

"Gephyrin: where do we stand, where do we go?"
Chexbres, September 9 - 11, 2007

Scientific Program

Format of presentations:

- 16 talks (30 min. incl. Discussion) in four sessions
- 15 posters in one session

Sunday, September 9

14 h 00 – 18 h 00 Arrival

18 h 00 Welcome reception

19 h 30 Dinner

21 h 00 **Plenary session 1**

Opening and constitution of discussion groups
JEAN-MARC FRITSCHY (University Zurich, Switzerland)

Monday, September 10

Session 1

Structure and Function

Chair: **ANTOINE TRILLER** (Paris, France)

S1-1 08 h 30

Gephyrin's multiple function in receptor clustering and basic metabolism
GÜNTER SCHWARZ (Cologne, Germany)

S1-2 09 h 00

Genetic and neuropathological context of human gephyrin isoforms
KRISTIN BEAR (Swansea, UK)

S1-3 09 h 30

The structural basis of glycine receptor anchoring by gephyrin
HERMANN SCHINDELIN (Würzburg, Germany)

S1-4 10 h 00

Analysis of postsynaptic receptor complexes
INGO PAARMANN (Frankfurt/Main, Germany)

Coffee break

Session 2

Trafficking, Dynamics, and Clustering

Chair: **ANN MARIE CRAIG** (Vancouver, Canada)

S2-1 11 h 00

Molecular dynamic at inhibitory synapses
ANTOINE TRILLER (Paris, France)

S2-2 11 h 30

Neuronal cotransport of glycine receptor and the scaffold protein gephyrin

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MATTHIAS KNEUSSEL (Hamburg, Germany)

S2-3 12 h 00 Genetic defects in collybistin-mediated gephyrin clustering
ROBERT HARVEY (London, UK)

S2-4 12 h 30 Neuroligins interact with the inhibitory scaffolding protein gephyrin
FRÉDÉRIQUE VAROQUEAUX, (Göttingen, Germany)

Lunch

Session 3

Gephyrin and GABA_A receptor clustering

Chair: BERNHARD LÜSCHER (University Park, PA, USA)

S3-1 14 h 15 Characterizing gephyrin and GABA_A receptor clustering using a peptide based strategy
SHIVA TYAGARAJAN (Zurich, Switzerland)

S3-2 14 h 45 Co-Expression of GABA_A receptor loops and gephyrin suggests protein-protein interactions
JOCHEN MEIER (Berlin, Germany)

S3-3 15 h 15 The accumulation of GABA_A receptors at inhibitory synapses is regulated via the selective interaction of receptor α subunit isoforms with gephyrin
STEPHEN MOSS (Philadelphia, PA, USA)

S3-4 15 h 45 Gephyrin clustering is required for the stability of GABAergic synapses
ANGEL DE BLAS (University of Connecticut, CT, USA)

S3-5 16 h 15 New tools for inhibitory synapses: transgenic mice expressing tagged GABA_A receptor subunits
ANN MARIE CRAIG (Vancouver, Canada)

Coffee break

Session 4

Synaptogenesis

Chair: JEAN-MARC FRITSCHY (University of Zurich, Switzerland)

S4-1 17 h 15 Synapse assembly in neurons lacking GABA_A receptors
MARCO SASSOÈ-POGNETTO (Turin, Italy)

S4-2 17 h 45 Trafficking of postsynaptic GABA_A receptors by calcium-modulating cyclophilin ligand (CAML)
BERNHARD LÜSCHER (University Park, PA, USA)

S4-3 18 h 15 eEF1 localization in cultured neurons is altered during in vitro differentiation and is regulated by ligand gated ion channel activity
JOCHEN KUHSE (Heidelberg, Germany)

Dinner

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Tuesday, September 11

08 h 30 – 10 h 30		Poster session
A. Gephyrin Domain Structure, Clustering Mechanisms & Non-Neuronal Functions		
P1	Calamai, Martino (Paris, France)	Lateral diffusion of glycine receptor depends on gephyrin oligomerisation
P2	Smolinsky, Birthe (Cologne, Germany)	Functional characterization of gephyrin splice variants in molybdenum cofactor biosynthesis
P3	Lee, Eun-Young Sauer, Florian Schneeberger, Daniela (Würzburg, Germany)	Biochemical and structural characterization of the interaction between gephyrin and selected binding partners
P4	Fuchs, Celine (London, UK)	Mapping of epitopes for gephyrin monoclonal antibodies using peptide arrays
B. Gephyrin and Interacting Proteins		
P5	Charrier, Cécile (Paris, France)	Regulation of inhibitory synapse dynamics by integrins
P6	Machado, Patricia (Paris, France)	Identification of a new molecular partner of the gephyrin in inhibitory synapses
P7	Poulopoulos, Alexandros (Göttingen, Germany)	Neuroligins interact with the inhibitory scaffolding protein gephyrin
P8	Hoon, Mrinalini (Göttingen, Germany)	Morphological and functional characterization of neuroigin2 in the mouse retina
P9	Schwiese, Oliver (Cologne, Germany)	Biochemical analysis of gephyrin-dynein light chain interaction
P10	Kluska, Martin (Heidelberg, Germany)	Map4k4 – a novel collybistin-interacting protein and putative regulator of gephyrin clustering
C. Receptor Clustering		
P11	Tretter, Verena (Philadelphia, PA, USA)	The selective clustering of GABA _A receptor subtypes at inhibitory synapses is facilitated via the direct binding of receptor α 2 subunits to gephyrin
P12	Petitjean, Caroline (Zurich, Switzerland)	Influence of GABA _A receptor subunit expression changes on synapse maturation in the thalamus of developing alpha1 ^{0/0} mice
P13	Patrizi, Annarita (Turin, Italy)	Synapse assembly in transgenic mice lacking a major GABA _A receptor subunit
P14	Viltono, Laura (Turin, Italy)	Differential regulation of gephyrin and GABA _A receptors at somatic and dendritic synapses of cerebellar Purkinje cells
P15	Schumacher, Stefanie Quinones, Daniel (Heidelberg, Germany)	Regulation of glycine receptor subunit expression in cultured spinal neurons

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10 h 30 – 11 h 00	Coffee break
11 h 00 – 12 h 30	Brain Storming in Discussion Groups
D1	Gephyrin domain structure, aggregation mechanisms, non-neuronal functions
D2	Gephyrin splice variants, posttranslational modifications
D3	Gephyrin-interacting proteins (molecular biology and biochemistry)
D4	Gephyrin trafficking, interactions with glycine and GABA _A receptors (cell biology)
D5	Inhibitory synapse formation and plasticity
12 h 30 – 14 h 00	Lunch
14 h 00 – 16 h 00	Plenary session 2
	Panel discussion and report from the five discussion groups; strategies for the future
16 h 30	End of the meeting