

27.08.2019, Tuesday

Workshop on Ultrasonic Vocalization (USV) - limited places

12:00 - 14:00 Theoretical part

14:00 - 15:00 Lunch



15:00 - 18:00 Practical part

28.08.2019, Wednesday

12:00 - 14:30 General Assembly of PTBUN

14:30 - 15:00 Opening Ceremony

15:00 - 16:00 Plenary lecture 1

**Magdalena Götz**, Helmholtz Zentrum München, German Research Center for Environmental Health, Munich, Germany

From neurogenesis to neural repair

16:00 - 16:30 Coffee break



16:30 - 17:30 Plenary lecture 2

**Hannah Monyer**, German Cancer Research Center, Heidelberg, Germany

GABAergic neurons and their role in the coordination of intra- and interareal neuronal activity

17:40 - 19:40 **Symposium 1:**  
**Ultrasonic vocalization as a tool in neuroscience research**

Chairperson:

**Paweł M. Boguszewski**, Nencki Institute of Experimental Biology, Polish Academy of Sciences Warsaw, Poland

**Symposium 2:**  
**Relationship between mitochondria and neuroinflammation: implications for neurological diseases**

Chairpersons: **Agata Adamczyk**, Mossakowski Medical Research Center, Polish Academy of Sciences Warsaw, Poland, **Carsten Culmsee**, Philipps-Universität Marburg, Germany

**Symposium 3:**  
**Whole brain mapping approaches in the investigation of brain structure and function: advances, promises, and challenges**

Chairperson: **Piotr Majka**, Nencki Institute of Experimental Biology, Polish Academy of Sciences Warsaw, Poland

**Nicola Simola**, Department of Biomedical Sciences, University of Cagliari, Italy

Fifty kHz ultrasonic vocalizations in rats: behavioral significance and mechanisms

**Agnieszka Chacińska**, Centre of New Technologies, University of Warsaw, Poland

Guided tour of proteins into mitochondria

**Piotr Majka**, Laboratory of Neuroinformatics, Nencki Institute of Experimental Biology, Polish Academy of Sciences Warsaw, Poland  
Location, location, location. The role of brain atlases and spatial integration of multimodal imaging data in whole brain mapping projects

**Sylvie Granon**, Paris-Saclay Institute of Neuroscience, Orsay, France

Ultrasonic vocalization as a marker of social cognition in mice models

**Carsten Culmsee**, Institute of Pharmacology and Clinical Pharmacy, Philipps-Universität Marburg, Germany

Mitochondrial integrity and function in model systems of CNS diseases

**Marzena Stefaniuk**, Laboratory of Neurobiology, Institute of Experimental Biology, Polish Academy of Sciences Warsaw, Poland

Addicted brain mapping and imaging using light-sheet fluorescence microscopy

**Robert K. Filipkowski**, Mossakowski Medical Research Center, Polish Academy of Sciences Warsaw, Poland  
Behavioral, ultrasonic and cardiovascular responses of male Wistar rats in different social and emotional contexts after ultrasonic playback

**Katarzyna Kuter**, Department of Neuropsychopharmacology, Institute of Pharmacology, Polish Academy of Sciences, Kraków, Poland  
Brain energy metabolism in neurodegeneration of dopaminergic neurons in animal model of early Parkinson's disease. Role of astrocytes

**Yongsoo Kim**, Department of Neural and Behavioral Sciences, College of Medicine, Penn State University, Hershey, Philadelphia, USA  
Brain-wide mapping of oxytocin receptor neurons in developing postnatal mouse brain

**Adam Hamed**, Laboratory of Spatial Memory, Department of Cellular and Molecular Biology, Nencki Institute of Experimental Biology, Polish Academy of Sciences Warsaw, Poland  
Neurochemical correlates of 50-kHz ultrasonic vocalizations in context induced response, reward processing and appetitive social interactions

**Magdalena Cieřlik**, Department of Cellular Signalling, Mossakowski Medical Research Center, Polish Academy of Sciences Warsaw, Poland  
The association between maternal immune activation and mitochondrial failure in adulthood. Relevance to neurodevelopmental disorders

**Marcello Rosa**, Biomedicine Discovery Institute and Department of Physiology, Monash University, Melbourne, Australia  
An open access tool for analysis of connections in the primate cortex

**Walter Lukiw**, LSU Neuroscience Center, New Orleans, USA  
Gastrointestinal (GI) tract-derived Bacteroidetes fragilis neurotoxins and inflammatory neurodegeneration

19:40

**Welcome reception**

## 29.08.2019, Thursday

08:30 - 09:30

**Plenary lecture 3**

**Hartmut Wekerle**, Max Planck Institute (MPI) of Neurobiology, Martinsried, Germany  
Multiple sclerosis - Formation of a brain autoimmune disease

09:30 - 09:45

Coffee break



09:45 - 11:45

**Symposium 4: Modeling human disorders in Zebrafish**  
Chairpersons: **Jacek Kuźnicki**, International Institute of Molecular and Cell Biology, Warsaw, Poland, **Justyna Zmorzyńska**, International Institute of Molecular and Cell Biology, Warsaw, Poland

**Symposium 5: Nutrition and brain**  
Chairperson: **Jarostław Barski**, Department for Experimental Medicine, Medical University of Silesia, Katowice, Poland

**Symposium 6: Basic and clinical aspects of epilepsy research**  
Chairperson: **Piotr Suffczyński**, Faculty of Physics, University of Warsaw, Poland

**Piotr Podlasz**, Department of Pathophysiology Forensic Veterinary Medicine and Administration, Faculty of Veterinary Medicine, University of Warmia i Mazury, Olsztyn, Poland  
Study of neuropeptide functions using zebrafish as a model organism

**Marta Nowacka-Chmielewska**, Department for Experimental Medicine, Medical University of Silesia, The Jerzy Kukuczka Academy of Physical Education, Katowice, Poland  
Global proteomic analysis of brain changes induced by 'lifestyle' modifications

**Marco de Curtis**, Fondazione IRCCS Istituto Neurologico Carlo Besta, Milan, Italy  
Network activities at the start of a focal seizure

**Caghan Kizil**, German Center for Neurodegenerative Diseases, Dresden, Germany  
Identification of a novel mechanism controlling neural stem cell plasticity in Alzheimer's disease model of adult zebrafish using single cell transcriptomics

**Justyna Zmorzyńska**, Laboratory of Molecular and Cellular Neurobiology International Institute of Molecular and Cell Biology, Warsaw, Poland  
Impaired commissural tract fasciculation is related to increased epileptogenesis and anxiety in the Zebrafish model of Tuberous Sclerosis Complex

**Allan V. Kalueff**, School of Pharmacy, Southwest University, Chongqing, China  
How zebrafish models are reshaping modern translational neuroscience and biopsychiatry research

**Witold Konopka**, Laboratory of Animal Models, Nencki Institute of Experimental Biology, Polish Academy of Sciences Warsaw, Poland  
Why and what do we eat or brain-body metabolic gamesmatory neurodegeneration

**André Kleinridders**, Central Regulation of Metabolism German Institute of Human Nutrition, Nuthetal, Germany  
Novel insights of brain insulin action on metabolism and behavior

**Claire T McEvoy**, Institute for Global Food Security, Queen's University Belfast, Northern Ireland  
Diet as a prevention strategy for neurodegeneration during ageing: evidence from human studies

**Premysl Jiruska**, Institute of Physiology, The Czech Academy of Sciences, Prague, Czech Republic  
The transition to seizure is characterized by the progressive loss of the brain's resilience

**Urszula Malinowska**, Nencki Institute of Experimental Biology, Polish Academy of Sciences Warsaw, Poland  
Pathological synchronization: biomarkers and networks in human epilepsy

**Piotr Suffczyński**, Institute of Experimental Physics, Faculty of Physics, University of Warsaw, Poland  
Neuronal and ionic mechanisms of focal seizures - insight from in silico study

11:55 - 12:40 **Special Lecture 1**  
**Konorski Award**

12:40 - 13:40 Lunch



13:40 - 15:40 **Symposium 7: Posttranscriptional modifications of gene expression and central nervous system pathologies**  
Chairperson: **Adrian Smendowski**, Chair and Department of Physiology, School of Medicine in Katowice, Medical University of Silesia in Katowice, Poland

