# 4th International Conference on

# Neuroscience, Neuroinformatics, Neurotechnology and Neuro-Psycho-Pharmacology

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# Conferința Internațională de Neuroștiințe,

# Neuroinformatică, Neurotehnologie și Neuro-Psiho-Farmacologie – ICON4N – ediția a 4-a, București,

# Aula Academiei Române




## NOVEMBER 26-27, 2026

## Bucharest, Romania

# 4TH INTERNATIONAL CONFERENCE ON NEUROSCIENCE, NEUROINFORMATICS, NEUROTECHNOLOGY AND NEURO-PSYCHO-PHARMACOLOGY

*We kindly invite you to participate in the*

*4th International Conference on*
*Neuroscience, Neuroinformatics, Neurotechnology and*
*Neuro-Psycho-Pharmacology*

*organized by the Romanian Academy through the Research Institute for Artificial Intelligence and the National Center for Brain Research, in collaboration with the National Neuroscience Society of Romania, the Romanian Society for Automation and Technical Informatics, the Romanian Neurological Society and the University of Medicine and Pharmacy Carol Davila.*

*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 and to identify efficient computational theories, models and tools that will contribute to a better understanding of the brain and its functioning. The conference will be organized in Bucharest on 26-27 November 2026.*

*The opening ceremony and the invited papers will be presented in the Aula of the Romanian Academy.*

# ORGANIZERS
















Romanian Academy - Research Institute for Artificial Intelligence, National Center for Brain Research

National Neuroscience Society of Romania

Romanian Society for Automation and Technical Informatics

Romanian Neurological Society

University of Medicine and Pharmacy Carol Davila

# Honorary Chairman of the Conference

Constantin Popa, Romanian Academy

# Steering Committee

Chairman: Ioan Dumitrache

Romanian Academy, National Center for Brain Research, SRAIT, University Politehnica of Bucharest, Romania

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University of Bucharest, Romanian Academy, Romania

Dafin Muresanu,

Romanian Academy, University of Medicine and Pharmacy Iuliu Hatieganu, Cluj-Napoca, Romania

Bogdan Ovidiu Popescu,

University of Medicine and Pharmacy Carol Davila, Bucharest, Romania

Ana-Maria Zagrean,

University of Medicine and Pharmacy Carol Davila, National Neuroscience Society of Romania, Bucharest, Romania

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Maya Simionescu, Romanian Academy, Romania

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Victor Voicu, Romanian Academy, Romania

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Mihaela-Gabriela Neacsu, Faculty of Education Sciences, Social Sciences and Psychology, University Politehnica of Bucharest, Pitesti Centre, Romania

George Oprita, University of Bucharest, Romania

Stefan Popa, National Center for Brain Research, Romania

Dragos Popescu, SRAIT, University Politehnica of Bucharest, Romania

# Keynote Speakers

Jean-Jacques Askenasy, University of Tel Aviv, Israel

Mircea Dumitru, University of Bucharest, Romania

Radu J. Bogdan, Tulane University, New Orleans, USA

Paola Bovolenta, Severo Ochoa Center for Molecular Biology, Madrid, Spain

Thomas Euler, Institute for Ophthalmic Research and Werner Reichardt Center for Integrative Neuroscience, University of Tübingen, Tübingen, Germany

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

# CONFERENCE PROGRAM

## Day 1

## Thursday, November 26th

Location:

Romanian Academy Aula, 125 Calea Victoriei, Bucharest

### 8:30–9:30 Registration

### 9:30–10:00 Opening Ceremony

### 10:00 – 11:30 Plenary Session – Chair: Ioan Dumitrache

10:00 – 10:30 Mircea Dumitru - Can a large language model be conscious?

10:30 – 11:00 Jean Askenazy - AI, Risks, Paradoxes and Anthropomorphism

11:00 – 11:30 Radu J. Bogdan - The mind as an evolutionary cocktail - Can AI acquire and use imagination?

