



OSTIS-2014

IV International Scientific and Technical Conference

Open Semantic Technologies for Intelligent Systems February 20 – 22th, 2014 г. Minsk. The Republic of Belarus

GENERAL INFORMATION

We invite you to take part in IV International Scientific and Technical Conference “Open Semantic Technologies for Intelligent Systems” (OSTIS-2014), which will be devoted to Victor Martynov’s ninetieth birthday. OSTIS-2014 Conference opens a cycle of scientific events timed to the fiftieth anniversary of foundation of the Belarusian State University of Informatics and Radioelectronics.

The Conference will take place from 20th to 22nd February 2014 at the Belarusian State University of Informatics and Radioelectronics, Minsk, Republic of Belarus.

Conference working languages: Russian, Byelorussian, English.

CONFERENCE MAIN ORGANIZERS

- Russian Association of Artificial Intelligence (RAAI)
- Belarusian State University of Informatics and Radioelectronics (BSUIR)
- State Institution “Administration of High Technologies Park” (Republic of Belarus)
- United Institute of Informatics Problems of the National Academy of Sciences of The Republic of Belarus (UIIP NAS Belarus)
- Tver State Technical University (TSTU)
- Research Institute “Applied Semiotics” of the Tatarstan Academy of Sciences

CONFERENCE PROGRAM COMMITTEE

Kuznetsov O., d. of t.s., RF proff.

Borgest N.M., c. of t.s., RF ass. proff.

Borysov A., d. of t.s., Latvia proff.

Gavrilova T., d. of t.s., RF proff.

Globa L., d. of t.s., Ukraine proff.

Golenkov V., d. of t.s., RB proff.

Golovko V., d. of t.s., RB proff.

Gordey A., d. of phyl.s., RB proff.

Gribova V., d. of t.s., RF

Guliakina N., c. of t.s., RB ass. proff.

Eremeev A., d. of t.s., RF proff.

Efimenko I., c. of phyl.s., RF

Zaboleeva-Zotova A., d. of t.s., RF

Zagorulko Yu., c. of t.s., RF ass. proff.

Kleshev A., d. of t.s., RF proff.

Kobriniski B., d. of med.s., RF

Kozlov O., d. of teach.s., RF proff.

Kolesnikov A., d. of t.s., RF proff.

Komartsova L., d. of t.s., RF

Kureychik V., d. of t.s., RF proff.

Lande D., d. of t.s., Ukraine

Lobanov B., d. of t.s., RB proff.

Loukachevitch N., c. of t.s., RF

Massel L., d. of t.s., RF proff.

Naidenova K., c. of t.s., RF

Nevzorova O., c. of t.s., RF ass. proff.

Osipov G., d. of ph.-m.s., RF proff.

Palyukh B., d. of t.s., RF proff.

Petrovsky A., d. of t.s., RB proff.

Petrovsky A., c. of t.s., d. of t.s., RF proff.

Plesniewicz G., c. of ph.-m.s., RF

Rodchenko V., c. of t.s., RB ass. proff.

Rychkova L., c. of phyl.s., RB ass. proff.

Sidorkina I.G., d. of t.s., RF proff.

Smirnov S., d. of t.s., RF proff.

Soloviev S., d. of ph.-m.s., RF proff.

Sosnin P., d. of t.s., RF proff.

Stefaniuk V., d. of t.s., RF proff.

Suleymanov D., AS Tatarstan academician, KF

Tarasov V., c. of t.s., RF ass. proff.

Telnov Yu., d. of e.s., RF proff.

Tuzikov A., d. of ph.-m.s., RB proff.

Kharlamov A., d. of t.s., RF

Khoroshevsky V., d. of t.s., RF proff.

Chernyavsky A., NAS Belarus academician

Sharipbaev A., d. of t.s., Kazakhstan proff.

Shcherbak S., c. of t.s., Ukraine ass. proff.

