2nd ANNUAL MEETING OF THE INTERDISCIPLINARY SCIENCE NETWORK 'MOLECULAR AND CELLULAR NEUROBIOLOGY'

Organisers: PD Dr. Andreas Prokop and Prof. Dr. Hartmut Lueddens
Time: Friday, 29th of November 2002, 9a.m.
Location: Atrium min./max. der "Alten Mensa", University Campus, Becherweg 5
All interested visitors are welcome. No registration is required.

PROGRAMME

09.00 WELCOME
1st LECTURE SESSION; Chair: Gerd Technau, Inst. of Genetics, Univ. Mainz

09.15 INVITED LECTURE: Jack Price, Institute of Psychiatry, King's College London; 'Neural Stem Cells: towards an understanding of their role in Brain Repair'

10.15 Andreas Prokop, Inst. of Genetics, Univ. Mainz; 'Synapse formation in Drosophila - from the NMJ into the CNS'

10.40-11.00 ------------- COFFEE BREAK

2nd LECTURE SESSION; Chair: Hartmut Lueddens, Dept. of Psychiatry, Univ. Mainz

11.00 Wolfgang Greffrath, Institute of Physiology und Pathophysiology; 'Intracellular calcium signals in primary nociceptive neurons of rats'

11.25 Volkmar Lessmann, Inst. of Physiology and Pathophysiology, Univ. Mainz; 'Synaptic secretion of neurotrophins modulates synaptic function'

11.50 INVITED LECTURE: Arthur Konnerth, Inst. of Physiology, LMU Munich
'Mechanism of neurotrophin-evoked neuronal signalling'

12.50 - 14.10 -------------- LUNCH

3rd LECTURE SESSION; Chair: Stefan Kroeger, Dept. of Physiol. Chem., Univ. Mainz

14.10 Christian Behl, Inst. of Physiol. Chem. & Pathobiochem., Univ. Mainz; 'Estrogen can protect neurons: Modes of action'

14.35 Gert Pflugfelder, Inst. of Genetics, Univ. Mainz; 'Behavioural and structural deficits in polyglutamine-expressing flies'

15.00 - 16.35 --------- COFFEE BREAK & POSTER SESSION

16.35 Ulrich Schmitt, Dept. of Psychiatry, Univ. Mainz; 'Altered anxiety-like behaviors in GABA-A receptor delta subunit knock out mice'

17.00 POSTER PRIZE followed by INVITED LECTURE: Ruediger Wehner, Institute of Zoology, University of Zuerich; 'Ant navigation: mini brains - mega tasks - smart solutions'

18.00 END OF MEETING

POSTER

NEURAL DEVELOPMENT

D1 Altered morphological and electrophysiological properties of Cajal-Retzius neurons in cerebral cortex of embryonal PS-1 knockout mice
Kilb W. (1), Hartmann B. (2), Saftig P. (3) & Luhmann H. J. (1)
D2 Functional glutamatergic and GABAergic synaptic projections onto subplate neurons in neonatal rat somatosensory cortex (APPLIC. POSTER PRIZE)

Hanganu I., Kilb W. & Luhmann H. J.
Inst. f. Physiol. & Pathophysiol., Johannes-Gutenberg Universitaet, Mainz

D3 Carbachol-induced oscillations in the intact cerebral cortex of the newborn rat
Luhmann H. J. & Kilb W.
Inst. f. Physiol. & Pathophysiol., Johannes-Gutenberg Universitaet, Mainz

D4 The role and regulation of apoptosis in embryonic central nervous system development of Drosophila melanogaster
Ana Rogulja-Ortmann, Janina Seibert, Joachim Urban and Gerd Technau
Institute for Genetics, University of Mainz, Becherweg 32, D-55128 Mainz

D5 Agrin-induced remodeling of the cytoskeleton in growing axons
M. Annies (2,3), J. Loeschinger (1), and S. Kroeger (2).
(1) MPI for Developmental Biology, Spemannstr. 35; D – 72076 Tuebingen; (2) Institute for Physiological Chemistry and Pathobiology; (3) present address: Novartis Neurobiology, Basel, Switzerland

D6 Dystroglycan Mediates Neuroepithelial Cell – Basal Lamina Attachment in the Developing CNS (APPLIC. POSTER PRIZE)
J. E. Schroeder and S. Kroeger
Institute for Physiological Chemistry and Pathobiology, D – 55099 Mainz

D7 Investigations on the expression of the ribonucleoprotein La/SS-B in the developing CNS and its role in alternative translation processes (APPLIC. POSTER PRIZE)
Ina Wittko, Sigrid Saaler-Reinhardt
Institut für Physiologische Chemie und Pathobiologie

D8 Understanding the role of Kakapo for the structural differentiation of synapses (APPLIC. POSTER PRIZE)
Michael Mende (1), Arul Subramanian (2), Talila Volk (2), Tobias Boeckers (3), Andreas Prokop (1)
(1) Institute of Genetics, University of Mainz, Mainz, (2) The Weizmann Institute, Dept. of Molecular Genetics, Rehovot, Israel; (3) Institute of Anatomy, University of Muenster, Muenster

D9 A mutagenesis screen for genes controlling glia development during Drosophila embryogenesis (APPLIC. POSTER PRIZE)
Diana Cleppien, Dr. Olaf Vef, Dr. Thomas Loeffler, Gerhard Technau
Institut fuer Genetik, Becherweg 32, D 55128 Mainz

D10 New media, new strategies, new insights: optimising and applying Drosophila primary cell cultures for structural and functional analyses of synapses (APPLIC. POSTER PRIZE)
Barbara Kueppers, Natalia Sánchez-Soriano, Karin Lueer, Hartmut Schmidt, Johannes Letzkus, Gerd Technau and Andreas Prokop;
Institute for Genetics, University of Mainz, Becherweg 32, 55128 Mainz

D11 The zinc finger transcription factor Hunchback specifies the fate of early born neurons within the developing central nervous system of Drosophila melanogaster (APPLIC. POSTER PRIZE)
Tanja Novotny and Joachim Urban
Institut fuer Genetik, 55099 Mainz

D12 AN2/NG2 expressed by oligodendroglial precursors interacts with the PDZ domain protein GRIP
Judith Stegmüller (1), Hauke Werner (2), Jeremy Garwood (3), Klaus-Armin Nave (2), Jacqueline Trotter (1)
(1) Dept. of Neurobiology, University of Heidelberg, Germany; (2) Max-Planck-Institute of Experimental Medicine, Göttingen, Germany; (3) Centre de Neurochimie, Strasbourg, France

D13 Glial development in Drosophila: a genome wide screen for glial genes
Benjamin Altenhein (1), Angela Becker (1), Ruth Beckervordersandforth (1), Boris Beckmann (2) and Gerd Technau (1)
(1) Inst. of Genetics, University Mainz, Germany; (2) DKFZ, Heidelberg, Germany
D14 The influence of targeted changes of synaptic transmission properties on the development of identified neurons in Drosophila

Natalia Sánchez-Soriano, Andreas Prokop
Institute of Genetics, Univ. Mainz, D-55099 Mainz

SENSORY SYSTEMS

S1 Membrane Currents and Membrane Potentials Induced by Noxious Heat Stimuli in Nociceptive Neurons from the Dorsal Root Ganglion of the Rat (APPLIC. POSTER PRIZE)
Schwarz S, Greffrath W, Büsselberg D, Treede R-D.
Inst. Physiology and Pathophysiology

S2 Pneumatic stimulation in human hairy skin - spatial and intensity discrimination thresholds
Baumgaertner U, Magerl W, Schlereth T, Treede R-D.
Inst. Physiology and Pathophysiology

S3 Wirkung von Anandamid und noxischer Hitze auf nozizeptive Spinalganglienneurone der Ratte
T. Fischbach (1), W. Greffrath (1), H. Nawrath (2), R.-D. Treede (1)
(1) Institut fuer Physiologie und Pathophysiologie, Saarstr. 21, D-55099 Mainz; (2) Institut fuer Pharmakologie, Obere Zahlbacher Str. 67, D-55101 Mainz

S4 How does the eye breathe? Evidence for neuroglobin-mediated oxygen supply in the mammalian retina
(1) Department of Molecular Animal Physiology; (2) Department of Experimental Morphology, Institute of Zoology; (3) Institute of Molecular Genetics, Johannes Gutenberg University of Mainz

S5 Evidence for a supra-molecular Usher I complex at the photoreceptor ribbon synapse (APPLIC. POSTER PRIZE)
Jan Reiners, Boris Reidel, El-Amraoui A, Boëda B, Huber I, Petit C, Wolfrum U
Institute of Zoology, Dep. I, Muellerweg 6, D-55099 Mainz; Germany

S6 Molecular analysis of centrin isoforms in vertebrate tissues (APPLIC POSTER PRIZE)
Andreas Giessl, Philipp Trojan, Boris Reidel, Angelika Schmitt, Karla Kubicki, and Uwe Wolfrum
Institute of Zoology, Dep. I, Muellerweg 6, D-55099 Mainz; Germany