11:30-11:45 Coffee break

### 11:45–13:45 Session 1 – Chairs: Maria Dorobantu, Adrian Adascalitei

11:45-12:00 Maria Dorobantu, Marian Necula, Gabriela Florea - What Does It Mean to Be “At Risk”? Artificial versus Human Intelligence in Understanding Vulnerability in Young Adults

12:00-12:15 Adrian Adascalitei - Collaboration between human (natural) intelligence and artificial intelligence in STEAM education: the evolution of the pedagogical model

12:15 – 12:30 Magdalena Budisteanu - The Role of Artificial Intelligence in Neurogenetics

12:30 – 12:45 Carmen-Gabriela Bostan - Perspectives on the Impact of Technology on Children within the AI–NI Ecology: Neurocognitive and Pedagogical Differences in the Age of Artificial Intelligence

12:45 – 13:00 Mihaela-Gabriela Neacsu, Stefania-Iulia Rosu - Teaching Psychology in the Digital Age – Opportunities, Challenges and Current Trends

13:00 – 13:15 Mihaela-Gabriela Neacsu, Denisa-Cristiana Margalin - Integration of Artificial Intelligence in the Teaching of Psychology in High School – the Premises of a Functional Pedagogical Model

13:15 – 13:30 Corina Colareza, Musata-Dacia Bocos, Dana Rad, Mihaela-Gabriela Neacșu, Zorica Triff - Neurocognitive mechanism of self-regulated learning

13:30 – 13:45 Andra Dobrin, Violeta Caragea, Alexandru Babes - Developing a multimodal approach for investigating emotional interference in working memory

13:45-14:30 Lunch break

**14:30–16:30 Session 2 – Chair: Tudor Badea**

14:30 – 15:10 Paola Bovolenta - Human Eye Organoids as a Crossroads for Understanding Morphogenesis and Congenital Eye Disorders

15:10 – 15:50 Thomas Euler - Response properties of suppressed-by-contrast cells in the mouse early visual system

15:50 – 16:30 George Dragoi - Offline generative reconfiguration drives insight-like inference learning

16:30-16:45 Coffee break

**16:45–18:45 Session 3 – Chair: Ana-Maria Zagrean**

16:45 – 17:00 Aurel Popa - Aging Severely Limits Long-Term Survival of Reprogrammed Astrocyte-Derived Neurons After Ischemic Stroke

17:00 – 17:15 Mihai Moldovan - A mathematical model for assessing EEG reactivity during burst-suppression EEG patterns

17:15 – 17:30 Vlad-Petru Morozan, Mihai Stancu, Mara Ioana Ionescu, Ana-Maria Zagrean, Mihai Moldovan - Gestational Dysbiosis Compromises Resilience to Perinatal Asphyxia: A Neurophysiological Study

17:30 – 17:45 Laurentiu Tofan, Ioana Oane, Ioana Mindruta - Non-Pharmacological Treatment in Drug-Resistant Epilepsy: Insights from a Romanian tVNS Cohort

17:45 – 18:00 Dimitrie Costake, Bogdan Amuzescu, Ionel Popescu - Neuronal oscillators: synchrony analysis of a thalamo-cortical network

18:00 – 18:15 Dongdong Zhou, Fengyu Cong - MRSE-SleepNet: Single-Channel EEG Sleep Staging via Multi-Scale Convolutions and Channel-Wise Feature Recalibration

