

Thursday, April 21st

**08:30-10:00** Session 1

CHAIR: [Alexei V. Samsonovich](#) (KIAS GMU, USA & NRNU MEPhI, Russian Federation)

LOCATION: Alekseevsky hall

08:30 [Vladimir V. Uzhva](#) (NRNU MEPhI, Russian Federation)

**Welcome ( [abstract](#) )**

08:45 [Alexei V. Samsonovich](#) (KIAS GMU, USA & NRNU MEPhI, Russian Federation)

**Opening talk ( [abstract](#) )**

09:15 [Mikhail Burtsev](#) (NRC "Kurchatov Institute", NRNU MEPhI, MIPT, Russian Federation)

**Functional systems network for learning in stochastic environment ( [abstract](#) )**

**10:00-10:30** ☕ Coffee Break

**10:30-12:00** Session 2

CHAIR: [Olivier Georgeon](#) (Université Claude Bernard Lyon 1, France)

LOCATION: Alekseevsky hall

10:30 [Paul Verschure](#) (SPECS - UPF, Spain)

**The Distributed Adaptive Control of Consciousness in Animals and Machines ( [abstract](#) )**

11:20 [Carlos León](#) (Universidad Complutense de Madrid, Spain)

**An Architecture of Narrative Memory ( [abstract](#) )**

**12:00-13:00** 🍴 Lunch Break

**13:00-15:00** Session 3

CHAIR: [Carlos León](#) (Universidad Complutense de Madrid, Spain)

LOCATION: Alekseevsky hall

13:00 [Sergey Shumsky](#) (Lebedev Physics Institute, Russian Federation)

**Deep learning in a Brain ( [abstract](#) )**

13:45 [Olivier Georgeon](#) (Université Claude Bernard Lyon 1, France)

**Implementing Trace-Based Reasoning in a cognitive architecture with the aim of achieving developmental learning ( [abstract](#) )**

**14:30-15:00** Session 4: Discussion Panel 1: Robot consciousness

P.Verschure, A.Chella

CHAIR: [Carlos León](#) (Universidad Complutense de Madrid, Spain)

**15:00-15:30** ☕ Coffee Break

**15:30-17:15** Session 5

CHAIR: [Valentin V. Klimov](#) (MEPhI, Russian Federation)

LOCATION: Alekseevsky hall

15:30 [Konstantin Anokhin](#) (National Research Center "Kurchatov Institute", Russian Federation)

**Cognitome: The Biological Cognitive Architecture ( [abstract](#) )**

16:30 [Gennady Osipov](#) (FRC "Computer Science and Control" RAS, Russian Federation)

**Interaction between Sign-based model of the World and AI Methods in behavior modeling ( [abstract](#) )**

**17:15-17:45** Session 6: Discussion Panel 2: The BICA Challenge

CHAIR: [Valentin V. Klimov](#) (MEPhI, Russian Federation)

**18:00-21:00** Session : Welcome reception

Friday, April 22nd

**08:30-10:00** Session 7A

CHAIR: [Antonio Lieto](#) (University of Turin, Department of Computer Science, Italy)

LOCATION: Alekseevsky hall

08:30 [Tarek Richard Besold](#) (Free University of Bozen-Bolzano, Italy)

[Oliver Kutz](#) (Free University of Bozen-Bolzano, Italy)

**Tutorial on Computational Analogy-Making, Concept Blending, and Related Forms of Non-Classical Reasoning ( [abstract](#) )**

09:15 [Alexey Averkin](#) (Dorodnicyn Computing Center of RAN, Russian Federation)

**Hybrid intellectual systems in cognitive economics ( [abstract](#) )**

**08:30-10:00** Session 7B: An Overview of Cognitive Modeling with Soar

In this 3 hour tutorial I will introduce the concept of cognitive modeling in a cognitive architecture, and then in the Soar cognitive architecture in particular. I'll also present an example model or two, and note how this approach can help model the mind. I will note background readings in cognitive architecture, psychology for modeling, and how to run studies to test models. I will also talk about getting published in this area, and discuss briefly venues for publication and their importance.

