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Session: Anna Karenina: Ballet at Bolshoi
18:15-21:15
                                          Tuesday, August 1st
08:00-10:00
              Session 1: Fierces F1
LOCATION: Vladimir 1
   08:00 Alexey V. Samsonovich
         Fierces 2017 Opening ( abstract )
   08:15 Alexei V. Samsonovich
         Biologically Inspired Cognitive Architectures: An introduction (abstract)
   08:45 Ignazio Infantino
         Computational Creativity for Cognitive Robots (abstract)
   09:30 Ekaterina Movsumova
         Virtual Reality: immersive environment effectiveness for soft skills and emotions (abstract)
              Session 2: Workshop on Cybersecurity W1
08:15-10:00
LOCATION: Vladimir 2
   08:15 Natalia Miloslavskaya and Svetlana Tolstaya
         Organization's Business Continuity in Cyberspace (abstract)
   08:45 Natalia Miloslavskaya
         Remote Attacks Taxonomy and their Verbal Indicators (abstract)
   09:15 Dmitry Efanov and Pavel Roschin
         The Port-in-Use Covert Channel Attack ( abstract )
10:30-12:30
              Session 3A: Fierces F2
LOCATION: Vladimir 1
   10:30 Agnese Augello
         Social Practices in Human-Agent Interaction (abstract)
   11:15 Umberto Maniscalco
        A Bio-Ispired Aritifcial Somatosensory System for a Humanoid Robot ( <u>abstract</u> )
   11:45 Vladimir Red'Ko
         Model of Interaction between Learning and Evolution (abstract)
10:30-12:30
              Session 3B: Workshop on Cybersecurity W2
LOCATION: Vladimir 2
   10:30 Pavel Gusev and Georgii Borzunov
         The analysis of modern methods for video authentication ( abstract )
   11:00 Anastasia Beresneva, Anna Epishkina, Sergey Babkin, Alexey Kurney and Vladimir Lermontov
         Handwritten Signature Verification: the State of The Art ( abstract )
   11:30 Mikhail Kupriyashin and Georgii Borzunov
         Algorithmic Foundation for Benchmarking of Computational Platforms Running Asymmetric
         Cryptosystems ( abstract )
   12:00 Nikita Ushakov and Vitaliy Ivanenko
         Copyright protection of video content based on digital watermarks ( <u>abstract</u> )
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Session 3C: A Hands-on Laboratory Tutorial on Using CST to build a Cognitive Architecture

**12:30-14:00** | | lunch (Baltschug), posters

10:30-12:30

CHAIR: Ricardo Gudwin
LOCATION: Suzdal-Palekh

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LOCATION: Vladimir 1
   14:00 Olivier Georgeon
         Artificial lifelong incremental learning: a gentle start ( abstract )
   14:45 Amit Kumar Mishra
         ICABiDAS: Intuition Centred Architecture for Big Data Analysis and Synthesis ( abstract )
   15:30 Sergey V. Kosikov, Viacheslav E. Wolfengagen and Larisa Yu. Ismailova
         The presentation of evolutionary concepts in problems of information support to implement
         the best available technologies ( abstract )
14:00-16:00
               Session 4B: Workshop on Cybersecurity W3
LOCATION: Vladimir 2
   14:00 Dmitry Efanov and Pavel Roschin
         The All-Pervasiveness of the Blockchain Technology ( abstract )
   14:30 Anna Epishkina and Sergey Zapechnikov
         Discovering and clustering hidden time patterns in blockchain ledger (abstract)
   15:00 Anna Epishkina and Sergey Zapechnikov
         On attribute-based encryption for access control to multidimensional data structures ( abstract
   15:30 Aleksander Boruchinkin, Anastasia Tolstaya and Arseniy Zhgilev
         Cryptographic Wireless Communication Device ( abstract )
14:00-16:00
               Session 4C: A Hands-on Laboratory Tutorial on Using CST to build a Cognitive Architecture
CHAIR: Ricardo Gudwin
LOCATION: Suzdal-Palekh
16:00-16:30 o coffee, posters
16:30-18:30
              Session 5A: Fierces F4
LOCATION: Vladimir 1
   16:30 Liudmila Zhilyakova
         Model of heterogeneous interactions among complex agents. From a neural to a social
         network ( abstract )
   17:15 Gennady Osipov
         A sign-based model of the world and planning of collective activity (abstract)
               Session 5B: Workshop on Cybersecurity W4
16:30-18:30
LOCATION: Vladimir 2
   16:30 Natalia Miloslavskaya
         Analysis of SIEM Systems and their Usage in Security Operations and Security Intelligence
         Centers ( <u>abstract</u> )
   17:15 Sergey Zhurin
         Selection of rational set of Methods for Insider's Identification (abstract)
   17:45 Victor Morozov and Natalia Miloslavskaya
         DLP Systems as a Modern Information Security Control (abstract)
               Session 5C: A Hands-on Laboratory Tutorial on Using CST to build a Cognitive Architecture
16:30-18:30
CHAIR: Ricardo Gudwin
LOCATION: Suzdal-Palekh
18:45-21:30
               Session: Ostankinskaya tower: Dinner at the altitude 330 M above the ground
                                        Wednesday, August 2nd
              Session 6A: Fierces F5
08:00-10:00
LOCATION: Vladimir 1
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Session 4A: Fiercers F3

