

# PROGRAM

## Monday, August 07, 2023

09:00-09:10	<b>Opening Bonn Brain<sup>3</sup> 2023</b>
	<b>Dendrites: morphology, cell biology and models</b> Chairs: Gaia Tavosanis & Stefan Remy
09:10-10:00	Keynote: Hollis Cline (The Scripps Research Institute) <i>What the frog's eye tells the frog's brain V2.0</i>
10:00-10:30	Wes Grueber (Columbia – Zuckerman Institute, NY) <i>Development and evolution of proprioceptive system architecture</i>
10:30-10:45	Short Talk – Max Schelski (DZNE, Bonn) <i>Microtubule retrograde flow retains neuronal polarization in a fluctuating state</i>
10:45-11:00	Short Talk – Chloé Benoit (DZNE, Bonn & University of Basel) <i>Axon initial segment dynamics during associative fear learning</i>
11:00-11:30	<i>COFFEE BREAK</i>
	<b>Dendrites: morphology, cell biology and models</b> Chairs: Gaia Tavosanis & Stefan Remy
11:30-12:00	Julijana Gjorgjieva (TUM, München) <i>The emergence of dendritic synaptic organization and excitatory and inhibitory balance</i>
12:00-12:30	Hermann Cuntz (Ernst Strüngmann Institute, Frankfurt) <i>Models that capture the diversity of dendritic morphology</i>
12:30-12:45	Short Talk – Cornelius Bergmann (Univ. Mainz Medical Center) <i>Minimal energy principles determine spatial localization and turn-over of molecules</i>
12:45-14:00	<i>LUNCH BREAK</i>
	<b>Dendrites: physiology, computations and behavior</b> Chair: Kevin Briggman
14:00-14:30	Randy Bruno (University of Oxford) <i>Cortical Layers in Context &amp; Learning</i>
14:30-15:00	Alison Barth (Carnegie Mellon University, Pittsburgh) <i>Inhibitory synaptic plasticity across the cortical column</i>

15:00-15:15	Short Talk – André Haubrich (University Medical Center Bonn) <i>Dentate granule cell activity and slow gamma oscillations support the formation of precise memories</i>
15:15-15:30	Short Talk – Jens Tillmann (University of Bonn) <i>A-SOiD – An active learning platform for expert-guided, data efficient discovery of behavior</i>
15:30-16:00	<i>COFFEE BREAK</i>
	<b>Theory and Computation</b> Chair: Tatjana Tchumatchenko & Marcel Oberländer
16:00-16:30	Fred Wolf (University of Göttingen) <i>INTO DARKNESS – understanding a major transition in neural circuit evolution</i>
16:30-16:45	Short Talk – Irene Aji (Max Planck Institute for Neurobiology of Behavior — caesar) <i>Mapping functional to anatomical connectivity of circuits in the macaque retina</i>
16:50-17:40	Keynote: Idan Segev (Hebrew University of Jerusalem) <i>A modeling adventure into human dendrites</i>
17:40-18:30	<b>Roundtable discussion</b>
18:30-	<i>End of the first day</i>

## Tuesday, August 08, 2023

09:00-09:10	<b>Organizers' announcements</b>
	<b>Translational Neuroscience</b> Chairs: Martin Fuhrmann & Stefanie Kürten
09:10-10:00	Keynote: Karin Danzer (DZNE, Ulm) <i>Mechanisms of disease propagation in neurodegenerative diseases</i>
10:00-10:30	Markus Schwaninger (University of Lübeck) <i>Bridging endothelial and glial brain barriers</i>
10:30-10:45	Short Talk – Anna Antoniou (University of Bonn Medical Center) <i>Neuronal extracellular vesicles and associated microRNAs induce circuit connectivity downstream BDNF</i>
10:45-11:00	<i>COFFEE BREAK</i>
	<b>Translational Neuroscience</b> Chairs: Martin Fuhrmann & Stefanie Kürten

