



UNIVERSITY OF
BUCHAREST
VERITAS ET SAPIENTIA

3rd International Conference on Neuroscience, Neuroinformatics, Neurotechnology and Neuro-Psycho-Pharmacology

Conferința Internațională de Neuroștiințe,
Neuroinformatică, Neurotehnologie și Neuro-psiho-
farmacologie – ICON4N – ediția a 3-a, București,
Biblioteca Academiei Române, 26-28 octombrie 2023



OCTOBER 26-28, 2023
Bucharest, Romania

3RD INTERNATIONAL CONFERENCE ON NEUROSCIENCE, NEUROINFORMATICS, NEUROTECHNOLOGY AND NEURO-PSYCHO-PHARMACOLOGY

We kindly invite you to participate in the

***3rd International Conference on
Neuroscience, Neuroinformatics, Neurotechnology and
Neuro-Psycho-Pharmacology,***

Bucharest, 26-28 October 2023

organized by the Romanian Academy – National Center for Brain Research, in collaboration with National Neuroscience Society of Romania, the Romanian Society for Automation and Technical Informatics and University of Bucharest.

The aim of the conference is to bring together experts from various areas of brain-related research, including neuroscience, clinical neurology, psychology, and pharmacology, with engineers in systems science, neuroinformatics, and brain-computer interfaces, to present new insights into the brain and mind to identify efficient computational theories, models and tools that will contribute to a better understanding of the brain and its functioning.

The opening ceremony and the invited papers will be presented in the Library Aula - “Heliade Radulescu” Hall of the Romanian Academy.

ORGANIZERS



Romanian Academy - National Center for Brain Research

National Neuroscience Society of Romania (NNSR)

Romanian Society for Automation and Technical Informatics (SRAIT)

University of Bucharest (UB)

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Dragos Popescu, SRAIT, University Politehnica of Bucharest, Romania

Keynote Speakers

Dorin Comaniciu, Artificial Intelligence and Digital Innovation, Siemens Healthineers, Erlangen, Germany

George Dragoi, Yale School of Medicine, New Haven, USA

Valentin Dragoi, University of Texas, McGovern Medical School, Houston, Texas, USA

Samer Hattar, National Institute for Mental Health, Bethesda, USA

Paolo Fabene, Universita Degli Studii din Verona, Verona, Italia

Amos Korczyn, Tel Aviv, Israel

Daniela Popa, Institut de Biologie de l'École Normale Supérieure, INSERM U1024, Paris, France

Jurgen Schwarz, University of Hamburg, Hamburg, Germany

CONFERENCE PROGRAM

Day 1

Thursday, October, the 26th

Location:

Romanian Academy Library – “Heliade Radulescu” Hall, Calea Victoriei 125, Bucharest

9:00 – 9:15 Opening Ceremony

9:15 – 11:30 Plenary Session 1 – Chairs: Maria Luiza Flonta, Beatrice Radu

09:15-09:45 **Dafin Muresanu** - Brain reserve | Towards broadened understanding and concept operationalization

09:45-10:15 **Jurgen Schwarz** - Ether-à-go-go-related gene K channels modulate neuronal excitability and behavior

10:15-10:30 **Mihai Moldovan** - When axonal excitability goes bad and conduction velocity is preserved

10:30-11:00 **Daniela Popa** - Adaptive cerebello-forebrain coupling in normal and pathological conditions

11:00-11:30 **Paolo Fabene** - Epilepsy, inflammation and microbiota

11:30-11:50 Coffee break

11:50 – 13:30 Session 1 – Chair: Mihai Moldovan

11:50-12:10 **Mihai Moldovan** - A thought about oscillatory electroencephalographic macrostates

12:10-12:30 **Alexandra Sofonea, Miralena Tomescu** - Personality moderates intra-individual variability in EEG microstate and spontaneous thoughts

12:30-12:50 **Alina Chivu, Miralena Tomescu** - EEG microstates in mood and anxiety disorders: a meta-analysis

12:50-13:10 **Alexandru Ion Berceanu** - Insights from an fMRI study on role play: prosociality relates to lower connectivity in associated neural network

13:10-13:30 **Mihai Stancu** - Adaptive traits for temporal coding in the auditory brainstem

13:30-14:00 Sponsor presentation

14:00 – 14:45 Lunch

14:45 – 16:30 Session 2 – Chairs: Ana-Maria Zagrean, Tudor Badea

14:45-15:05 **Beatrice Radu** - A new FDA-approved antiepileptic drug, cenobamate, has pro-arrhythmogenic effects

