

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Brain Therapeutics: Disruptive Technologies and Opportunities (Q3)

Scientific Organizers: Maria-Jesus Blanco, Kalpana M. Merchant and Mabel Loza García

Supported by the Directors' Fund

Cerebral Fluid Flow and Function: Lymphatics, Glymphatics and the Choroid Plexus (Q4)

Scientific Organizers: Edwin S. Monuki, Maria Lehtinen and Maiken Nedergaard

February 16-19, 2020 • Eldorado Hotel & Spa • Santa Fe, New Mexico, USA

Supported by the Directors' Fund

Abstract & Scholarship Deadline: October 15, 2019 / Abstract Deadline: November 19, 2019 / Discounted Registration Deadline: December 17, 2019

SUNDAY, FEBRUARY 16

Arrival and Registration

MONDAY, FEBRUARY 17

Welcome and Keynote Address (Q3)

Steven M. Paul, Karuna Pharmaceuticals and Third Rock Ventures, USA

Overview of Clinical CNS Therapeutics Landscape

Welcome and Keynote Address (Q4)

Kari K. Alitalo, University of Helsinki, Finland

Processing CSF Outflow at the High-End of Lymphatics

Challenges and Opportunities for Brain Therapeutics: Preclinical to Clinical Translation (Q3)

Kalpana M. Merchant, Vincere Biosciences, Inc., USA

De-Risking Disease-Modifying Therapies of PD: From Computational Biology Approaches for Disease-Relevant Targets to Patient Enrichment Biomarkers and Digital End-Points

Speaker to be Announced

Chas Bountra, University of Oxford, UK

Focus on Translation: Preclinical Target Validation

Short Talks Chosen from Abstracts

Choroid Plexus and CSF Regulation of Stem Cells (Q4)

Norman Ruthven Saunders, University of Melbourne, Australia

The Choroid Plexus: Mechanisms that Limit Drug Entry into the Developing Brain

Maria Lehtinen, Harvard Medical School, USA

CSF Regulation of the Developing Brain

Fiona Doetsch, University of Basel, Switzerland

CSF Regulation of Adult Neural Stem Cells

Short Talks Chosen from Abstracts

Roundtable: Collaboration & Knowledge Integration Models for Successful Brain Therapeutics (Q3)

***Mabel Loza García**, Grupo Biofarma, Spain

James E. Audia, Chicago Biomedical Consortium, USA

Drug Discovery in the Academic and Not-For-Profit Community

Sohini Chowdhury, Michael J. Fox Foundation, USA

Robert G. Thorne, Denali Therapeutics, USA

Characterizing Fusion Protein Transport Across CNS Barriers: Leveraging Collaborations to Develop New Brain Therapeutics

Workshop 1 (Q4)

Short Talks Chosen from Abstracts

Advances in Technologies to Garner Insights into Disease Biology (Q3)

Alison Goate, Icahn School of Medicine at Mount Sinai, USA

Genetics and Computational Approaches: Building upon Cutting-Edge Case Studies

Lena F. Burbulla, Northwestern University, Feinberg School of Medicine, USA

iPS-Derived Cellular Systems: Impact from Latest Research

Speaker to be Announced

Short Talks Chosen from Abstracts

Glymphatics (Q4)

Maiken Nedergaard, University of Copenhagen, Denmark

Sleep Regulation and Disease Roles of the Glymphatic System

Jeffrey J. Iliff, Oregon Health and Science University, USA

Molecular and Cellular Regulation of the Glymphatic System

Helene Benveniste, Yale School of Medicine, USA

Glymphatic Flow, Regulation, and Function

Short Talks Chosen from Abstracts

Poster Session 1

TUESDAY, FEBRUARY 18

Integrating Novel Medicinal Chemistry Approaches Targeting the Brain (Q3)

Anastasia Khvorova, University of Massachusetts Medical School, USA

Novel siRNA and Antisense Oligonucleotide Approaches for Treatment of Neurodegenerative Disorders

Jacob M. Hooker, Harvard Medical School, USA

Integrating PET Tracers into CNS Drug Discovery: Impact on the Discovery of Novel HDAC Ligands

Maria-Jesus Blanco, Sage Therapeutics, USA

Leading with Human Data: Discovery of Novel Clinical Compounds for CNS Disorders

Craig W. Lindsley, Vanderbilt University, USA

Latest Efforts Towards the Discovery of Clinical mGlu4 Allosteric Modulators for Parkinson's Disease

