



# INTERNATIONAL PHD PROGRAM IN NEUROBIOLOGY

1st NENCKI INSTITUTE PHD STUDENT CONFERENCE

16-18 OCTOBER 2013



INNOVATIVE ECONOMY  
NATIONAL COHESION STRATEGY



Foundation for Polish Science

EUROPEAN UNION  
EUROPEAN REGIONAL  
DEVELOPMENT FUND



## ORGANIZING COMMITTEE:

*Adam Szewczyk (Chair), Marta Borkowska, Agnieszka Dobrzyń, Mark Hunt, Leszek Kaczmarek, Katarzyna Łukasiuk, Michał Młacki, Paweł Nowicki, Jolanta Rędownicz, Jolanta Skangiel-Kramaska, Tomasz Wilanowski, Andrzej Wróbel*

October 16, 2013 /Wednesday/

## WELCOME SESSION / Conference Hall, Nencki Institute Neurobiology Center /

Chair: Adam Szewczyk

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17:00 - 17:15      Welcome: Adam Szewczyk

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17:15 - 18:00      Keynote lecture: **Andrzej Dziembowski**: *Human ribonucleases in RNA metabolism and diseases*

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18:00 -              Welcome reception /Reception Hall, Nencki Institute Neurobiology Center/

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October 17, 2013 /Thursday/

**SESSION 1** / Conference Hall, Nencki Institute Neurobiology Center /

Chairs: Stefan Kasicki, René Buchet

- 09:00 - 09:30     **Antal N6grádi:** Clonal stem cells in spinal cord repair - how do they know what to do?
- 09:30 - 10:00     **Romeo Cecchelli:** The blood-brain barrier : an hurdle for the treatment of neurodegenerative diseases
- 10:00 - 10:15     **Syune Nersisyan:** Muscarinic receptors are responsible for cholinergic modulation of corticothalamic transmission from layer 6 to posteromedial thalamic nucleus
- 10:15 - 10:30     **Karolina Laskowska-Macios:** Influence of binocular deprivation on the gene and protein expression profiles in developing cat visual system
- 10:30 - 10:45     **Le Duy Do:** Annexin A6 and phospholipase D1 in catecholamine exocytosis in PC12 cells: a plausible relationship?
- 10:45 - 11:00     **Diana Miszczuk:** Post-traumatic epileptogenesis in APP/PS1 mouse model of Alzheimer`s Disease
- 11:00 - 11:30     Coffee break

**SESSION 2** / Conference Hall, Nencki Institute Neurobiology Center /

Chairs: Bożena Kamińska-Kaczmarek, Sreedhar Bojja

- 11:30 - 12:00     **Asla Pitkanen:** From traumatic brain injury to post-traumatic epilepsy: molecular and circuitry reorganization leading to increased excitability
- 12:00 - 12:15     **Katarzyna Malenczyk:** Endocannabinoid signaling in regulation of insulin secretion
- 12:15 - 12:30     **Mayank Chaturvedi:** Neuroprotection from TIMP-1 and its Nanoparticles Vvwn
- 12:30 - 12:45     **Elżbieta Krasowska:** Synaptic machinery alterations and nucleotide receptors-related signaling in hippocampus of normal and dystrophic mice
- 12:45 - 13:00     **Iuliia Pavlyk:** Deficit of arginine affects actin organization in neuronal tumor cells
- 13:15 - 14:00     Lunch

**SESSION 3** / Conference Hall, Nencki Institute Neurobiology Center /

Chairs: Małgorzata Kossut, Fred Van Leuven

14:00 - 14:30	Lutgarde Arckens: Multimodal plasticity in the visual cortex of the mouse upon vision loss
14:30 - 14:45	Katarzyna Michalec: Carnitine transporters in the blood-brain barrier
14:45 - 15:00	Ilona Kondratiuk: Glycogen synthase kinase-3beta affects size of dentate gyrus and species-typical behavioral tasks in transgenic and knockout mice
15:00 - 15:15	Laszlo Gal: Grafted embryonic motoneurons contribute to the functional improvement of denervated hindlimb muscles
15:15 - 15:30	Kamil Parobczak: The localization and function of Arc in the neuronal cell nucleus
15:30 - 16:00	Coffee break