14:00-16:00

08:00 Olga Chernavskaya

On representation of emotions in an artificial cognitive system within the Natural-Constructive Approach ( <u>abstract</u> ) 08:45 Junichi Takeno The Conscious System and Disorders of the Brain Function (abstract) 09:30 Sergey A. Dolenko Solving Inverse Problems by Biologically Inspired Adaptive Machine Learning Algorithms ( abstract ) Session 6B: Demos 08:00-10:00 165:D.Azarnov 165:A.Chubarov 019:E.Chepin LOCATION: Suzdal-Palekh Session 7: Workshop on Cybersecurity W5 08:30-10:00 LOCATION: Vladimir 2 08:30 Mikhail Ivanov and Andrey Starikovskiy New Life of Old Standard: Transition from One-Dimensional Version to 3D (abstract) 09:00 Andrey Starikovskiy, Leonid Panfilov and Ilya Chugunkov Security Module Protecting the Privacy of Mobile Communication (abstract) Session 8A: Fierces F6 10:30-12:30 LOCATION: Vladimir 1 10:30 Antonio Lieto Knowledge Representation in Cognitive Architectures: Current Limitations and Open Challenges ( <u>abstract</u> ) 11:15 Vladimir Spiridonov Once again about insight ( <u>abstract</u> ) 11:45 Peter Boltuc Workshop: THE ENGINEERING THESIS IN MACHINE CONSCIOUSNESS. (abstract) 10:30-12:30 Session 8B: Fierces concurrent W6 LOCATION: Vladimir 2 10:30 Andrey Trukhachev and Natalia Ivanova Extracting of High-level Structural Representation from VLSI Circuit Description Using Tangled Logic Structures ( abstract ) 11:00 <u>Lubov Podladchikova</u>, <u>Anatoly Samarin</u>, <u>Dmitry Shaposhnikov</u> and <u>Mikhail Petrushan</u> Modern views on visual attention mechanisms ( <u>abstract</u> ) 11:30 Valentina Anikushina and Victor Taratukhin Natural Language Oral Communication in Humans under Stress. Linguistic Cognitive Coping Strategies for Enrichment of Artificial Intelligence ( <u>abstract</u> ) 12:00 Victor Taratukhin and Yulia Yadgarova Towards a socio-inspired multi-agent approach for new generation of product life cycle management ( <u>abstract</u> ) 10:30-12:30 Session 8C: Demos 165:D.Azarnov 165:A.Chubarov 019:E.Chepin