Short Talks Chosen from Abstracts

Lymphatics and CSF Dynamics (Q4)

Jonathan Kipnis, University of Virginia, USA

Glymphatic-Lymphatic Roles in Aging and Disease

Erik N.T.P. Bakker, University of Amsterdam, Netherlands

Effect of Hypertension on Fluid Management in the Brain

Steffi Dreha-Kulaczewski, University Medical Center, Germany

Breath to Drive CSF Flow

Short Talks Chosen from Abstracts

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Diagnostic and/or Disease-State Biomarkers (Q3)

Gwenn A. Garden, University of Washington, USA
Novel Glial Biomarkers in Human Central Nervous System Disease

Steffany A.L. Bennett, University of Ottawa, Canada
Lipidomic-Based Insights into Disease Mechanisms: A Targeted Lipidomics Discovery Pipeline for Network and Flux Analysis

David Nguyen†, Sage Therapeutics, USA
Novel Digital Technologies towards CNS Translational Insights

Short Talks Chosen from Abstracts

Integrating Brain-Body Signaling (Q4)

Nanna MacAulay, University of Copenhagen, Denmark
Mechanism of CSF Secretion – Conventional Osmosis versus Active Water Transport

Christer Betsholtz, Uppsala University, Sweden
Fenestrated Blood Vessels in the Brain and Eye

Toru Takumi, RIKEN Center for Brain Science Institute, Japan
Choroid Plexus and Circadian Clock

Claire Wyart, Institut du Cerveau et de la Moelle Epinière, France
Organogenesis Relies on a Sensory Pathway Detecting Chemical and Mechanical Cues from the Cerebrospinal Fluid and Secreting Neuropeptides

Short Talks Chosen from Abstracts

Poster Session 2

WEDNESDAY, FEBRUARY 19

Ensuring Target Engagement: Innovative Approaches Towards Neuroimaging and Brain Delivery (Q3)

Tetsuya Suhara, National Institutes for Quantum and Radiological Science and Technology, Japan
Strategies for Utilizing Neuroimaging Biomarkers in CNS Drug Discovery and Development

Mickael Tanter, Institute Langevin, France
Functional Ultrasound Imaging of the Brain Activity: A Fast Growing Neuroimaging Modality with Unique Features for Preclinical and Clinical Studies

Maria José Alonso†, Universidade de Santiago de Compostela, Spain
Talk Title to be Announced

Lisa L. Shafer, NeuroBridge Therapeutics, Inc., USA
Emerging Strategies for Brain Drug Delivery: Latest Case Applications

Short Talks Chosen from Abstracts

Choroid Plexus and CSF Regulation of Neuroimmune Responses (Q4)

Adam Chodobski, Alpert Medical School of Brown University, USA
The Choroid Plexus in Brain Injury and Neuroinflammation

Jean-François Gherzi-Egea, Centre de Recherche en Neurosciences de Lyon, France

CSF Barriers to Immune Cells and Drugs

Michal Schwartz, Weizmann Institute of Science, Israel
Choroid Plexus Regulation of the Neuroimmune Response

Short Talks Chosen from Abstracts

Workshop: Computational Framework for Integrated CNS Drug Discovery and Design (Q3)

Short Talks Chosen from Abstracts

Workshop 2 (Q4)

Short Talks Chosen from Abstracts

Innovative Therapeutic Approaches Targeting the Brain (Q3)

Aletta D. Kraneveld, University of Utrecht, Netherlands
Parkinson's Disease: No Guts No Glory

Speaker to be Announced

Giorgia Quadrato, USC Stem Cell, USA
Modeling Human Brain Development and Disease at Single Cell Resolution with Organoids

Short Talks Chosen from Abstracts

Diagnostics and Therapies (Q4)

Kristopher Kahle, Yale School of Medicine, USA
Genetics of Human Hydrocephalus

Patricia I. Dickson, Washington University, USA
CSF Delivery of Therapeutics

Christopher Moore, Brown University, USA
A Systems Approach to the Choroid Plexus

Edwin S. Monuki, University of California, Irvine, USA
Choroid Plexus Regenerative Medicine

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Q3)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Q4)

THURSDAY, FEBRUARY 20

Departure