**SESSION 4** / Conference Hall, Nencki Institute Neurobiology Center /

Chairs: Sławomir Pikuła, Romeo Cecchelli

16:00 -16:30	Oleh Stasyk: Anticancer therapies based on single amino acid deprivation: pro et contra
16:30 - 16:45	Jan Suski: Novel strategy for the protection from oxidative stress in rodent mitochondria
16:45 - 17:00	Piotr Przanowski: The role of transcription regulators Stat1 and Stat3 in microglia activation
17:00 - 17:15	Bartłomiej Augustynek: Big conductance calcium-activated potassium channel in brain mitochondria
17:15 - 17:30	Agnieszka Topolska-Woś: Dimerization of CacyBP/SIP as a "molecular switch" for ERK1/2 binding

## POSTER SESSION / CHEESE AND WATER

/ Reception Hall, Nencki Institute Neurobiology Centre /

17:30 - 19:00    Chairs: Katarzyna Łukasiuk, Mark Hunt

*list of posters on page 9*

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## PHD - DAY AFTER / PANEL DISCUSSION

/ Conference Hall, Nencki Institute Neurobiology Center /

19:00 - 20:00    Chair: Jolanta Skangiel-Kramska  
co-organized by Nencki Alumni Club /Jolanta Barańska/

- Marek Wypych
- Wojtek Grajkowski
- Karolina Nowak
- Ksenia Meyza
- Marzena Stefaniuk
- Marta Bobeszko-Kacperska
- Magdalena Karetko-Sysa
- Kamila Duniec

October 18, 2013 /Friday/

**SESSION 5**

/1st floor Conference Room/

Research Objects:  
**What we study**

Chair: Anna Filipek

**SESSION 6**

/Konorski Hall, 2nd floor/

Experimental Methods:  
**How we study**

Chair: Mariusz Więcowski

**SESSION 7**

/Conference Hall, Nencki Institute  
Neurobiology Center/

Models of diseases:  
**How we can help**

Chair: Grzegorz Wilczyński

09:00  
- 09:10

**Maria Bierzynska:**  
New method of inducing  
experimental stress

**Kavita Ramji:**  
The role of STAT3 and its  
transcriptional network in  
human melanoma cells

**Małgorzata Bejtka:**  
Glycogen metabolism in cells with  
glycogen branching deficiency

09:10  
- 09:20

**Andrzej Foik:**  
Cat as animal model in  
studies of the visual  
system

**Kamila Nowak:**  
Age-related differences in  
duration comparison  
revealed by MMN

**Marta Kocyk:**  
Infiltrating microglia show different  
gene expression profiles in low and  
high grade gliomas

09:20  
- 09:30

**Dorota Kulesza:**  
The role of STAT3 in  
population of cancer stem  
-like cells in human and  
murine melanoma cells

**Agnieszka Płóciennikowska:**  
Ultrastructural studies on CD14  
distribution in LPS-stimulated  
macrophages

**Joanna Bednarczyk:**  
Expression of Methyl-CpG-binding  
domain protein 3 (MBD3) in the rat  
model of temporal lobe epilepsy

09:30  
- 09:40

**Agata Aniszewska:**  
The role of interleukin 6  
in behavior of aged mice

**Aleksandra Rumińska:**  
Alterations in lipid metabolism  
by endogenously synthesized  
2-AG leads to enhanced  
insulin action in skeletal muscle

**Bożena Kuźniewska:**  
Identification of serum response  
factor (SRF)-dependent genes in  
the kainic acid model of aberrant  
synaptic plasticity

09:40  
- 09:50

**Agnieszka Skątecka:**  
mTOR kinase role in  
dendritic arbor formation  
of neonatal born neurons

**Beata Drabarek:**  
TNF $\alpha$  affects mitochondrial  
metabolism and nitric oxide  
production in vascular  
endothelial cells