LOCATION: Suzdal-Palekh

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12:30-14:00 | lunch (Baltschug), posters
14:00-16:00
               Session 9A: Fierces F7
LOCATION: Vladimir 1
   14:00 Giovanni Pilato and Ernesto D'Avanzo
         Data-driven Social Mood Analysis through the Conceptualization of Emotional Fingerprints (
         abstract 1
   14:45 Rosario Sorbello, Salvatore Tramonte, Marcello Giardina, Carmelo Calì, Shuichi Nishio, Hiroshi
         Ishiguro and Antonio Chella
         Augmented Embodied Emotions by Geminoid Robot induced by Human Bio-feedback Brain
         Features in a Musical Experience ( <u>abstract</u> )
   15:30 David Kelley and Mark Waser
         Human-like Emotional Responses in a Simplified Independent Core Observer Model System (
         abstract
               Session 9B: Fierces concurrent W7
14:00-16:00
LOCATION: Vladimir 2
   14:00 Alexandr Sboev, Roman Rybka, Alexey Serenko, Danila Vlasov, Nikolay Kudryashov and Vyacheslav
         Demin
         To the role of the choice of the neuron model in spiking network learning on base of Spike-
         Timing-Dependent Plasticity ( abstract )
   14:45 Dmitry Filin and Aleksandr I. Panov
         Applying a neural network architecture with spatio-temporal connections to the maze
         exploration (abstract)
   15:30 Irina Knyazeva, Vadim Ushakov, Vyacheslav Orlov, Nikolay Makarenko, Boris Velichkovsky, Alexey
         Poyda, Vitaliy Verkhlyutov and Kozlov Stanislav
         Resting state dynamic functional connectivity: network topology analysis ( abstract )
14:00-16:00
              Session 9C: Demos
165:D.Azarnov
165:A.Chubarov
019:E.Chepin
LOCATION: Suzdal-Palekh
16:00-16:30 o coffee, posters
16:30-18:15
              Session 10A: Fierces F8
LOCATION: Vladimir 1
   16:30 Talfan Evans
         Probabilistic integration of sensory and path integration estimates in grid cells (abstract)
   17:15 Frank Krueger
         The neurobiological architecture of trust (abstract)
               Session 10B: Fierces concurrent W8
16:30-18:15
LOCATION: Vladimir 2
   16:30 Larisa Ismailova, Viacheslav Wolfengagen, Sergey Kosikov, Irina Parfenova and Iliya Nikulin
         Means for ensuring compatibility of heterogeneous data models in an interactive visualization
         environment ( abstract )
   17:15 Ekaterina Kazimirova
         The importance of cognitive technologies in the era of the Internet of Things (abstract)
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16:30-18:15