11:00-11:30	Aya Takeoka (NERF, Leuven) <i>Spinal circuit plasticity for movement generation</i>
11:30-12:00	Monica Sousa (Instituto de Biologia Molecular e Celular, Universidade do Porto) <i>Translating Acomys to Mus: identifying the roadmap that enables axon regeneration in mammals</i>
12:00-12:15	Short Talk – Florian Thomas Kaulhausen (UKB) <i>Characterization of the synaptic ultrastructure in human epileptic tissue</i>
12:15-12:30	Short Talk – Elisabeth Behrendt (University of Bonn) <i>Neuron-Microglia Communication Modulates Sensorimotor Function and Resilience to Chronic Stress</i>
12:30-14:00	LUNCH BREAK
13:00-14:00	<b>Artwork (meet the artist)</b>
13:30-15:30	<b>Poster Session 1 (evaluation by speakers)</b>
15:00-15:30	COFFEE BREAK and continued poster session
	<b>Glia</b> Chairs: Gabor Petzold & Elvira Mass
15:30-16:20	Keynote: Shane Liddelow (Neuroscience Institute NYU Langone) <i>How diverse are reactive astrocytes at the transcriptomic and functional level?</i>
16:20-16:50	Thora Karadottir (University of Cambridge) <i>Neuronal activity modulates myelin plasticity and regeneration</i>
16:50-17:05	Short Talk – Peter Rupprecht (University of Zurich) <i>Centripetal integration of past events in hippocampal astrocytes, controlled by the locus coeruleus</i>
17:05-17:20	Short Talk – Sergio Castro Gomez (University of Bonn) <i>NLRP3 contributes to microglial morphology changes, ASC aggregation and long-term behavioural phenotypes after traumatic brain injury</i>
17:20-17:40	COFFEE BREAK
	<b>Glia</b> Chairs: Gabor Petzold & Elvira Mass
17:40-18:10	Soyon Hong (UK Dementia Research Institute at UCL) <i>Microglia-synapse interactions: the triggers &amp; the consequences</i>

18:10-18:40	Bruno Weber (University of Zürich) <i>In vivo imaging of cortical astrocyte dynamics</i>
19:00-	<i>Speakers Dinner</i>

## Wednesday, August 09, 2023

09:00-09:15	<b>Organizers' announcements</b>
	<b>Neurovascular unit</b> Chairs: Carmen Ruiz de Almodovar & Melania Capasso
09:15-09:45	Axel Montagne (UK Dementia Research Center, University of Edinburgh) <i>Cerebrovascular and inflamm-ageing link to dementia</i>
09:45-10:15	Pablo Blinder (Tel Aviv University) <i>Closing the neurovascular loop: a perspective from blood flow perturbations</i>
10:15-10:30	Short Talk – Amira Hanafy (University Hospital Bonn) <i>Changes in striatal blood-brain barrier tightness during early development</i>
10:30-11:00	<i>COFFEE BREAK</i>
	<b>Neurovascular unit</b> Chairs: Carmen Ruiz de Almodovar & Melania Capasso
11:00-11:30	Annika Keller (University of Zürich) <i>Pericyte heterogeneity in the mouse brain</i>
11:30-12:00	Caroline Menard (CERVO Brain Research Centre, Université Laval, Québec) <i>Sex-specific neurovascular alterations modulating stress responses in mice and human depression</i>
12:00-12:15	Short Talk – Falko Fuhrmann (DZNE, Bonn) <i>Three-photon in vivo imaging: Access to previously unreachable brain regions</i>
12:15-12:30	Short Talk – Petra Mocellin (LIN Magdeburg) <i>A septal-VTA circuit drives exploratory behavior</i>
12:30-14:00	<i>LUNCH BREAK</i>
13:30-14:00	<b>Artwork (meet the artist)</b>
14:00-16:00	<b>Poster Session 2 (evaluation by speakers)</b>
15:30-16:00	<i>COFFEE BREAK</i> and continued poster session

	<b>Olfaction</b> Chair: Ilona Grunwald Kadow
16:00-16:30	Venkatesh N. Murthy (Harvard University) <i>Neural circuits and algorithms in odor-guided behaviors</i>
16:30-17:00	Veronica Egger (Regensburg University) <i>A novel hypothesis on the role of olfactory bulb granule cells: How to dynamically combine 1000 receptor channels</i>
17:00:17:15	Short Talk – Lukas Kunz (University of Bonn Medical Center) <i>Ripple-locked coactivity of stimulus-specific neurons and human associative memory</i>
17:15-17:30	Short Talk – Ivy Chi Wai Chan (DZNE, Bonn) <i>Biased connectivities underlie the different odour preference and odour discrimination capabilities of the Drosophila mushroom body</i>
<b>17:30-19:00</b>	<b>Closing/Awards</b>
<i>19:00-21:00</i>	<i>Informal DIY Dinner</i>
<b>21:00-</b>	<b>Young Investigators Party</b>

## Organizers

Gabor Petzold (DZNE Bonn and University of Bonn)

Carmen Ruiz de Almodovar (University of Bonn)

Marcel Oberlaender (Max Planck Society, Bonn)

Gaia Tavosanis (RWTH, Aachen)