15:05-15:25 **Lucian Hritcu** - Effects of Ceratonia siliqua L. aqueous leaves extract against A β 1-42-induced cognitive deficit mice: Role of α 7-nAChR in modulating Jak2/PI3K/Akt/GSK-3 β / β -catenin cascade

15:25-15:45 **Mara Ioana Ionescu, Ana-Maria Zagrean** - The impact of the gut microbiome alteration during pregnancy on both maternal health and offspring neurodevelopment

15:45-16:05 **Raluca Paşcalău, Tudor Badea** - Human retinal cell types anatomy during fetal development

16:05-16:25 **Vladimir Muzyka, Tudor Badea** - Anatomic and physiologic characterization of neurons expressing Tusc5

16:25-16:45 **Vlad-Alexandru Toma** - Non-determining neuroglial cells in the central nervous system of the crow

16:45-17:00 Coffee break

17:00 – 19:00 Session 3 – Chairs: Aurel Popa, Alexandru Babes

17:00-17:20 **Aurel Popa** - Genetic conversion after stroke. A new therapeutic approach?

17:20-17:40 **Roxana Surugiu** - Extracellular Vesicles (EVs) as crucial predictive factors and therapeutic agents in stroke

17:40-18:00 **Florian Armasescu, Bogdan Amuzescu** - Effects of acute near-infrared laser exposure on primary sensory neuron excitability and gating properties of heterologously expressed voltage-dependent Na⁺ channels

18:00-18:20 **Alexandru Babes** - Modulation of TRPM8 function by the prostacyclin receptor: involvement of Gq/11 proteins

18:20-18:40 **George Oprita, Alexandru Babes** – The thyroid hormone triiodothyronine potentiates TRPM3 activity in mouse dorsal root ganglia neurons

18:40-19:00 **Razvan Boiangiu** - In silico and in vivo investigation of the 6-hydroxy-L-nicotine and cotinine biological effects

19:00-19:30 SNN General assembly

19:30 Welcome cocktail

Location: Romanian Academy Library, Calea Victoriei 125, Bucharest

Day 2

Friday, October of 27th

Location:

Romanian Academy Library – “Heliade Radulescu” Hall, Calea Victoriei 125, Sector 1, București

9:00 – 11:00 Session 4 – Chairs: Dafin Muresanu, Bogdan Ovidiu Popescu

9:00-9:30 **Dafin Muresanu** - The impact of microcirculation on disability prevention

9:30-10:00 **Bogdan Ovidiu Popescu** - Hypertensions and neurodegenerative diseases

10:00-10:30 **Cristina Tiu** – Advances in acute stroke phase treatment in Romania

10:30-11:00 **Amos Korczyn** - Is Alzheimer’s disease a disease?

11:00 – 11:20 Coffee break

11:20 – 13:20 Plenary Session 2 – Chairs: Ioan Dumitrache, Tudor Badea

11:20-11:50 **Dorin Comaniciu** - Artificial Intelligence and Neuroscience: The Road Ahead

11:50-12:20 **Valentin Dragoi** - Cortical circuits for information processing and decision making

12:20-12:50 **George Dragoi** - Neuronal ensembles underlying internally generated representations

12:50-13:20 **Samer Hattar** - How does the retina influence the brain and behavior

13:20 – 14:20 Lunch

14:20 – 16:00 Session 5 – Chairs: Ioan Dumitrache, Simona Caramihai

14:20-14:40 **Ioan Dumitrache, Simona Caramihai, Dragoş Popescu** – Some aspects on brain modelling as a complex adaptive system

14:40-15:00 **Ionuţ Predulescu, Ioan Dumitrache, Simona Caramihai** – Automated system for detection of cortical diseases using EEG analysis, virtual reality and artificial intelligence

15:00-15:20 **Stefan Trausan-Matu** - Analysis of Natural Language Generation with Deep Neural Networks

15:20-15:40 **Sorin Grigorescu** - AI-based operating system for enhanced autonomy in ground and aerial robotics

15:40-16:00 **Maria Mernea** - Bioinformatics analysis of natural compounds with anxiolytic effect using target proteins interaction networks

16:00 – 16:30 Sponsor presentation

16:30 –16:50 Coffee break

16:50 - 18:50 Session 6 – Chair: Andrei Miu

16:50-17:10 **Andrei Miu** - Emotion regulation and psychopathology: Neural and neuroendocrine mechanisms

17:10-17:30 **Alexia Pinoşanu** - How can we assess emotion regulation in the laboratory? A focus on designs with ERP and autonomic measures

17:30-17:50 **Andra Vlaicu** - Emotion regulation and cortisol reactivity: Preliminary data from a prospective study

17:50-18:10 **Simina Pitur** - Childhood maltreatment and emotion regulation: Neural markers of risk for psychopathology?