165:D.Azarnov

165:A.Chubarov

Session 10C: Demos

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019:E.Chepin
LOCATION: Suzdal-Palekh
18:30-22:00
              Session: Banquet-on-a-Boat: Moskva river cruise
                                         Thursday, August 3rd
08:00-10:00
              Session 11A: Fierces F9
LOCATION: Vladimir
   08:00 <u>Timofei Voznenko</u>, <u>Eugene Chepin</u> and <u>Gleb Urvanov</u>
         The Control System Based on Extended BCI for a Robotic Wheelchair (abstract)
   08:30 Thomas Collins and Wei-Min Shen
         A Robust Cognitive Architecture for Learning from Surprises (abstract)
   09:15 Valeria Seidita and Antonio Chella
         Representing Social Intelligence: an Agent-Based Modeling Application ( <u>abstract</u> )
08:00-10:00
              Session 11B: Demos
126:A.Kotov
126:A.Filatov
126:L.Zaidelman
165:D.Azarnov
165:A.Chubarov
019:E.Chepin
LOCATION: Suzdal-Palekh
Session 12A: Fierces F10
10:30-12:30
LOCATION: Vladimir
   10:30 Artemy Kotov, Nikita Arinkin, Alexander Filatov, Liudmila Zaidelman and Anna Zinina
         Semantic Comprehension System for F-2 Emotional Robot (abstract)
   11:00 Emanuel Diamant
         Rethinking BICA's R&D challenges: Grief revelations of an upset revisionist (abstract)
   11:30 Aaron Sloman
         Deep, largely unnoticed, gaps in current Al, and what Alan Turing might have done about
        them. ( abstract )
10:30-12:30
              Session 12B: Demos
126:A.Kotov
126:A.Filatov
126:L.Zaidelman
165:D.Azarnov
165:A.Chubarov
019:E.Chepin
LOCATION: Suzdal-Palekh
12:30-14:00 | | lunch (Baltschug), posters
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Session 13A: Plenary BICA P1
14:00-15:00
LOCATION: Vladimir
   14:00 V.V. Uzhva
         BICA 2017 Opening (abstract)
   14:30 Witali Dunin-Barkowski and Ksenia Solovyeva
         Pavlov Principle in Neuronic Systems, Updated (abstract)
               Session 13B: Demos
14:00-16:00
126:A.Kotov
126:A.Filatov
126:L.Zaidelman
165:D.Azarnov
165:A.Chubarov
019:E.Chepin
LOCATION: Suzdal-Palekh
               Session 14: Lightning talks with poster summaries and Media roundtable
15:00-16:00
16:00-16:30
              offee, posters
16:30-18:45
               Session 15: Plenary BICA P2
LOCATION: Vladimir
   16:30 Paul Robertson and Robert Laddaga
         Context-driven Active-sensing for Repair Tasks ( abstract )
   18:00 Alexei V. Samsonovich
         Tests, metrics and challenges for HLAI ( abstract )
               Session: Welcome Reception at the Baltschug Library
19:00-21:00
                                           Friday, August 4th
View this program:
                    with abstracts
                                    session overview talk overview
08:00-10:00
               Session 16A: Concurrent BICA C1
LOCATION: Vladimir 1
   08:00 Alexander Efitorov, Irina Knyazeva, Yulia Boytsova and Sergey Danko
         GPU-based high-performance computing of multichannel EEG phase wavelet synchronization
         abstract )
               Session 16B: Concurrent BICA C2
08:00-10:00
LOCATION: Vladimir 2
   08:00 Naova Arakawa
         Simulating the Usage Acquisition of Two-Word Sentences with a First- or Second-Person
         Subject and Verb ( abstract )
   08:30 Kensuke Arai and Junichi Takeno
         Discussion on the Rise of the Self in a Conscious System ( abstract )
   09:00 Daiki Matsumoto, Hanwen Xu and Junichi Takeno
         Simulation of the Cognitive Process in Looking at Rubin's Vase (abstract)
   09:30 Tomoya Sumioka and Junichi Takeno
         Discussion of Stalking Behavior Using a Conscious System (abstract)
               Session 16C: Demos
08:00-10:00
163:A.Kolonin
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165:D.Azarnov 165:A.Chubarov 019:E.Chepin LOCATION: Suzdal-Palekh **10:00-10:30** *Ø* coffee, posters 10:30-12:30 Session 17A: Concurrent BICA C3 LOCATION: Vladimir 1 10:30 Alisa Volkert, Stefanie Mueller and Alexandra Kirsch Human-like Prototypes for Psychologically Inspired Knowledge Representation (abstract) 11:15 Vlada Kugurakova and Denis Ivanov Robot Dream paradigm for Anthropomorphic Social Agent ( <u>abstract</u> ) 11:45 <u>Denis Kleyko</u> and <u>Evgeny Osipov</u> No two brains are alike: Cloning a hyperdimensional associative memory using cellular automata computations ( abstract ) Session 17B: Concurrent BICA C4 10:30-12:30 LOCATION: Vladimir 2 10:30 Yuichi Takayama and Junichi Takeno A conscious robot that can venture into an unknown environment in search of pleasure ( abstract | 11:00 Masahiro Miyata and Takashi Omori Modeling emotion and inference as a value calculation system (abstract) 11:30 Haruo Mizutani, Michihiko Ueno, Naoya Arakawa and Hiroshi Yamakawa Whole brain connectomic architecture to develop general artificial intelligence ( abstract ) 12:00 Ryutaro Ichise A Cognitive Architecture Consisting of Human Intelligence Factors ( abstract ) 10:30-12:30 Session 17C: Demos 163:A.Kolonin 165:D.Azarnov 165:A.Chubarov 019:E.Chepin LOCATION: Suzdal-Palekh **12:30-14:00** | | lunch (Baltschug), posters 14:00-16:00 Session 18A: Concurrent BICA C5 LOCATION: Vladimir 1 14:00 Oleg Nikitin and Olga Lukyanova Control of an agent in the multi-goal environment with homeostasis-based neural network ( abstract ) 14:30 Max Talanov, Fail Gafarov, Jordi Vallverdú, Sergey Ostapenko, Marat Gazizov, Alexander Toschev, Alexey Leukhin and Salvatore Distefano Simulation of serotonin mechanisms in NEUCOGAR cognitive architecture ( <u>abstract</u> ) 15:00 Arthur Chubarov and Daniil Azarnov Modeling Behavior o f Virtual Actors : A Limited Turing Test f or Social - Emotional Intelligence abstract | 15:15 Daniil A. Azarnov, Arthur A. Chubarov and Alexei V. Samsonovich A Virtual Actor with Social-Emotional Intelligence (abstract) 14:00-16:00 Session 18B: Concurrent BICA C6