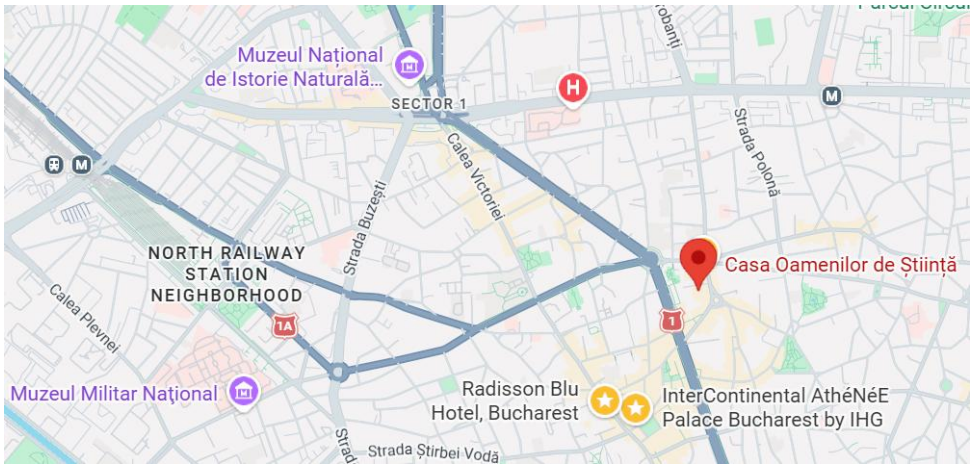
18:15 – 18:30 Miruna-Cristina Andone, Mircea Buruian - Fractal-Aware Predictive Modeling of Cognitive Brain States: A Multiscale EEG and Deep Learning Framework

18:30 – 18:45 Didina-Catalina Barbalata, Mara Ioana Ionescu, Ioana Dogaru, Cristian Ciotei, Ana Maria Catrina, Vladimir Suhaianu, Ana-Maria Zagrean - The Double Hit: Maternal Dysbiosis and Perinatal Asphyxia on Neurodevelopmental Outcomes in Rat Offspring

## 19:30–21:00 Dinner

Location:

House of Scientists (Casa Oamenilor de Știință), 9 Piata Lahovari, Bucharest



## Day 2

## Friday, November 27th

Location:

Romanian Academy Aula, 125 Calea Victoriei, Bucharest

### 9:00–11:15 Session 4 – Chair: Bogdan Ovidiu Popescu

9:00-9:15 Bogdan Ovidiu Popescu - New and future therapies in Alzheimer's disease

9:15-9:30 Romeo-Zeno Cretu, Sylvia Cretu - Stress, a multilevel response: challenges for amelioration interventions

9:30-9:45 Iulian-Cristinel Vasile, Marian Necula, Nicoleta Siminea, Eduard Milea, Ion Petre, Bogdan Oancea, Mihaela Paun - Recurring Cofluctuation States in Autism: Network Geometry and Temporal Organization

9:45-10:00 Paula Denisa Saragea - From Computational Prediction to Behavioral Validation: Pharmacokinetic Profiling and Molecular Docking of Phytochemicals as Essential Stages Before Preclinical Testing in Alzheimer's Disease Models

10:00–10:15 Mihaela Comanici, Adrian Comanici - Psychoneurobehavioral recovery in severe congenital hypothyroidism with growth hormone deficiency from a neuroendocrine-neuroimmune perspective

10:15–10:30 Stefan Popa, Ioan Dumitrache - Human Brain as a Quantum System

10:30–10:45 Ioan Dumitrache, Stefan Popa - Some Problems of Brain Modeling – Digital Twin of the Brain

10:45–11:00 Bogdan Pavel - Correlations between optic nerve ultrasound and inflammatory markers in patients with meningitis

11:00-11:15 Dimple Dhawan - Gold Nanoparticle-Enabled Theranostics for Neurodegenerative Disorders: A Precision Approach to Brain-Targeted Diagnosis and Therapy

11:15 – 11:30 Coffee break

### 11:30–13:10 Session 5 – Chair: Dafin Muresanu

11:30-11:50 Dafin Muresanu - The role of brain reserve in the context of neurological disorders

11:50-12:10 Octavian Henegariu - Molecular profiling of brain lesions

12:10-12:30 Ioana Berindan Neagoe - Decoding Glioblastoma Heterogeneity: integrating genomics, single-cell and spatial transcriptomics

12:30-12:50 Paul Verschure - The role of artificial intelligence in stroke rehabilitation

12:50-13:10 Stefan Strilciuc - Advanced experimental models for the study of cerebrovascular disorders

13:10-13:55 Lunch break

**13:55-15:55: Session 6 – Chairs: Alexandru Babes, Stefan Trausan-Matu**

13:55-14:10 George Oprita, Dan Domocos, Tudor Selescu, Adelina Paduraru, Ramona-Madalina Babes, Alexandru Babes, Andreas Leffler - Complex effects of statins on ion channels involved in pain signaling and cardiac function

14:10-14:25 Stefan Trausan-Matu - Can LLM-based chatbots achieve consciousness?

