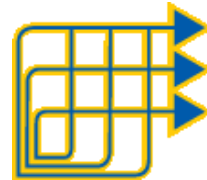


# «Theoretical and Applied Aspects of Cybernetics» 24-28 November 2014, Kyiv, Ukraine

## IV International Scientific Conference of Students and Young Scientists

Scientific Community of Students and Postgraduates  
Cybernetics Faculty of Taras Shevchenko National University of Kyiv  
International Scientific Society ITHEA  
V.M. Glushkov Institute of Cybernetics of NAS of Ukraine  
Institute of Software Systems of NAS of Ukraine



Invite you to take part in  
IV International Scientific Conference of Students and Young Scientists

## «Theoretical and Applied Aspects of Cybernetics»

This event will be held **from 24 to 28 November 2014** in Kyiv. It will be based on Cybernetics Faculty of Taras Shevchenko National University of Kyiv.

This conference is dedicated to the memory of Victor Glushkov. He was the founder of Institute of Cybernetics NAS of Ukraine, the founder of Cybernetics Faculty in Taras Shevchenko National University of Kyiv and academician of the SRSR and URSR.

In addition to plenary sessions, you have an opportunity to visit theme parties, take some excursions around Kyiv, find new friends and like-minded people, fill positive emotions and have a good time.

Papers of the conference will be published on conference's website and in the proceedings, printed copy of which will be presented to every participant. The cost of the proceedings is included into the participation fee.

### Organizational issues:

- Registration and paper submission deadline: **20.10.2014**.
- The official languages of the conference: Ukrainian, English, Russian.
- **Only articles written in English will be accepted.**
- All papers will be processed by the program committee of the conference. Authors of works, that successfully passed the reviewing, will receive an invitation to the conference.
- The meeting will be held in the format of reports. 20 minutes are given for report, including 10 minutes for discussion.
- Roundtables will be organized for additional discussion of topical issues of cybernetics and the most interesting reports.
- You should fill the registration form in «Registration» section on the conference web site <http://taac.org.ua/reg.htm>.
- Registration fee is:

Category of participants	Early registration (until 20.08.2014)	Late registration (after 20.08.2014)
Participants from Ukraine	200 UAH	250 UAH
Participants from other countries	50 Euro	60 Euro

- From 24 to 28 November, when participants will be in Kyiv, they will be provided with a residence. Approximate price is 150 UAH (10 €) per day (paid separately from registration fee). If it is necessary there will be an opportunity to stay for additional time in the hostel (150 UAH (10 €) per day).

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Scope of the conference:

**1. Computer Science:**

- 1.1 Bioinformatics.
- 1.2 Information Security and Cryptography.
- 1.3 Databases and Knowledge Bases.
- 1.4 Data Structures and Analysis of Algorithms.
- 1.5 Evolutionary Algorithms.
- 1.6 Mathematical Logic.
- 1.7 Theory of Sets and Multisets.
- 1.8 Theory of Fuzzy and Rough Sets.
- 1.9 Automata Theory and Formal Languages.
- 1.10 Compiler Theory.
- 1.11 Graph Theory.
- 1.12 Petri Nets.
- 1.13 Applications of General Algebra.
- 1.14 Computational Complexity Theory.
- 1.15 Automated Theorem Proving.
- 1.16 Model Checking.
- 1.17 Analysis and Verification of Software.
- 1.18 etc.

**2. Applied Mathematics:**

- 2.1 Applied Mathematical Modeling.
- 2.2 Mathematical Modeling of Social, Ecological, and Economic Processes.
- 2.3 Computational Geometry.
- 2.4 Fractal Analysis and Dynamic Chaos.
- 2.5 Signal and Image Processing.
- 2.6 Theory and Methods of Optimization.
- 2.7 System Analysis and Decision Making.
- 2.8 Game Theory.
- 2.9 Systems with Distributed Parameters.
- 2.10 Differential and Integral Equations.
- 2.11 Numerical Methods.
- 2.12 Combinatorial Analysis.
- 2.13 Data Mining.
- 2.14 Nonlinear Analysis.
- 2.15 Mathematical Statistics.
- 2.16 Random Processes and Stochastic Systems.
- 2.17 Queuing Theory.
- 2.18 Actuarial Mathematics.
- 2.19 Financial Mathematics.
- 2.20 Algebra and Topology.
- 2.21 Categorical Analysis.
- 2.22 Applied Functional Analysis.
- 2.23 Optimal Control.
- 2.24 etc.

**3. Artificial Intelligence:**

- 3.1 Machine Learning.
- 3.2 Natural language processing.
- 3.3 Machine Translation.
- 3.4 Robotics.

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- 3.5 Intelligent Information Systems.
- 3.6 Intelligent Agents and Networks.
- 3.7 Pattern Recognition.
- 3.8 Adaptive Systems.
- 3.9 Knowledge Representation and Reasoning.
- 3.10 Intelligent Information Processing.
- 3.11 Cognitive Modeling.
- 3.12 Computer Vision.
- 3.13 Information Retrieval.
- 3.14 Expert Systems.
- 3.15 Neural Networks.
- 3.16 etc.

**4. Software Engineering:**

- 4.1 Software Development.
- 4.2 Programming Paradigms, Languages and Technologies.
- 4.3 Parallel, Distributed and Cloud Computing.
- 4.4 Computer Networks and Systems.
- 4.5 Software Design Patterns.
- 4.6 Design and Development of Real-Time Systems.
- 4.7 Software Development Technologies.
- 4.8 Development Technologies of Information Systems.
- 4.9 Methodologies of Software Project Management.
- 4.10 Quality Assessment and Reliability Software.
- 4.11 Software Reengineering.
- 4.12 Software Testing.
- 4.13 etc.

In addition to meeting sessions, the scientific program of the conference will also include a series of roundtables and lectures. Among them:

- **Rough Sets in Data Mining** – Professor Zbigniew Suraj (Chair of Computer Science, Faculty of Mathematics and Natural Sciences, University of Rzeszow, Rzeszow, Poland).
- **Introduction to General Information Theory** – Professor Krassimir Markov (Institute of Mathematics and Informatics, Bulgarian Academy of Sciences, Sofia, Bulgaria).
- **Survivable Network Design Problem and Polyhedra** – Assistant Professor Hakan Kutucu (Faculty of Engineering, Karabuk University, Karabuk, Turkey).

The most recent information on the scientific program can be found on the conference website:  
<http://taac.org.ua/en/programmeLectures.htm>

Visit conference web page: <http://taac.org.ua> for more information.  
You can communicate with organizing committee by e-mail: [conf@taac.org.ua](mailto:conf@taac.org.ua)

We are looking forward to meeting you at the conference!

Best regards, Organizing Committee.