr, MD, PhD - Gerontology Research Center of the National Institutes of Health

C06.05 - Diverse Implications of DDR in Proliferating Versus Non-Cycling Cells: Cross-Assimilation of Lessons Learned Sankar Mitra, PhD - Houston Methodist Research Institute

4:00 pm - 5:30 pm

C07 - Glia-Neuron Interactions in CNS Injury



Chair: Shinghua Ding, PhD Co-Chair: Long-Jun Wu, PhD

C07.01 - Microglia-Neuron Communication in Epilepsy Long-Jun Wu, PhD - Rutgers University

C07.02 - Window into the Injured Brain: Live Imaging of Brain Injury Depolarizations and Their Impact on the Neuronal and Astroglial Integrity Sergei Kirov, PhD - Georgia Regents University

C07.03 - The Immune Response to CNS Injury is Orchestrated by Oligodendrocyte-Derived IL-33
Sachin Gadani - University of Virginia

C07.04 - Microglia, Neurogenesis and Stroke Stella E. Tsirka, PhD - Stony Brook University

C07.05 - Role of Astrocytic GDNF in Neurogenesis and Brain Damage after Ischemic Stroke
Shinghua Ding, PhD - University of Missouri

4:00 pm - 5:30 pm

OR02 - Selected Poster Presentations

5:30 pm - 7:00 pm

Poster Session II - Authors Present

Wine & Cheese

WEDNESDAY, MARCH 23

7:00 am - 5:00 pm

ASN Registration Desk Open

8:15 am - 8:30 am

General Session - Opening Remarks

8:30 am - 9:30 am

Presidential Lecture 04: DECONSTRUCTING SMELL



Linda B. Buck, PhD - Fred Hutchinson Cancer Research Center

9:30 am - 10:00 am

Coffee Break: View Posters & Visit Exhibits

10:00 am - 12:00 pm

Plenary Lecture PL04:
CELLULAR AND MOLECULAR MECHANISMS OF NEURODEGENERATION









Chair: Bruce Appel, PhD Co-Chair: Linda B. Buck, PhD

PL04.01 - Identification, Validation and Targeting of Human Molecular Networks Contributing to Neurodegeneration and Cognitive Decline
Philip De Jager, MD, PhD - Harvard University

PL04.02 - Human Neurodegenerative Disease: Insights from Drosophila Nancy M. Bonini, PhD - University of Pennsylvania

PL04.03 - Regulation of CNS Inflammation Francisco J. Quintana, PhD - Harvard University

PL04.04 - Dynamics of Autophagy in Neurons Erika L. F. Holzbaur, PhD - University of Pennsylvania

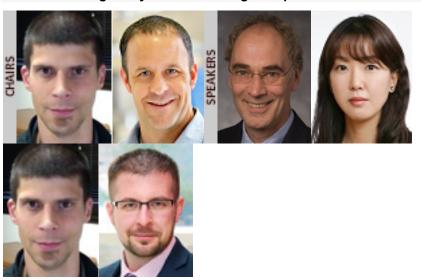
12:00 pm - 1:30 pm



Ticket Required (\$15) - Limited to 20 Student/Post Docs

1:30 pm - 3:30 pm

S07 - Enhancing Remyelination During Multiple Sclerosis



Chair: Alban Gaultier, PhD Co-Chair: Benjamin Deneen, PhD

S07.01 - Glial Interactions Modulating Demyelination and Remyelination Robert Miller, PhD - George Washington University

S07.02 - Developmental Gliogenesis: New Perspectives and Paradigms for Repairing the CNS

Hyun-Kyoung Lee, PhD - Baylor College of Medicine

S07.03 - LRP1 Function During Remyelination Alban Gaultier, PhD - University of Virginia

S07.04 - In Vitro Generated Oligodendrocyte Progenitor Cells Provide a Platform for Discovery of Remyelinating Therapeutics
Paul Tesar, PhD - Case Western Reserve University