S7 Caspase-3 mediated retinal degeneration in tubby mice leads to microglia activation, migration and phagocytosis (APPLICATION FOR POSTER PRIZE)
Ch. Bode and U. Wolfrum
Institute of Zoology, Dep.1, Muellerweg 6, D-55099 Mainz; Germany

NEURAL FUNCTION & MAINTENANCE

F1 Expressional control of NAT in the rat pineal: Prior entrained photoperiods are imprinted on the intracellular induction pathway
Rainer Spessert
Institute of Anatomy, University Mainz

F2 Blockade of retinal nicotinic acetylcholine receptors impairs motion detection, measured with the optomotor response, in goldfish (APPLIC. POSTER PRIZE)
S. Hausselt und C. Mora-Ferrer
Institut fuer Zoologie III, Univ. Mainz

F3 The influence of dopamine on temporal transfer properties in the goldfish retina examined with the ERG
C. Mora-Ferrer und K. Behrend
Institut fuer Zoologie III, Univ. Mainz

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F4 Rat open field behavior after neuroleptic treatment with and without inhibition of P-glycoprotein (P-gp)

U. Schmitt, L. Guo, S. Haertter and C. Hiemke

Department of Psychiatry, JoGu-Univ. Mainz, Germany; Department of Pharmacology, Tonji Medical Univ, Wuhan, China

F5 Ethological analysis of rat behavior modulated by GABAergic treatment

U. Schmitt and C. Hiemke

Department of Psychiatry, University of Mainz, Germany

F6 Signalling pathways mediating the neuroprotective effect of corticotropic-releasing hormone

Bayatti N. and Behl. C.

Dept. of Pathobiology, Institute of Physiological Chemistry and Pathobiology, Johannes Gutenberg University Mainz

F7 Antioxidants attenuate staurosporine-induced apoptosis by inhibiting the activation of caspase cascade

Hajieva P., Moosmann B. and Behl C.

Department of Pathobiology, Institute of Physiological Chemistry and Pathobiology, Johannes Gutenberg University Mainz

F8 Microarray analysis of estrogen receptor alpha transfected neuroblastoma cells as a molecular approach to identify neuroprotective genes

Dieter Manthey, Juergen Zschocke and Christian Behl

Institut für Physiologische Chemie & Pathobiologie

F9 Estrogen Receptor-mediated Silencing of Caveolin Gene expression in Neuronal cells

Juergen Zschocke, Dieter Manthey, Nadhim Bayatti, Bart van der Burg, Sharon Goodenough, and Christian Behl

Department of Pathobiology, Institute of Physiological Chemistry and Pathobiology, Johannes Gutenberg University Mainz

F10 Transport of plasmamembrane-derived Cholesterol in dependence on the function of Niemann-Pick C1 protein (APPLIC. POSTER PRIZE)

Volker Wiegand, Gerald Gimpl, Falk Fahrenholz

Inst. of Biochemistry, J.-J.-Becherweg 30, University of Mainz

F11 GABA transporters rGAT-1 and rGAT-3: Construction and functional analysis of an eGFP-fusion protein and characterization of a putative subtyp-specific PET-ligand

I.Boehme, H. Rabe, R. Schirrmacher, F. Roesch, H. Lueddens

Department of Psychiatry, University of Mainz, Germany

F12 Defects of Intracellular PLP Trafficking in the Myelin-deficient Mouse Mutants Jimpy-msd and Rumpshaker

Eva-Maria Krämer (1,2), Martin Jung (1), Christoph Thiele (3), Jacqueline Trotter (2) and Klaus-Armin Nave (1)

(1) Department of Neurogenetics, Max Planck Institute of Experimental Medicine, Hermann-Rein Str. 3, D-37075 Göttingen, Germany; (2) Department of Neurobiology, University of Heidelberg, Im Neuenheimer Feld 364, D-69120, Heidelberg, Germany; (3) Max Planck Institute of Molecular Cell Biology and Genetics, Pfotenhauerstrasse 108, D-01307 Dresden, Germany

F13 Expression analysis of neuroglobin in rodent tissue


Inst. of Genetics and Inst. of Anatomy and Inst. of Physiology & Pathobiology, Univ. Mainz

F14 Molecular characterization and expression analysis of the Neuroglobin gene of the subterranean blind mole rat, Spalax ehrenbergi

F. Gerlach, A. Avivi, S. Reuss, T. Burmester, E. Nevo & T. Hankeln

Inst. of Genetics and Inst. of Zoology, Univ. Mainz