



# THE NEURON GLIA INTERFACE

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PROGRAM GUIDE

**SEPTEMBER 9.- 11.  
2024**

**FREIBURG || GERMANY**

## Welcome to Vis à vis in the Brain: The Neuron-Glia Interface

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It is our great pleasure to welcome you all to our third international meeting “Vis à vis in the Brain: The Neuron-Glia Interface” organized at the Medical Center- University of Freiburg.

The human mind is conventionally recognized as only derived from neuronal activity, with the dynamic activity of neurons involved in the transfer and processing of information. Glial cells, traditionally thought of simply as the “glue” of the nervous system, were thought to be uninvolved in information processing and only ensuring homeostatic maintenance.

Recent technological advancements over the last years have now allowed to gain a new understanding about the functions and complexity of glia and neurons and their interactions in development and function of the brain. Furthermore, these interactions between glia and neurons are key determinants in many neurodegenerative and neuroimmunological diseases.

With this conference, we aim to connect and foster discussions between expert medical and clinician scientists from Neuroscience, Neurotechnology, and Neuroimmunology to highlight and present the most recent developments, translational advances and unpublished discoveries.

We are happy to welcome you here for this exciting conference at the Medical Center-University of Freiburg, just a few minutes from the bustling city center and surrounded by the beautiful Black Forest.

MONDAY SEPT. 9, 2024	
11.00 - 11.30	Registration - Hörsaal Killianstraße
11.30 - 11.45	Opening and Welcome
11.45 - 12.30	<b>Keynote Lecture</b> <b>CNS myelination &amp; its regulatory network</b> <i>Michael Wegner (Erlangen)</i>
12.30 - 13.45	Lunch Break
13.45 - 15.45	<b>Session I   Neuron and Glia in Health</b> <i>Chair: Marco Prinz &amp; Katrin Kierdorf</i>
13.45 - 14.15	Functional diversity of inhibitory amygdala circuits <i>Sabine Krabbe (Bonn)</i>
14.15 - 14.45	Microglia modulate neurovascular responses via compartment-specific actions <i>Adam Denes (Budapest)</i>
14.45 - 15.15	Microglia – mediators of synapse remodeling in health and disease <i>Martin Fuhrmann (Bonn)</i>
15.15 - 15.30	Short Talk: Gut microbiome derived trimethyl-5-aminovaleric acid (TMAVA) is a regulator of CNS-aGVHD <i>Sangya Chatterjee (Freiburg)</i>
15.30 - 15.45	Short Talk: Rapid phagosome isolation enables unbiased multiplication analysis of human microglia phagosomes <i>Emile Wogram (Freiburg)</i>
15.45 - 16.30	Coffee Break
16.30 - 17.30	<b>Workshops</b> <i>Ute Häussler (Freiburg)</i>
16.30 - 16.55	ScaleBio (Workshop)   Where Simplicity Meets Scalability: Cost-effective single cell omics with Scale Bio <i>Michal Rokicki</i>
16.55 - 17.15	Optronix (Workshop)   Supporting reproducibility of cell culture and organoid research <i>Petra Mayr</i>
17.15 - 17.30	Open Discussions
18.00 - 21.00	Poster (Wine and Finger Food)

TUESDAY SEPT. 10, 2024	
8.45 - 10.15	<b>Session II   Bench to Bedside Research</b> <i>Chair: Juergen Grauvogel &amp; Ioannis Vasilikos</i>
8.45 - 9.00	Disentangling the microstructure of cortical malformations – from neurons, myelination and structural epileptic network integration <i>Julia Nakagawa (Freiburg)</i>
9.00 - 9.15	From Scalpel to Science: Unveiling the Intricacies of Neurosurgery for Basic Scientists <i>Roland Rölz (Freiburg)</i>
9.15 - 9.30	Genomic influences on the characteristics of meningioma <i>Tareq Juratli (Dresden)</i>
9.30 - 9.45	Differences of cystic and solid hemangioblastoma on a single-cell level <i>Nicolas Neidert (Freiburg)</i>

