Molecular Mechanisms of synaptic processing, function and dysfunction
26th - 27th of April 2012

Thursday, 26th of April

9:15 Welcome: Denise Manahan-Vaughan / Michael Hollmann, IGSN / RDN

9:30 Presynaptic regulation of synaptic strength

Wei Xu, Stanford School of Medicine, USA
From the two modes of synaptic transmission to neuronal coding schemes

Christian Rosenmund, Neurocure, Charité Universitätsmedizin Berlin
VGLUT’s as regulators of neurotransmitter release probability

11:15 Neurotransmitter receptor modulation

Nikolaj Klöcker, Heinrich-Heine-University, Düsseldorf
Molecular complexity of native AMPA receptors

Villu Maricq, University of Utah, Salt Lake City, USA
Postsynaptic signaling: What are the molecules and how do they get there?

13:40 The extracellular matrix and synapse modulation

Michael Frotscher, University Medical Center Hamburg-Eppendorf
Structural plasticity of hippocampal mossy fiber synapses

Alexander Dityatnev, Italian Institute of Technology, Genova, Italy
The extracellular matrix and synaptic functions

15:35 Molecular mechanisms of synapse formation

Mark Henkemeyer, University of Texas Southwestern Medical Center, Dallas, USA
Eph-Ephrin bidirectional signaling in synapse development and function

Michisuke Yuzaki, School of Medicine, Keio University, Shinjuku-ku, Japan
Cbln1 and its family proteins – unique functional and morphological regulators of synapses

Each session will be introduced by an IGSN student / duration of each talk: 40 min (incl. 10 min for discussion)
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Friday, 27th of April

9:30 Welcome: Jörg T. Epplen, IGSN / RDN

9:40 Evolution and modification
DAVID GENOUX, Ecole Polytechnique Fédéral de Lausanne, Switzerland
Protein phosphatase PP1 and intra-spaced stimulations are key elements in controlling the direction of synaptic plasticity

10:55 Dysfunction (incl. Rett syndrome)
CHRISTIAN LÜSCHER, University of Geneva, Switzerland
Drug-evoked synaptic plasticity: from molecular mechanism to behavioral correlates
QIANG CHANG, University of Wisconsin, Madison, USA
Epigenetic control in neural development and disease

13:20 Dysfunction in Huntington and FRAX syndrome
MICHAEL S. LEVINE, University of California, Los Angeles, USA
From genes to circuits in Huntington’s Disease:
every neuron needs good connections
CHRISTOPHER W. COWAN, University of Texas Southwestern Medical Center, Dallas, USA
Transcriptional regulation of synapse elimination:
implications for Drug Addiction, Fragile X Syndrome, and Autism

15:00 Dysfunction in schizophrenia and cognitive disorders
DANIELLE POSTHUMA, Center for Neurogenomics and Cognitive Research, Amsterdam, NL
Biologically informed genome-wide association analysis uncovers role of synaptic gene-sets in schizophrenia and intelligence
RAMI ABOU JAMRA, Institute of Human Genetics, Erlangen, Germany
Deep sequencing strategies to elucidate the genetics of autosomal recessive intellectual disability

The conference is accompanied by poster presentations of the IGSN students.

Farewell: 16:30