CHAIR: [Frank Ritter](#) (PSU, USA)

LOCATION: Moskvorechiy hall

**10:00-10:30** ☕ Coffee Break

**10:30-12:00** Session 8A

CHAIR: [Kamilla Jóhannsdóttir](#) (Reykjavik University, Iceland)

LOCATION: Alekseevsky hall

10:30 [Antonio Chella](#) (Dipartimento di Ingegneria Informatica, Università di Palermo, Italy)

**Autism and BICA ( [abstract](#) )**

11:15 [David Vernon](#) (University of Skövde, Sweden)

**Desiderata for Developmental Cognitive Architectures ( [abstract](#) )**

**10:30-12:00** Session 8B: An Overview of Cognitive Modeling with Soar

CHAIR: [Frank Ritter](#) (PSU, USA)

LOCATION: Moskvorechiy hall

**12:00-13:00** 🍴 Lunch Break

**13:00-15:00** Session 9A: Poster session

Posters will be presented during coffee breaks (and concurrently during sessions) on 21 and 22 April in Petrovsky hall.

CHAIR: [Mikhail Burtsev](#) (NRC "Kurchatov Institute", Russian Federation)

LOCATION: Moskvorechiy hall

**13:00-14:30** Session 9B

CHAIR: [Antonio Chella](#) (Dipartimento di Ingegneria Informatica, Università di Palermo, Italy)

LOCATION: Alekseevsky hall

13:00 [Antonio Lieto](#) (University of Turin, Department of Computer Science and ICAR-CNR, Italy, Italy)

**Computational Explanation in BICA ( [abstract](#) )**

13:45 [Kamilla R. Johannsdottir](#) (Reykjavik University, Iceland)

**Testing environmental impact on restoring human physiological and mental state using virtual reality ( [abstract](#) )**

**14:30-15:00** Session 10: Discussion Panel 3: Human-like agency

Panelists will include speakers of the session and others by invitation.

CHAIR: [Antonio Chella](#) (Dipartimento di Ingegneria Informatica, Università di Palermo, Italy)

**15:00-15:30** ☕ Coffee Break

**15:30-17:45** Session 11A

CHAIR:

[Sergey Dolenko](#) (D.V.Skobeltzyn Institute of Nuclear Physics, M.V.Lomonosov Moscow State University, Russian Federation)

LOCATION: Moskvorechiy hall

15:30 [Natalia Efremova](#) (Plekhanov Russian University of Economics, Russian Federation)

**Neurophysiologically plausible cognitive architectures in computer vision ( [abstract](#) )**

16:15 [Valery E. Karpov](#) (National Research Centre "Kurchatov Institute", Russian Federation)

**From Swarm Robotics to Social Behavior of Robots ( [abstract](#) )**

17:00 [Aleksandr Panov](#) (FRC Computer Science and Control RAS, Russian Federation)

**Biologically and psychologically inspired modelling in BICA ( [abstract](#) )**

**15:30-17:45** Session 11B

CHAIR: [David Vernon](#) (University of Skövde, Sweden)

LOCATION: Alekseevsky hall

15:30 [Christian Lebiere](#) (Carnegie Mellon University, USA)

**Tutorial: Neurally-Inspired Modeling of Cognitive Architectures ( [abstract](#) )**

**18:00-21:00** Session : Tsaritsyno park

**18:00-21:00** Session : Banquet

Need tickets. Bus will depart at 18:00.

Saturday, April 23rd

**09:00-10:30** Session 12

CHAIR: [Vladimir Redko](#) (SRI for System Analysis RAS, Moscow, Russian Federation)

LOCATION: Alekseevsky hall

09:00 [Evgeny Osipov](#) (Lulea University of Technology, Sweden)

**Computing with hyper-vectors: fundamentals of Vector Symbolic Architectures ( [abstract](#) )**

09:45 [Sergey Dolenko](#) (D.V.Skobeltzyn Institute of Nuclear Physics, M.V.Lomonosov Moscow State University, Russian Federation)

**Solving Inverse Problems by Artificial Neural Networks ( [abstract](#) )**

**10:30-11:00** ☕ Coffee Break

**11:00-12:30** Session 13

CHAIR:

[Aleksandr Panov](#) (Federal Research Centre for Computer Science and Control RAS, Moscow, Russian Federation)

LOCATION: Alekseevsky hall

11:00 [Olga Chernavskaya](#) (LPI, Russian Federation)

**The Cognitive Architecture within Natural-Constructive Approach ( [abstract](#) )**

11:45 [Valery B. Tarassov](#) (Moscow State Technical University, Russian Federation)

**Ambient intelligence: Concepts, models and architectures ( [abstract](#) )**

**12:30-13:00** Session 14: Discussion Panel 4: Cognitive semiotics

Panelists will include speakers of the session and others by invitation.

