

program symposium

16.–18.
September 2019

Quantitative
Synaptology
SFB 1286

MPIem
Max-Planck-Institut für
Experimentelle Medizin
Hermann-Rein-Straße 3
37075 Göttingen

UNIVERSITÄTSMEDIZIN
GÖTTINGEN **UMG**

September 16th

Max-Planck-Institut für Experimentelle Medizin, Hermann-Rein-Straße 3, 37075 Göttingen

FIRST SESSION – Chair: Eleonora Perego

14:30h Opening

Silvio O. Rizzoli, University Medical Center Göttingen

**14:45h On the importance of inhibitory interactions
for the exquisite regulation of neurotransmitter release**

Jose Rizo-Rey

UT Southwestern Medical Center, Dallas

15:15h Synapses and neuropsychiatric diseases

Tobias Böckers

Institute of Anatomy and Cell Biology, Ulm

15:45h How to image the activity of 1000 synapses

Thomas Oertner

UKE Hamburg

16:15h – 16:45h *Coffee Break*

SECOND SESSION – Chair: Haris Alvanos

16:45h Gentler and faster live-cell nanoscopy of brain cells

Ilaria Testa

Science for Life Laboratory, KTH, Stockholm

17:15h Secondary ion mass spectrometry as a tool to study neuronal biology

Short Talk: Paola Agüi

**17:30h Synaptic tenacity or lack thereof: spontaneous remodeling
of synaptic connections**

Noam Ziv

Technion, Israel Institute of Technology, Haifa

**18:00h Trafficking and secretion of neuromodulators from dense core
vesicles in human and mouse CNS neurons**

Matthijs Verhage

Vrije Universiteit and VU University Medical Center (VUmc), Amsterdam

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THIRD SESSION – Chair: Sofia Elizarova

09:00h **Dissecting synapse formation, one molecule at a time**
Keynote: Thomas Südhof, School of Medicine Stanford University

10:00h **The role of RIM/RBP in synaptic organization**
Christian Rosenmund
Charité Universitätsmedizin Berlin

10:30h **Effects of SCN2A/NaV1.2 loss on synaptic function**
Kevin Bender
UCSF Sandler Neurosciences Center, San Francisco

11:00h – 11:30h **Coffee Break**

FOURTH SESSION – Chair: Verena Klüver

11:30h **Forever young: neurons that refuse to grow up**
Erik Jorgensen
Howard Hughes Medical Institute, Salt Lake City

12:00h **Molecular mechanisms controlling the neuronal membrane fusion machinery**
Thomas Söllner
Biochemistry Center of the University of Heidelberg (BZH)

12:30h **How the immune system affects synaptic function**
Michaela Matteoli
Neuro Center, Humanitas Research Hospital, Mailand

13:00h – 15:00h **Lunch and Poster Session**

FIFTH SESSION – Chair: Mayte Bonilla

15:00h **Local protein synthesis**
Erin Schuman
Max Planck Institute for Brain Research, Frankfurt

15:30h **RNA-binding proteins and their role at the synapse**
Michael Kiebler
BioMedizinisches Centrum – BMC, Martinsried

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16:00h Homeostatic regulation of growth and use-dependent remodeling of networks in sensory cortex
Stefan Rotter
Bernstein Center Freiburg, Freiburg

16:30h – 17:00h *Coffee break*

SIXTH SESSION – Chair: Roya Yousefi

17:00h Cognitive ontogeny in health and disease
Ileana Hanganu-Opatz
Institut für Neuroanatomie, UKE Hamburg

17:30h An analysis of the modifications of the neuronal extracellular matrix
Short Talk: Tal Dankovich

17:45h Neural mechanisms of social motivation: implications for Autism Spectrum Disorders
Camilla Bellone
Department Basic Neuroscience, Geneva

18:15h The PSD-associated proteome reveals structural and functional differences during brain development
Claudia Bagni
Department of Fundamental Neurosciences, Lausanne

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SEVENTH SESSION – Chair: Axel Rösch

09:00h Subcellular resource management during synaptic plasticity
Keynote: Kristen Harris, University of Texas at Austin

10:00h Toward a thermodynamic understanding of synaptic microstructure
Antoine Triller
Institut de Biologie de l'École Normale Supérieure, Paris

10:30h Afferent synaptic pathways in fear learning
Ralf Schneggenburger
Laboratory of Synaptic Mechanism, Lausanne

11:00h *Coffee Break*

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EIGHTH SESSION – Chair: Moritz Becker

11:30h Involving the membrane: dynamic particle-based membrane model for large-scale simulation of neuronal signaling

Mohsen Sadeghi

Free University of Berlin

12:00h Dendritic spine nanomaps

Short Talk: Martin Helm

12:15h – 14:00h *Lunch and Poster Session*

NINTH SESSION – Chair: Anika Hinze

14:00h The molecular determinants of the uptake rate of a glutamate transporter homologue

Olga Boudker

Weill Cornell Medicine University, New York

14:30h The Mechanism of Endocytosis Determines the Properties of Exocytosis

Robert Edwards

Neurology and Physiology UCSF School of Medicine, San Francisco

15:00h Final Words

Silvio O. Rizzoli, University Medical Center Göttingen