**Symposium 8: Mechanisms of GABAergic plasticity**  
Chairperson: **Jerzy Mozrzymas**, Department of Biophysics, Wrocław Medical University, Wrocław, Poland

**Symposium 9: miRNAs role in epilepsy - potential diagnostic and therapeutic applications**  
Chairperson: **Kinga Szydtowska**, Laboratory of Epileptogenesis, Nencki Institute of Experimental Biology, Warsaw, Poland

**Marialaura Amadio**, Department of Drug Sciences, Section of Pharmacology, University of Pavia, Pavia, Italy  
ELAV proteins and neurodegeneration: which role in Alzheimer's disease?

**Enrico Cherubini**, European Brain Research Institute, Rome, Italy  
Impairment of synaptic plasticity at immature GABAergic mossy fiber-CA3 synapses in animal models of Autism

**Sergiusz Jóźwiak**, Department of Child Neurology, Medical University of Warsaw, Warsaw, Poland  
Molecular biomarkers of epileptogenesis in a genetic model of epilepsy - tuberous sclerosis complex

**Alessandro Quattrone**, Laboratory of Translational Genomics, Centre for Integrative Biology, University of Trento, Trento, Italy  
Elav proteins in pathogenesis of motoneuron diseases

**Andrea Barberis**, Italian Institute of Technology, Genoa, Italy  
Mechanisms of coordinated excitatory and inhibitory synaptic plasticity

**Ervin van Vlijet**, Swammerdam Institute for Life Sciences, Center for Neuroscience, University of Amsterdam, Amsterdam, The Netherlands  
MicroRNAs in experimental and human temporal lobe epilepsy: biomarker and therapeutic potential

**Adrian Smendowski**, Chair and Department of Physiology, School of Medicine in Katowice, Medical University of Silesia in Katowice, Poland

Increased intraocular pressure alters the cellular distribution of HuR protein in retinal ganglion cells

**Joanna Urban-Ciećko**, Laboratory of Neurobiology, Nencki Institute of Experimental Biology, Polish Academy of Sciences Warsaw, Poland

Learning-evoked modulation of GABAergic interneurons intrinsic excitability in the neocortex

**Noora Puhakka**, A.I. Virtanen Institute for Molecular Sciences, University of Eastern Finland, Kuopio, Finland

MircoRNAs in experimental post-traumatic epilepsy: biomarker and therapeutic potential

**Marita Pietrucha-Dutczak**, Chair and Department of Physiology, School of Medicine in Katowice, Medical University of Silesia, Katowice, Poland

Organotypic retinal explants model for evaluation of neurotoxicity and neuroprotection - the impact of metallothionein treatment on HuR protein content

**Jerzy Mozrzymas**, Department of Biophysics, Wrocław Medical University, Wrocław, Poland

GABAergic hippocampal plasticity critically depends on Matrix metalloproteinase 3

**Kinga Szydłowska**, Laboratory of Epileptogenesis, Nencki Institute of Experimental Biology, Warsaw, Poland

Circulating microRNAs as biomarkers of epileptogenesis/epilepsy

15:50 - 16:40 **Special lecture 2**  
**Flatau award**

16:40 - 18:40 **Poster Session 1** / Coffee + Meet the speakers



17:00-18:30 **Małgorzata Hasiec**, Narodowe Centrum Nauki

Oferta konkursowa Narodowego Centrum Nauki dla osób rozpoczynających karierę naukową (Grant opportunities for young scientists)

18:45 - 19:45 **Plenary lecture 4:**

**Marcello Rosa**, Biomedicine Discovery Institute and Department of Physiology, Monash University, Melbourne, Australia

Plasticity of the primate visual pathway following lesions in early and mature life

20:30 Get Together Party



## 30.08.2019, Friday

08:30 - 09:30 **Plenary lecture 5:**

**Gernot Riedel**, The Institute of Medical Sciences, University of Aberdeen, King's College, Aberdeen, UK  
Preclinical development of treatments for tauopathies: translation to clinic and back

09:30 - 09:45 Coffee break



**Symposium 10:**  
**New methods in motor control**

Chairperson:

**Hanna Drzymala-Celichowska**, Department of Neurobiology/Department of Biochemistry, Poznan University of Physical Education, Poznan, Poland

**Symposium 11:**  
**Dopamine neurons: from neuronal activity to behavioral outcomes**

Chairpersons:

**Tomasz Błasiak**, Department of Neurophysiology & Chronobiology, Institute of Zoology and Biomedical Research, Jagiellonian University, Krakow, Poland,  
**Jan Rodriguez Parkitna**, Department of Molecular Neuropharmacology Institute of Pharmacology of the Polish Academy of Sciences, Krakow, Poland

**Symposium 12:**  
**The role of Arc/Aerg3.1 in neuronal plasticity**

Chairperson:

**Katarzyna Radwańska**, Nencki Institute of Experimental Biology, Warsaw, Poland

**Marin Manuel**, French National Centre for Scientific Research, Paris, France

Electrophysiological properties of functionally identified adult mouse motoneurons

**Francesco Negro**, Department of Clinical and Experimental Sciences, University of Brescia, Italy

Estimating the transfer function of rat muscle units

**Piotr Kaczmarek**, Institute of Control, Robotics and Information Engineering at Poznan University of Technology, Poznan, Poland

The mechanomyogram - a valuable tool to analyze a mechanical activity of the muscle

**Hanna Drzymala-Celichowska**, Department of Neurobiology/ Department of Biochemistry, Poznan University of Physical Education, Poznan, Poland  
Sag in motor unit unfused tetanus: extra force production at the beginning of activity

**Tomasz Błasiak**, Department of Neurophysiology & Chronobiology, Institute of Zoology and Biomedical Research, Jagiellonian University, Krakow, Poland  
How certain are certain "certainties" about DA neurons

**Boris Gutkin**, Mathematics of Neural Circuits, LNC2, École Normale Supérieure, Paris, France and Institute for Cognitive Neuroscience, NRU Higher School of Economics, Moscow, Russia

Using computational models to understand endogenous and exogenous control over dopamine cell activity: when inhibition leads to bursting

**David Engblom**, Department of Clinical and Experimental Medicine, Center for Social and Affective Neuroscience, Linköping University, Linköping, Sweden

Sickness and mood: inflammatory modulation of dopamine signaling

**Bradley M. Roberts**, Department of Physiology, Anatomy and Genetics, University of Oxford, Oxford, UK and Oxford Parkinson's Disease Centre, Oxford, UK

Striatal GABA transporter activity governs dopamine transmission and shows maladaptive downregulation in a mouse model of parkinsonism

**Hiroyuki Okuno**, Department of Biochemistry and Molecular Biology, Kagoshima University School of Medicine

Control of AMPA receptor dynamics at active and inactive synapses and of cognitive refinement by Arc/Arg3.1

**Katarzyna Radwańska**, Nencki Institute of Experimental Biology, Warsaw, Poland  
The role of Arc/Arg3.1 protein in the regulation of alcohol seeking

**Jacek Jaworski, Agata Gozdz**, International Institute of Molecular and Cell Biology, Warsaw, Poland

Role of Arc phosphorylation in structural plasticity

**Angela Mabb**, Neuroscience Institute/Center for Behavioral Neuroscience, Georgia State University, Atlanta, USA  
The Temporal Dynamics of Arc Expression Regulate Cognitive Flexibility

11:55 - 12:40 **Special lecture 3**  
**Young Investigator Award**

12:40 - 13:40 Lunch

13:40 - 15:40 **Poster session 2** / Coffee + Meet the speakers

14:00-15:30 Małgorzata Hasiiec, Narodowe Centrum Nauki  
Oferta konkursowa Narodowego Centrum Nauki dla doświadczonych naukowców  
(Grant opportunities for experienced scientists)

15:40 - 16:40 **Plenary lecture 6:**  
**Graham Sheridan**, School of Pharmacy and Biomolecular Science, Centre for Stress and Age-Related Disease  
Mechanobiology of the brain in health and disease

16:40 - 17:10 **Closing ceremony**

17:10 - 17:40 **PTBUN Governing Council Meeting**