14:25-14:40 Maria Mernea, Giorgiana Diana Carmen Anghelescu, George Gamazeliuc, Dan Florin Mihailescu - In Silico Exploration of Natural Product Interactions with Orexin Receptor 1

14:40-14:55 Dumitru-Cristian Tranca - From Bench to Edge: A Performance-Resource Trade-off Analysis of Deep Learning and INT8-Quantized Models for Sleep Staging

14:55-15:10 George Oprita, Marvin Meyer, Alexandru Babes, Andreas Leffler, Irina Vetter - Nav1.8 is modulated by the transmembrane protein TMEM233

15:10-15:25 Rebeca Gheorghe, Catrinel Vătămanu, Bogdan Amuzescu, Adela Banciu, Daniel Banciu - Effects of Near-Infrared Radiation (NIR) on β-amyloid-induced neurodegeneration in rat brain slices

15:25-15:40 Catrinel Vatamanu, Bogdan Amuzescu, Rebeca Gheorghe, Alexandra Nutu - Cytotoxic and Metabolic Effects of Diesel-Derived Particles on Cellular Models Relevant to the Central Nervous System

15:40-15:55 Melania Magercu, Violeta Ristoiu, Maria Mernea - Myelin-derived lipids modulate microglia lipid-sensing receptors in multiple sclerosis: a molecular docking study

**16:00 Closing Ceremony**

**Notes**

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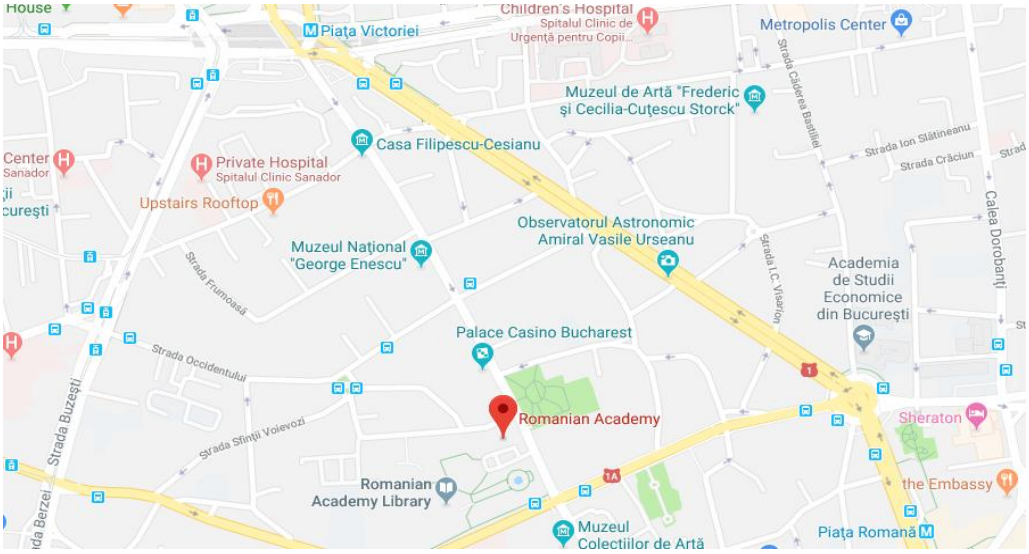
**Notes**

**Notes**

# Conference Venue

The conference will be organized in the Aula of the Romanian Academy

Romanian Academy - Calea Victoriei 125, Bucharest, Romania




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