S08 - Mechanisms of Mutant C9ORF72 Pathogenesis in ALS and FTD



Chair: Rita G. Sattler, MS, PhD Co-Chair: Tania Gendron, PhD S08.01 - Synaptic Dysfunction in C9ORF72 ALS and FTD

Rita G. Sattler, MS, PhD - Barrow Neurological Institute

S08.02 - Dipeptide Repeat Proteins in *C9ORF72* Frontotemporal Dementia and Amyotrophic Lateral Sclerosis
Tania Gendron, PhD - Mayo Clinic

S08.03 - Nucleocytoplasmic Trafficking Deficits Underlie *C9ORF72*ALS/FTD Neural Injury

Christopher Donnelly, PhD - University of Pittsburgh

S08.04 -Insights from *Drosophila* and iPSC Models of *C9ORF72* Repeat Expansion

Fen-Biao Gao, PhD - University of Massachusetts

S08.05 -Mechanisms of Neurotoxicity Mediated by *C9ORF72*-linked Dipeptide Repeat Proteins

Davide Trotti, PhD - Thomas Jefferson University

3:30 pm - 4:00 pm Coffee Break: View Posters & Visit Exhibits

4:00 pm - 5:30 pm Co8 - Non-Traditional Approaches to Study Glial Cell Biology





Chair: Kelly Monk, PhD Co-Chair: Sarah Kucenas, PhD

C-08.01 - Genetic Screens in Zebrafish Uncover New Regulators of Myelinating Glial

Cell Development

Kelly Monk, PhD – Washington University of St. Louis

C-08.02 - Glia Establish Structural and Functional Set Points in the Nervous System

Shaia Shaham, PhD - Rockefeller University

C-08.03 - Transcriptional Profiling of Drosophila Glia Responding to Injury Mary Logan, PhD - Oregon Health and Science University

C-08.04 - Engineering Pseudo-Axonal Scaffolds for Myelination: Implications for Development, Disease and High Throughput Screening Jonah Chan, PhD - University of California, San Francisco

C-08.05 - Peering Through the Looking Glass: The Role of Glial-Glial Interactions Across Transition Zones in Development and Disease Sarah Kucenas, PhD - University of Virginia

C09 -Unmyelinated and Unappreciated: Novel Roles of Non-Myelinating Peripheral Glia



Chair: Marion S. Buckwalter, MD, PhD Co-Chair: Brian D. Gulbransen, PhD

C09.01 - Development and Function of Drosophila Wrapping Glia Megan Corty, BS - University of Massachusetts Medical School

C09.02 - Regulation of Enteric Neural Networks by Enteric Glia in Health and Disease

Brian Gulbransen, PhD - Michigan State University

C09.03 - Enteric Glia Protect the Mucosal Barrier Tor Savidge, PhD - Baylor College of Medicine

C09.04 - Dysfunctions of Enteric Glia in Gastrointestinal and Neurodegenerative Diseases

Michel Neunlist, PhD - Université de Nantes, Inserm

C09.05 - Pulmonary Glia Marion Buckwalter, MD PhD - Stanford Medical School

C10 - Old Friends and New Roles: Brain Patterning and Signal Transduction





Chair: Anthony P. Barnes, PhD

C-10.01 - Clonal Analysis of Intercellular Signaling During the Neurogenic-to-Gliogenic Switch

Troy Ghashghaei, PhD - North Carolina State University

C-10.02 - JNK Signaling: A Molecular Compass for Migratory Cortical Interneurons <u>Eric S. Tucker, PhD - West Virginia University</u>

C-10.03 - New Insight into NCL-Associated Proteins: Novel Regulators of Cargo Transport in Neurons

Jill M. Weimer, PhD - Children's Health Research Center at Sanford Research

C-10.04 - Endolysosomal Trafficking and Signaling During Brain Development Anthony Barnes, PhD - Oregon Health & Science University