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LOCATION: Vladimir 2
   14:00 <u>Masahiko Osawa</u> and <u>Michita Imai</u>
         The Functional Plausibility of Topologically Extended Models of RBMs as Hippocampal Models
         abstract )
   14:30 Sei Ueno, Masahiko Osawa, Michita Imai, Tsuneo Kato and Hiroshi Yamakawa
         "Re:ROS": Prototyping of Reinforcement Learning Environment for Asynchronous Cognitive
         Architecture (abstract)
   15:00 Norifumi Watanabe and Fumihiko Mori
         Sensory Integration Model of Pedestrian by Vection and Somatosensory Stimulation ( <u>abstract</u> )
   15:30 Hidemoto Nakada and Yuuji Ichisugi Ichisugi
         Context-Dependent Robust Text Recognition using Large-scale Restricted Bayesian Network (
         abstract |
14:00-16:00
              Session 18C: Demos
163:A.Kolonin
165:D.Azarnov
165:A.Chubarov
019:E.Chepin
LOCATION: Suzdal-Palekh
16:00-16:30 Ø coffee, posters
16:30-18:45
              Session 19A: Concurrent BICA C7
LOCATION: Vladimir 1
   16:30 Eugene Borovikov and Szilard Vajda
         Looking at faces in the wild ( abstract )
   17:15 Anton Kolonin
         Architecture of Internet Agent with Social Awareness (abstract)
   17:45 Sergey Yarushev and Alexey Averkin
         Time Series Analysis Based on Modular Architectures of Neural Networks (abstract)
16:30-18:45
              Session 19B: Concurrent BICA C8
LOCATION: Vladimir 2
   16:30 Soichiro Arai and Junichi Takeno
         Discussion on explicit consciousness, sub-consciousness, and self-awareness in a conscious
         system ( abstract )
   17:00 Kazuteru Miyazaki
         Exploitation-Oriented Learning with Deep Learning -Comparison with a Deep Q-network- (
         <u>abstract</u>
   18:00 Naoya Arakawa and Hiroshi Yamakawa
         Research collaboration with whole brain architecture ( abstract )
16:30-18:30
              Session 19C: Demos
163:A.Kolonin
165:D.Azarnov
165:A.Chubarov
019:E.Chepin
LOCATION: Suzdal-Palekh
19:00-22:00
              Session: Banquet at the restaurant Ruski (85th floor)
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Saturday, August 5th

