



Lobachevsky State University of Nizhny Novgorod
NATIONAL RESEARCH UNIVERSITY

International Symposium Progress and perspectives of brain extracellular matrix research

Programme Committee: Alexander Dityatev, Alexey Semyanov, Victor Kazantsev

Local Organizers: Susan Gordleeva and Yasya Mitaeva

Conference Hall in Building 1a, Fundamental Library, University of Nizhny Novgorod, Russia

Monday, the 1st of December

- 10:00 – 10:10 **Opening of the Symposium.** *Evgeny Chuprunov, Rector of Nizhny Novgorod State University, Russia*
- 10:10 – 10:30 **Introductory lecture.** *Victor Kazantsev, Director of the Institute of Living Systems, Head of the Dept of Neurodynamics and Neurobiology, UNN*
- 10:30 – 11:00 **Neural ECM in hebbian, intrinsic and homeostatic forms of plasticity.** *Alexander Dityatev (DZNE, Germany, UNN, Russia)*
- 11:00 – 11:15 **Discussion.** *Chaired by Michail Druzin*
- 11:15 – 11:45 **Setting neuronal chloride gradient: a new role for extracellular matrix.** *Michail Druzin (Umeå University, Sweden)*
- 11:45 – 12:00 **Discussion.** *Chaired by Alexander Dityatev*
- 12:00 – 12:15 **Coffee break**
- 12:15 – 12:45 **Interaction of chondroitin sulfate proteoglycan brevican with neuronal potassium-chloride co-transporter2.** *Tatiana Kuznetsova (SPU, Russia)*
- 12:45 – 13:00 **Discussion.** *Chaired by Michail Druzin*
- 13:00 – 13:20 **Visualization of cells, tissues and small organisms. Fluorescent and confocal microscopy in cell biology, software solutions to facilitate and optimize image analysis, high content screening with widefield automated microscope systems.** *Nataliya Sokueva (Technoinfo Ltd, Russia)*
- 13:20 – 13:25 **Discussion.** *Chaired by Michail Druzin*
- 13:25 – 13:45 **Electron microscopy in biomedical research.** *Nataliya Sokueva (Technoinfo Ltd, Russia)*

- 13:45 – 13:50 **Discussion.** *Chaired by Michail Druzin*
- 13:50 – 14:45 **Lunch**
- 14:45 – 15:15 **Function of heparan sulfates in theta/gamma oscillations and contextual discrimination in fear-conditioning.** *Oleg Senkov (DZNE, Germany) and Andrey Mironov (UNN, Russia) - Skype presentation*
- 15:15 – 15:30 **Discussion.** *Chaired by Alexander Dityatev*
- 15:30 – 16:00 **Effects of enzymatic removal of chondroitin sulfates on neural excitability and synaptic plasticity in the hippocampal CA1 region.** *Yulia Dembitskaya (UNN, Russia) – Skype presentation*
- 16:00 – 16:15 **Discussion.** *Chaired by Alexander Dityatev*
- 16:15 – 16:45 **Restoration of CA1 pyramidal cell excitability and LTP in brevicin deficient mice by the inhibitor of SK channels apamin.** *Inseon Song (DZNE, Germany) – Skype presentation*
- 16:45 – 17:00 **Discussion.** *Chaired by Alexander Dityatev*
- 17:00 – 17:30 **A model of homeostatic regulations in the network of excitatory and inhibitory neurons with tetrapartite synapses.** *Sergey Stasenko (UNN, Russia)*
- 17:30 – 17:45 **Discussion.** *Chaired by Alexander Dityatev*

Tuesday, the 2nd of December

- 10:00 – 10:30 **Development of GABAergic inhibition in cortex.** *Roustem Khazipov (Kazan University, Russia)*
- 10:30 – 10:45 **Discussion.** *Chaired by Dmitri Rusakov*
- 10:45 – 11:15 **Synaptic microenvironment: an essential factor of synaptic plasticity.** *Dmitri Rusakov (UCL, UK)*
- 11:15 – 11:30 **Discussion.** *Chaired by Roustem Khazipov*
- 11:30 – 12:00 **The brain extracellular matrix (ECM) in the pathophysiology of schizophrenia.** *Irina Mukhina (NSMA and UNN, Russia)*
- 12:00 – 12:15 **Discussion.** *Chaired by Roustem Khazipov*
- 12:15 – 12:30 **Coffee break**
- 12:30 – 13:00 **Retrograde synaptic signaling mediated by K⁺ efflux through postsynaptic NMDA receptors.** *Alexey Semyanov (UNN, Russia)*

13:00 – 13:15 **Discussion.** *Chaired by Roustem Khazipov*

13:15 – 13:40 **Interplay between serotonergic signaling and extracellular matrix in regulation of neuronal morphology and synaptic plasticity.** *Evgeni Ponimaskin (MHH, Germany) - Skype presentation*

13:45 – 14:00 **Discussion.** *Chaired by Alexey Semyanov*

14:00 – 14:30 **STORM imaging of the brain extracellular matrix.** *Svetlana Korotchenko (NSMA and UNN, Russia), Alexander Moiseev (IAP, Russia)*

14:30 – 14:45 **Discussion.** *Chaired by Alexey Semyanov*