CHAIR:

[Aleksandr Panov](#) (Federal Research Centre for Computer Science and Control RAS, Moscow, Russian Federation)

**13:00-14:00** 🍴 Lunch Break

**14:00-15:30** Session 15

CHAIR: [Tarek R. Besold](#) (University of Osnabrück, Germany)

LOCATION: Alekseevsky hall

14:00 [Vladimir E. Pavlovsky](#) (Keldysh Inst. RAS, Russian Federation)

**Neuro Control in a Robotics ( [abstract](#) )**

14:45 [Vladimir Red'Ko](#) (SRISA, MEPhI, Russian Federation)

**Models of autonomous cognitive agents ( [abstract](#) )**

**15:30-16:00** ☕ Coffee Break

**16:00-17:45** Session 16

CHAIR: [Vladimir E. Pavlovsky](#) (Keldysh Inst. RAS, Russian Federation)

16:00 [Oleg P. Kuznetsov](#) (Institute of Control Sciences of Russian Academy of Sciences, Russian Federation)

[Ludmila Yu. Zhilyakova](#) (Institute of Control Sciences of Russian Academy of Sciences, Russian Federation)

**On modeling of neurotransmitter mechanisms of information processing in nervous systems ( [abstract](#) )**

16:45 [Victor K. Finn](#) (Federal Research Center Computer Science and Control RAS, Russian Federation)  
**Intelligent System as a means of productive thinking simulating ( [abstract](#) )**

**18:00-21:00** Session : Kolomenskoe park

Sunday, April 24th

**09:00-10:30** Session 17

CHAIR:

[Lubov Podladchikova](#) (A.B. Kogan Research Institute for Neurocybernetics at Southern Federal University, Russian Federation)

LOCATION: Alekseevsky hall

09:00 [Witali Dunin-Barkowski](#) (Scientific Research Institute for System Analysis, Russian Federation)  
[Ksenia Solovyeva](#) (Moscow Institute of Physics and Technology, Russian Federation)  
**Data Formats Inside the Brain ( [abstract](#) )**

09:45 [Vladimir Golovko](#) (Brest State Technical University, Belarus)  
**Current Trends and Advances in Deep Neural Networks ( [abstract](#) )**

**10:30-11:00** ☕ Coffee Break

**11:00-12:30** Session 18

CHAIR: [Witali Dunin-Barkowski](#) (Scientific Research Institute for System Analysis, Russian Federation)

LOCATION: Alekseevsky hall

11:00 [Lubov Podladchikova](#) (A.B. Kogan Research Institute for Neurocybernetics at Southern Federal University, Russian Federation)  
[Dmitry Shaposhnikov](#) (A.B. Kogan Research Institute for Neurocybernetics at Southern Federal University, Russian Federation)  
**An approach to the study of the internal functional structure of cortical columns ( [abstract](#) )**  
11:45 [Kate Jeffery](#) (UCL, UK)  
**Neural representation of complex space ( [abstract](#) )**

**12:30-13:00** Session 19: Discussion Panel 5: "B" in BICA

Panelists will include speakers of the session and others by invitation.

CHAIR: [Witali Dunin-Barkowski](#) (Scientific Research Institute for System Analysis, Russian Federation)

**13:00-14:00** 🍴 Lunch Break

**14:00-15:15** Session 20

Session summaries, Discussion Panel 6: Roadmap, Hackathon awards, Adjourn

CHAIR: [Frank Ritter](#) (PSU, USA)

LOCATION: Alekseevsky hall

**15:30-19:00** Session : Kremlin & Moscow city tour

Bus will depart at 15:30.