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Session 20A: Concurrent BICA C9
08:00-10:00
LOCATION: Vladimir 1
   08:00 Cynthia Avila-Contreras, Félix Ramos, Daniel Madrigal and Juan Luis Del Valle-Padilla
         A bioinspired model of early visual processing with feature and space based saliency for a
         cognitive architecture (abstract)
   08:30 Aleksandr I. Panov, Konstantin S. Yakovlev and Roman Suvorov
         Grid Path Planning with Deep Reinforcement Learning: Preliminary Results (abstract)
   09:00 <u>Vishwanathan Mohan</u> and <u>Ajaz Ahmad Bhat</u>
         Joint Goal Human Robot collaboration-From Remembering to Inferring (abstract)
   09:30 Elizaveta Stepanova and Vladimir Pavlovski
         Realization of the gesture interface by multifingered robot hand (abstract)
08:00-10:00
              Session 20B: Concurrent BICA C10
LOCATION: Vladimir 2
   08:00 Mikhail Egorchev and Yury Tiumentsev
         Semi-empirical Neural Network Based Approach to Modelling and Simulation of Controlled
         Dynamical Systems (<u>abstract</u>)
   08:30 Dmitry Kozlov and Yury Tiumentsev
         Neural network based semi-empirical models for dynamical systems represented by
         differential-algebraic equations of index 2 (abstract)
   09:00 Piotr Boltuc
         Strong Semantic Computing -- a BICA framework ( abstract )
08:00-10:00
              Session 20C: Demos
165:D.Azarnov
165:A.Chubarov
019:E.Chepin
LOCATION: Suzdal-Palekh
Session 21A: Concurrent BICA C11
10:30-12:30
LOCATION: Vladimir 1
   10:30 <u>Christian Tsvetkov</u> and <u>Ivan Vankov</u>
         How do deep neural networks represent faces? (abstract)
   11:00 Evgenii Vityaev and Alexander Demin
         Cognitive architecture based on the functional systems theory (abstract)
   11:30 Jonathan Rosales, Myrna S. Zamarripa, Felix Ramos and Marco-Antonio Ramos
         Automatic reward system for virtual creatures, emergent processes of emotions and
         physiological motivation (abstract)
   12:00 Artem Chernyshov, Anita Balandina, Anastasiya Kostkina and Valentin Klimov
         Intelligent search system for huge non-structured data storages with domain-based natural
         language interface (abstract)
10:30-12:30
              Session 21B: Concurrent BICA C12
LOCATION: Vladimir 2
   10:30 Maksim Sharaev, Vyacheslav Orlov, Vadim Ushakov and Boris Velichkovsky
         Information transfer between rich-club structures in the human brain (abstract)
   11:00 Yury Prostov and Yury Tiumentsev
         Functional Plasticity in a Recurrent Neurodynamic Model: from Gradual to Trigger Behavior (
        abstract )
   11:30 <u>Dharani Punithan</u> and <u>Byoung-Tak Zhang</u>
         Molecular Associative Memory with Spatial Auto-logistic Model for Pattern Recall (abstract)
   12:00 Ronakben Bhavsar, Yi Sun, Na Helian, Neil Davey, David Mayor and Tony Steffert
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The Correlation between EEG Signals as Measured in Different Positions on Scalp Varying with Distance ( <u>abstract</u> )

**10:30-12:30** Session 21C: Demos

165:D.Azarnov

165:A.Chubarov

019:E.Chepin

LOCATION: Suzdal-Palekh

12:30-14:00 | lunch (Baltschug), posters

**14:00-16:00** Session 22A: Plenary BICA P3

LOCATION: Vladimir

14:00 <u>Ricardo Gudwin, André Luis Paraense, Suelen Mapa de Paula, Eduardo Fróes, Wandemberg Gibaut, Elisa Castro, Vera Figueiredo</u> and <u>Klaus Raizer</u>

The Multipurpose Enhanced Cognitive Architecture (MECA) ( abstract )

14:45 <u>Rosario Sorbello, Salvatore Tramonte, Carmelo Calì, Marcello Giardina, Shuichi Nishio, Hiroshi Ishiguro</u> and <u>Antonio Chella</u>

An Android Architecture for Bio-inspired Honest Signalling in Human-Humanoid Interaction ( <u>abstract</u> )

14:00-16:00 Session 22B: Demos

165:D.Azarnov

165:A.Chubarov

019:E.Chepin

LOCATION: Suzdal-Palekh

**16:00-16:30** *Ø* coffee, posters

**16:30-18:00** Session 23: Plenary BICA P4

LOCATION: Vladimir

16:30 Zahra Gharaee, Peter Gärdenfors and Magnus Johnsson

Online Recognition of Actions Involving Objects (abstract)

17:00 Valeri Tarassov

Russian Activity Theory and Psychologically Inspired Agents Architectures (abstract)

18:15-21:15 Session : Nikulin Circus

Sunday, August 6th

**10:00-17:00** Session: Kremlin, Moscow bus tour, art museums