**Tomasz Bednarski:**  
Lipid metabolism in obesity  
-induced and endurance training  
-induced left ventricular  
hypertrophy

09:50  
- 10:00

**Natalia Chłodzińska:**  
Delineation of brain  
structures in the  
Monodelphis domestica  
opossum brain

**Lidia Wróbel:**  
The novel role of Mia40 in  
biogenesis of membrane  
proteins in mitochondria

**Marcin Woś:**  
Does cholesterol accumulation  
in NPC fibroblasts affect  
mitochondrial metabolism?

	<b>SESSION 5</b> /1st floor Conference Room/	<b>SESSION 6</b> /Konorski Hall, 2nd floor/	<b>SESSION 7</b> /Conference Hall, Nencki Institute Neurobiology Center/
	Research Objects: <b>What we study</b> Chair: Anna Filipek	Experimental Methods: <b>How we study</b> Chair: Mariusz Więckowski	Models of diseases: <b>How we can help</b> Chair: Grzegorz Wilczyński
10:00 - 10:10	<b>Agnieszka Mamińska:</b> New regulators of cell signaling among endocytic proteins	<b>Sam Stephen:</b> Identification of endocytic proteins involved in IFN- $\gamma$ stimulated JAK-STAT signaling	<b>Tomasz Zajkowski:</b> Lithium chloride protects neurons from toxicity of cytosolic PrP
10:10 - 10:20	<b>Michał Laskowski:</b> Mitochondrial potassium channels in Dictyostelium discoideum	<b>Michał Stawarski:</b> Genetically encoded FRET-based biosensor for MMP-9 activity	<b>Kamil Koziański:</b> Adipose-derived Wnts modulate beta cell adaptation during progression of type 2 diabetes
10:20 - 10:30	<b>Paulina Sakowska:</b> The interplay between the mitochondrial inner membrane formation MINOS complex and MIA pathway responsible for protein transport	<b>Andrzej Szczepankiewicz:</b> Ultrastructural rearrangement of the neuronal cell nucleus in synaptic plasticity	<b>Michał Młacki:</b> Grainyhead-like 1 (GRHL1) transcription factor in signaling pathways and in development of skin cancer
10:30 - 10:40	<b>Zuzanna Kaczmarska:</b> Search for new antiviral compounds against human enteroviruses using fragment screening methodology	<b>Radosław Pluta:</b> Structural studies of the protein machinery for DNA processing and translocation in bacteria conjugation	<b>Natalia Trempolec:</b> p38 MAPK- a master regulator of cellular faith
10:40 - 11:00	Sponsor presentation: BioRad	Sponsor presentation: DIAG-MED / BD	Sponsor presentation: KendoLab
11:00 - 11:30	Coffee break	Coffee break	Coffee break

## SESSION 8 / Conference Hall, Nencki Institute Neurobiology Center /

Chairs: Katarzyna Nałęcz, Antal Nógrádi

11:30 - 12:00	Helmut Kettenmann: Properties and functions of microglial cells
12:00 - 12:10	Justyna Ulanska-Poutanen: Identification of microenviromental factors that control OPC differentiation during CNS remyelination
12:10 - 12:20	Agnieszka Kikulska: GRHL genes in human skin cancers
12:20 - 12:30	Paulina Urbańska: Analysis of ciliary protein FAP251
12:30 - 12:40	Dorota Przybylska: Investigation the role of NADPH oxidase 4 and the ATM kinase pathway in VSMCs senescence
12:40 - 12:50	Ewa Szczęsna: Kinesin-14 Ncd: mechanism of force generation and EB1- dependent localization at microtubule plus end
12:50 - 13:00	Anna Ćmoch: The effect of exogenous AnxA2 on expansion and mineralization of human osteosarcoma cells in vitro
13:00 - 13:10	Katarzyna Łepeta: MMP-9 3'UTR polymorphisms and their role in schizopfhrenia. The role of local translation
13:10 - 13:20	Anna Bot: Alterations in microRNA levels in the dentate gyrus in epileptic rats
13:20 - 13:30	Alicja Puścian: Highly replicable, fully automated measures of perseverative and social behaviors in IntelliCage system
13:30 - 13:40	Anna Oroń: Functional neuroanatomy of language
13:40 - 13:50	Rafał Płatek: L1 overexpression in rats with complete spinal cord transection influences retraction of CST axons and alters expression of neuronal plasticity engaged molecules
13:50 - 14:00	Anna Strzeszewska: DNA damage-induced signaling pathways leading to senescence of cancer cells
14:00 - 15:00	Lunch



	<b>BIO-INNOVATION</b> Why, How and When to start? / 1st floor Conference Room / Chairs: Paweł Nowicki	<b>SCIENCE AND SOCIETY</b> / Konorski Hall, 2nd floor / Chair: Andrzej Wróbel	<b>GRANT OPPORTUNITIES</b> / Conference Hall, Nencki Institute Neurobiology Center / Chairs: Leszek Kaczmarek, Tomasz Wilanowski
15:00 - 16:30	<p><b>Mariusz Kruk</b> The Cardinal Stefan Wyszyński Institute of Cardiology</p> <p><b>Karolina Dzwonek</b> (Warsaw Medical University, project BASTION innovation manager)</p> <p><b>Paweł Wiśniewski</b> (CEO, Inagen Sp. z o.o.)</p>	<p><b>Leszek Kuźnicki</b> (Nencki Institute): Nencki Institute and society</p> <p><b>Andrzej Rabczenko</b> (Employers of Poland): Why in normal countries scientists are normal?</p> <p><b>Sławomir Zagórski</b> (The Office of Ministry of Science and Higher Education): How to NOT popularize science</p>	<p><b>Maciej Żylicz</b> (President of the Foundation for Polish Science)</p> <p><b>Jacek Kuźnicki</b> (Director of the International Institute of Molecular and Cell Biology, NCN panel member)</p> <p><b>Agnieszka Walczak</b> (Nencki Institute, Recipient of Preludium grant (NCN))</p> <p><b>Katarzyna Jednoróg</b> (Nencki Institute, recipient of luventus Plus (MNiSW) and START grant (FNP))</p>
16:30 - 17:00	Coffee break		

## CLOSING SESSION / Conference Hall, Nencki Institute Neurobiology Center /

Chair: Adam Szewczyk

17:00 - 17:15	Poster Award Ceremony
17:15 - 17:45	Closing lecture: <b>Fred Van Leuven</b> : Alzheimer's disease: a paradigm of preclinical success and clinical failure
17:45 - 18:00	Closing remarks: <b>Adam Szewczyk</b>
18:00 -	Open meeting of the PhD student council Chair: <b>Michał Młacki</b> : The Nencki "hive" - PhD students community and its Council in the Nencki Institute

## LIST OF POSTERS

01. **Batko Katarzyna**: Phosducin-like protein 2 (Phlp2p), a potential regulator of ciliogenesis in *Tetrahymena*
02. **Bijata Monika**: Cooperative involvement of serotonergic signalling and MMP-9 in synaptic plasticity
03. **Borzęcka Kinga**: Lyn kinase differently regulates MyD88- and TRIF-dependent signaling pathways of TLR4 activated by LPS
04. **Broszkiewicz Małgorzata**: PML nuclear bodies upon neuronal stimulation
05. **Dacewicz Anna**: Voiced-unvoiced contrast discrimination across the life span
06. **Dudka-Ruszkowska Wioleta**: The novel PERK-eIF2 $\alpha$  prosurvival signaling in CML cells promotes protective autophagy and resistance to imatinib - induced cell death
07. **Dziewulska Anna**: Stearoyl-CoA desaturase activity is required for membrane translocation of protein kinase C- $\theta$  induced by lipid overload in skeletal muscle
08. **Gajewska-Woźniak Olga**: Regulation of cholinergic innervation of motoneurons by different methods of activation of the spinal network: locomotor exercise or electrical stimulation of proprioceptive fibers in the tibial nerve; the role of neurotrophins
09. **Gawlak Maciej**: Cellular localization of gelatinolytic activity in experimental model of stroke by in situ zymography
10. **Gierługa Katarzyna**: Bioelectrical brain activity and attentional functions in teenagers with ADHD and healthy controls
11. **Góral Agnieszka**: Sgt1 as a component of chaperone complexes - the role of Sgt1A and Sgt1B isoforms
12. **Grabowska Wioleta**: Cytostatic dose of curcumin induces senescence of vascular smooth muscle cells
13. **Graczyk Agnieszka**: The impact of S100A6 on keratinocyte differentiation
14. **Jóźwiak Jolanta**: Nuclear translocation of myosin VI upon stimulation of neurosecretory PC12 cells: a possible role of MVI in gene expression
15. **Jurewicz Ewelina**: New ligands of S100A6 (calcyclin) in Wharton's jelly
16. **Kądziołka Beata**: The influence of different transcription factors on the regulation of CacyBP/SIP gene expression
17. **Kolczyńska Katarzyna**: Role of Hsp72 chaperone in regulation of insulin sensitivity in skeletal muscle
18. **Konarzewska Katarzyna**: Efficient isolation of rare stem and precursor cell populations responding to the central nervous system traumatic injury by use of fluorescence activated cell sorting
19. **Konopka Anna**: The role of adhesion protein CD44 in the shape changes of astrocytes
20. **Korczyński Jarosław**: Tangled in the signal network: how calcium and adhesion modulates Rho-dependent signaling?
21. **Kowalski Jakub**: Towards a computational model of learning and social interactions of mice in IntelliCage
22. **Lebitko Tomasz**: Blocking matrix metalloproteinase-9 activity in the central amygdala decreases c-Fos protein expression following appetitively motivated training
23. **Maj Piotr**: Conformational variation of nematode thymidylate synthase monitored by structure-based approaches
24. **Matuszko Gabriela**: Thermal unfolding of Large Mechanosensitive Channel (MscL)
25. **Mijkowska Zofia**:  $\alpha$ CaMKII-autophosphorylation protects dendritic spines from chronic alcohol drinking effects
26. **Ochątek Anna**: Cardiac lipid metabolism – the role of stearyl-CoA desaturase-4
27. **Partyka Małgorzata**: Mitochondrial dynamics in primary fibroblasts derived from patients with Alzheimer's and Parkinson's diseases
28. **Pawlak Magdalena**: Novel molecular role of Grainyhead-like 1 transcription factor
29. **Pszczółkowska Dominika**: The role of glioma-derived Lactadherin in glioma-microglia interactions
30. **Rokosz Karolina**: Localization of recent and remote memory traces for successful and impaired fear extinction
31. **Rosińska Sara**: Effect of CacyBP/SIP phosphatase on CREB activity in neuroblastoma NB2a cells
32. **Skupień Anna**: The adhesion molecule CD44 regulates organization of dendritic tree of hippocampal neurons
33. **Strzeszewska Anna**: p53-independent pathways in the DNA-damage induced senescence of cancer cells
34. **Szadzińska Weronika**: Localization of recent and remote memory traces for successful and impaired fear extinction
35. **Urbańska Anna**: Regulation of dendritogenesis by ZBP1 depends on its phosphorylation at Ser181
36. **Varabyova Aksana**: Biogenesis of mitochondria-localized superoxide dismutase 1
37. **Wacławek Ewa**: Role of microtubule severing proteins in motile cilia
38. **Wiech Milena**: Molecular Mechanism of Mutant p53 Stabilization: The Role of HSP70 and MDM2
39. **Wojsiat Joanna**: Different response to apoptotic stimulation can distinguish lymphocyte from sporadic and familial Alzheimer's disease patients
40. **Żybura-Broda Katarzyna**: DNA methylation regulates expression of pro-epileptic protease MMP-9 during epileptogenesis

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