18:10-18:30 **Gabriela Marcu** - QEEG Neuromarkers of complex childhood trauma - pilot study and preliminary data

18:30-18:50 **Ramona Ceciu** - Cognitive-behavioral and socio-cultural correlates of emotion regulation

Day 3

Saturday, October 28th

Location: Faculty of Biology, Bucharest University, Splaiul Independentei 91-95, Bucharest

9:00-10:40 Session 7 - Chairs: Violeta Ristoiu, Bogdan Amuzescu

9:00-9:20 **Shurooq Shaher, Bogdan Amuzescu** - NMDAR activation, cytotoxicity and oxidative stress induced by aspartame in native and heterologously expressed cell lines

9:20-9:40 **Violeta Maria Caragea** - Goal-directed skilled action in rats is modulated by the dopamine receptors found in the fastigial nucleus

9:40-10:00 **Roberta Stoica** - Effects of two radiotherapy techniques at the cerebrovascular endothelium level

10:00-10:20 **Tudor Selescu** - Role of four thermosensitive TRP ion channels in thermal preference of male and female mice

10:20-10:40 **Sebastian Isac, Ana-Maria Zagrean** - The cumulative detrimental effect of the general anaesthesia on the immature brain after perinatal asphyxia

10:40-11:00 Coffee break

11:00 – 12:30 Blitz oral presentations & Posters session

1. Alina Ostafi, Florentina Pluteanu - The effect of nerve growth factor on vascular fibroblasts
2. Ana-Maria Matota - Hyperexcitability in a rat model of absence epilepsy: higher EEG reactivity during deep anesthesia
3. Andreea Cercel - Axonal growth in the young adult brain after an ischemic stroke
4. Andreea Violeta Grosu, Violeta Ristoiu - Spared nerve injury model of neuropathic pain induces a specific microglia activation pattern at the spinal cord level
5. Andrei Bordeianu - Burst-Suppression EEG reactivity in detecting post-ischemic brain injury: an experimental rat study
6. Andrei Teodor Bratu - Role of prefrontal cortex in processing aversive auditive and visual stimuli

7. Claudia-Ioana Draghici - Cenobamate upregulates P-glycoprotein, while downregulates tight junction proteins in accordance with blood-brain barrier permeabilization
8. Claudia Moldoveanu - Histological and immunohistochemical aspects of the central nervous system in Alzheimer's disease and the study of antioxidant action as a prophylactic strategy
9. Cristian Ciotei - The trials and errors of studying the impact of gestational gut microbiome disturbance and perinatal asphyxia on the neurodevelopmental reflexes of rat offspring
10. David Ionut Bacioiu - Crosstalk between TRPA1, TRPM8 and EGF receptor in glioblastoma
11. Florin Zamfirache - The impact of sertraline and social rehabilitation on a long-term depression study on rats
12. Ileana Daria Dobre - Retinal ganglion cell types of the mouse area centralis
13. Kevin Boboc – How continuous use of ion channel blockers affects microglial morphology and function in a murine Alzheimer's model.
14. Laurentiu Tofan - Exploration of the brain connectivity in patients with pharmacoresistant epilepsy and visual hallucinations
15. Melania Magercu - Iba1 down-regulation in primary rat microglia: differential effects induced in defined-medium vs serum-supplemented in vitro systems
16. Stefan Alexandru Tirlea - Cost-effective alternative for long-term sleep analysis in freely moving mice
17. Valentin Ionescu - an equation for an impossible task. does the brain-personality system behave in a thermodynamic manner? Hot brain hypothesis
18. Vlad Morozaan - Investigating the relationship between default EEG macrostate reactivity and anaesthetic depth in response to photic stimulation: a rat model

12:30-13:00 Closing ceremony

Abstract Volume – *Fiziologia* Journal Supplement 2023, available at:

http://revista_fiziologia.umft.ro/archive.html

Conference Venue

The conference attendance will be organized in the “Heliade Radulescu” hall of the Romanian Academy Library, Romanian Academy - Calea Victoriei 125, Bucharest, Romania





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SPONSORS:

