Academies Meet

A Russian-German Hirnliga Symposium on: “Molecular mechanisms of neurodegeneration”

in cooperation with

the Berlin-Brandenburg Academy of Sciences and Humanities
and
the Russian Academy of Science

Organisers
Thomas Arendt, Ferdinand Hucho, Lutz Frölich
Eugene Grishin, Sergei Zavriev

Venue
Berlin-Brandenburgische Akademie der Wissenschaften
Jägerstrasse 22/23, D-10117 Berlin

April 3rd – 5th 2014

We gratefully acknowledge the generous support by the
Berlin-Brandenburg Academy of Sciences and Humanities
Hirnliga e.V,
GE Healthcare, Munich
Dr.Wilmar Schwabe GmbH, Karlsruhe
Wednesday, April 2nd    BBAW, Jägerstrasse 22/23, Wintergarten

Arrival
20:00  Welcome Reception

Thursday, April 3rd    BBAW, Jägerstrasse 22/23, Einstein-Saal

9:30 – 9:45 Welcome
Eugene Grishin  Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Moskow
Thomas Arendt  Paul Flechsig Institute of Brain Research, Leipzig

Session 1  Molecular pathology of Alzheimer’s disease
Chair:  Ivan Iourov and Walter Müller

9:45 – 10:45 Roland Brandt  University Osnabrück
Tau, Aß and the neuropathological triad in Alzheimer’s disease

10:45 – 11:15 coffee break

11:15 – 11:45 Mikhail Stepanichev  Institute of Higher Nervous Activity and Neurophysiology, RAS, Moscow
Aß (25-35) as a proxyholder of Aß(1-40/42): lessons from in vivo models

11:45 – 12:15 Klaus Reymann  German Centre for Neurodegenerative Diseases, Magdeburg
Disrupted cross-laminar cortical processing in β amyloid pathology precedes cell death

12:15 – 12:45 Maria Ryazantseva  Institute of Cytology, RAS, St. Petersburg
Alzheimer’s disease-linked presenilin-1 mutations affect activity of calcium channels

12:45 – 14:00 lunch

Session 2  Development, plasticity and disease
Chair:  Alexey Belogurov Jr and Roland Brandt

14:00 – 14:30 Britta Eickholt  Charité Berlin, Institute of Biochemistry, Cluster of Excellence NeuroCure
Signaling mechanisms in brain development and disease

14:30 – 15:00 Victor Tarabykin  Charité Berlin, Institute of Cell Biology and Neurobiology
Molecular control of cell death in the hippocampus by Sip1 and NeuroD transcription factors

15:00 – 15:30 Kristian Franze  Univ. Cambridge; Dept. Physiology, Development and Neuroscience
Mechanics in CNS development and pathologies
Session 3  Translations into clinical applications
Chair: Denis Tikhonov and Gunter Eckert
15:30 – 16:00 Oliver Peters  Charité Berlin, Campus Benjamin Franklin, Department of Psychiatry
Biomarker-driven diagnosis of Alzheimer’s disease
16:00 – 16:30 Lutz Fröhlich  Central Institute of Mental Health, Mannheim
How to translate drug effects into clinical relevance: The experience from recent immunotherapy trials in Alzheimer’s disease"
16:30 – 17:00 Steinberg-Krupp Alzheimer Award 2013
Michel Grothe  German Centre for Neurodegenerative Diseases, Rostock
MRI-based measurement of basal forebrain atrophy as in-vivo surrogate marker of cholinergic degeneration in Alzheimer’s disease
18:00 Dinner / Maerkisches Ufer

Friday, April 4th  BBAW, Jägerstrasse 22/23, Konferenzsaal 2

Session 4  Neurogenomics and –transcriptomics
Chair: Petr V. Sergiev and Christian Behl
9:00 – 10:00 Ivan Iourov  Mental Health Research Center, Russian Academy of Medical Sciences, Moscow
Neurogenomics of Brain Degenerative Diseases
10:00 – 10:30 coffee break / Konferenzsaal 4
10:30 – 11:00 Peter Stadler  Bioinformatics, Institute for Informatics, University of Leipzig
Circular RNAs and other atypical transcripts in mammalian transcriptomes
11:00 – 11:30 Petr V. Sergiev  Lomonosov Moscow State University, Dept. Chemistry, Moscow
Trends in non-coding RNA research and an example of investigation of a new family of bacterial ncRNA
11:30 – 12:00 Thomas Arendt  Paul Flechsig Institute of Brain Research, Leipzig
Is sporadic Alzheimer’s disease an inborn disorder?
12:00 – 12:30 Marat Mukhamedyarov  Dept. Physiology, Kazan State Medical University
Development of gene-cell approaches for treatment of Alzheimer’s disease
12:30 – 13:30 lunch / Konferenzsaal 4

Session 5  Receptors, channels and signal transduction
Chair: Alexander Vassilevsky and Lutz Fröhlich
13:30 – 14:00 Eugene Grishin  Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, RAS, Moscow
Exogenous ligands for neuronal receptors
14:00 – 14:30 Tim Hucho  Dept. Exp. Anesthesiology and Pain Research, University Hospital, Köln
Nociceptors: sensors of tissue functionality
14:30 – 15:00 Irina Shelukhina  Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, RAS, Moscow
Differential physiological functions of α7 NACHR in neurodegenerative diseases, neurogenesis and nociception
15:00 – 15:30 coffee break / Konferenzsaal 4
15:30 – 16:00  Alexander Vassilevsky  Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, RAS, Moscow
Modular organization of scorpion toxins mirrors domain structure of voltage-gated sodium channels: implications to rational design of selective modulators

16:00 – 16:30  Gunter Eckert  Dept. Pharmacology, Goethe-University, Frankfurt
Impaired Geranylgeranyltransferase-I Regulation – a Novel Target in Brain Aging

16:30 – 17:00  Denis Tikhonov  Sechenov Institute of Evolutionary Physiology and Biochemistry RAS
Nonoamines as novel class of ligands (inhibitors and potentiaters) for propon-gated ion channels

17:00 – 17:30  Yaroslav Andreev  Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, RAS, Moscow
Natural compounds inhibiting acid-sensing channel ASIC3

17:30 Dinner / Konferenzsaal 4

Saturday, April 5th  BBAW, Jägerstrasse 22/23, Einstein-Saal

Session 6  Neuroinflammation and mechanisms of cell death
Chair: Victor Aniol and Britta Eickholt

9:00 – 10:00  Michael T. Heneka  German Centre for Neurodegenerative Diseases, Dept. Neurology, Bonn
Multiple levels of interaction between neurodegeneration and neuroinflammation in Alzheimer’s disease

10:00 – 10:30 coffee break

10:30 – 11:00  Victor Aniol  Institute of Higher Nervous Activity and Neurophysiology, RAS, Moscow
Proliferation and differentiation of cells in hippocampus: involvement of neuroinflammatory mechanisms

11:00 – 11:30  Uwe Karsten Hanisch  Dept. Neuropathology, University of Goettingen
Microglia: versatile sensors and effector cells in health and disease

11:30 – 12:00  Alexey Belogurov Jr  Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, RAS, Moscow
Molecular approaches to treat Multiple sclerosis

12:00 – 12:30  Christian Behl  Institute of Pathobiochemistry, Johannes Gutenberg-Universität Mainz
Modulators of macroautophagy: implications for aging and AD

12:30 – 13:30 lunch

Session 7  Novel drug targets
Chair: Yaroslav Andreev and Michael Heneka

13:30 – 14:00  Walter Müller  Goethe-University, Frankfurt
Mitochondria dysfuction in AD, cause and possible drug target. A new chance for old concepts

14:00 – 14:30  Konstantin Petrov  A.E. Arbuzov Institute of Organic and Physical Chemistry Kazan Scientific Centre Russian Academy of Sciences
Butyrylcholinesterase at the neuromuscular junction. New view at the forgotten enzyme

14:30 – 15:00  Steffen Rossner  University of Leipzig, Paul Flechsig Institute of Brain Research
Glutaminyl cyclases in Alzheimer’s disease

Departure