9.45 - 10.15	Microglia activation after cellular therapy <i>Robert Zeiser (Freiburg)</i>
10.15 - 10.45	Coffee Break
10.45 - 13.15	<b>Session III   Neurodegeneration &amp; Neuroinflammation</b> <i>Chair: Andreas Vlachos &amp; Paolo d'Errico</i>
10.45 - 11.15	The role of microglia in Ab propagation and spreading <i>Melanie Meyer-Luehmann (Freiburg)</i>
11.15 - 11.45	Neuroimmune interactions and metabolic control of sensorimotor physiology and repair <i>Ute Häussler (University of Freiburg, Germany)</i>
11.45 - 12.15	Biology and modulation of human microglia in vivo in Alzheimer's disease <i>Renzo Mancuso (VIB Antwerp)</i>
12.15 - 12.45	Development of innate barrier immunity <i>Philipp Henneke (Freiburg)</i>
12.45 - 13.00	Short Talk: Astrocytes protect Neurons from Brain Injury via Cytoskeleton-assisted membrane trafficking <i>Kai Murk (Berlin)</i>
13.00 - 13.15	Short Talk: Role of neuroglial interactions in regulating the hypoxia response and arousal <i>Jan-Marino Ramirez (Seattle)</i>
13.15 - 14.30	Lunch Break & Group Photo Session
14.30 - 16.30	<b>Session IV   Cancer Meets Neuroscience</b> <i>Chair: Vidhya M. Ravi &amp; Roman Sankowski</i>
14.30 - 15.00	Cancer Networks in Brain Metastases <i>Matthia Karreman (Heidelberg)</i>
15.00 - 15.30	Functional synapses between small cell lung cancer and glutamatergic neurons <i>Filippo Beleggia (Cologne)</i>
15.30 - 16.00	Neuroglial remodeling in pancreatic cancer <i>Fanny Mann (Marseille)</i>
16.00 - 16.15	Short Talk: The Use of Atomic Force Microscopy to Explore the Mechanical Landscape of Brain Tumors <i>Sukesh Mysore Swamy (Freiburg)</i>
16.15 - 16.30	Short Talk: Exploring multicellular dynamics in glioblastoma: a 3D open-top chip model with integrated neurovascular networks for drug testing <i>Lotta Isosaari (Tampere)</i>
16.30 - 17.20	<b>Keynote Lecture</b> <b>Glioma remodeling of neuronal circuits: therapeutic implications</b> <i>Shawn Hervey-Jumper (UCSF)</i>
18.30 - 23.00	Social Dinner @La Mucca Freiburg

## WEDNESDAY SEPT. 11, 2024

08.30 - 10.45	<b>Session V   Neurotechnologies</b> <i>Chair: Kevin Joseph &amp; Benjamin Newland</i>
8.30 - 9.00	Mapping the rules of glioblastoma using single cell and spatial genomics <i>Omer Bayraktar (Wellcome Sanger Institute)</i>
9.00 - 9.30	Seeing the invisibles: Intraoperative optical technologies for neurosurgical guidance <i>Yijing Xie (Kings College London)</i>
9.30 - 10.00	Single-Cell and Spatial Transcriptomics Reveal Microglial Dynamics in Injury and Aging <i>Ozgun Gokce (Bonn)</i>
10.00 - 10.15	Short Talk: Intraoperative Optical Imaging- Visualization of Functional Brain Areas Based on Cortical Hemodynamics <i>Martin Oelschlägl (Dresden)</i>
10.15 - 10.30	Short Talk: Clear-omics: Spatial molecular maps in 3D intact specimens <i>Singh Harsharan Bhatia (Munich)</i>
10.30 - 11.15	Coffee Break
11.15 - 12.15	<b>Session VI   Panel Discussion: AI and Precision Medicine in Neurology</b> <i>Philipp Kellmeyer, Melanie Börries, Peter Reinacher, Ulrich Hofmann (Medical Center University of Freiburg)</i>
12.15 - 13.00	<b>Keynote Lecture: Merging light and sound for stimulation and interrogation of the brain</b> <i>Daniel Razansky (ETH Zurich)</i>
13.00 - 13.15	Closing Remarks & Poster Prize

## ORGANIZING AND SCIENTIFIC COMMITTEE

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