Wang Lipo, PhD, Singapore ass. proff

CONFERENCE TOPICS:

- *Principles, underlying semantic representation of knowledge, and their unification.*
Knowledge typology and features of semantic representation of different knowledge and metaknowledge types.
Associations among knowledge and relations, specified on knowledge set.
Semantic structure of global knowledge base, which integrates different accumulative knowledge.
- *Programming languages, oriented on parallel processing of semantic representation of knowledge bases.*
- *Problem solution models, based on knowledge processing, performed directly on the level of semantic representation of*

processing knowledge. Semantic models of information search, knowledge integration, analysis of correctness and quality of knowledge base, information garbage collection, knowledge base optimization, deductive and inductive inference in knowledge bases, plausible reasoning, pattern recognition, intelligent control. Integration of different problem solution models.

- *Semantic models of perception of information about the environment and reflection of that information into knowledge base.*
- *Semantic models of multimodal user interfaces of intelligent systems, based on the semantic representation of knowledge used by them, and such models unification.*
- *Semantic models of natural language user interfaces of intelligent systems. The structure of semantic representation of linguistic knowledge base, which describes natural languages and provides solution for the task of natural language texts and speech messages interpretation, and task of synthesis of natural language texts and speech messages, which are semantically equal to given knowledge bases fragments.*
- *Integrated complex logical-semantic models of intelligent systems, based on the semantic representation of knowledge, and their unification.*
- *Different semantic platforms and variants of realization of interpreters of unified logical-semantic models of intelligent systems, based on semantic representation of knowledge.*
- *Models and means, based on semantic representation of knowledge and oriented on design of different typical components of intelligent systems (knowledge bases, programs, problem solvers, user interfaces).*
- *Models and means based on semantic representation of knowledge and oriented on complex design of different classes of intelligent systems (intelligent reference systems, intelligent learning systems, intelligent control systems, intelligent robotics systems, intelligent systems for design support etc.)*
- *Applied intelligent systems, based on the semantic representation of knowledge used by them*

CONFERENCE GOAL AND FORMAT

The goal of the conference is to discuss problems of creation of the **Open Complex Semantic Technology for Intelligent Systems Design**. This defines the Conference format, which involves (1) plenary reports; (2) workshops; (3) round tables, devoted to discussion of different questions of creating of the specified technology; (4) poster sessions.

List of sections is formed according to the top-priority directions of the fundamental and applied scientific researches in the sphere of artificial intelligence. During the workshops the opportunity to make a presentation is provided not only for oracles in the sphere of artificial intelligence (30-40 minute presentations), but for young scientists too (10-15 minute presentations). During the poster sessions every participant of the conference will have an opportunity to demonstrate his results.

Poster session provides every reporter an opportunity to demonstrate the results of his work on the exhibition. Conference holding format implies exact time of every report beginning and exact time of its exhibition presentation.

One of the major objectives of the conference is to attract to its work not only scientists and postgraduate students, but also students who are interested in artificial intelligence, as well as commercial organizations willing to collaborate with research groups working on the development of modern technologies for intelligent systems design.

COMPETITION OF STUDENT PROJECTS ON INTELLIGENT SYSTEMS

AND

COMPETITION OF YOUNG SCIENTIST REPORTS

During the OSTIS-2014 Conference, competition of student projects of intelligent systems will be carried out. Rules for applications to participate in this competition are published on the conference website (http://conf.ostis.net/index.php?title=Конкурс_студенческих_проектов).

Also the competition of young scientist reports will take place. The participants of the competition are all those, whose reports were included in the Conference Program and presented by young authors under the age of 30 years and having no scientific degree.

TERMS AND CONDITIONS OF PARTICIPATION IN THE CONFERENCE

All those interested in artificial intelligence problems, as well as commercial organizations willing to collaborate with research groups working on the development of modern technologies for intelligent systems design are invited to take part in the Conference.

To participate in the OSTIS-2014 Conference it is necessary to send before 1st December 2013 to the conference e-mail ostisconf@gmail.com:

- **a paper** to be published in the OSTIS-2014 Conference Proceedings. The paper should be made up in accordance with the template for authors (See the conference website <http://conf.ostis.net/index.php?title=OSTIS-2014>);

- an application for a report on the OSTIS-2014 Conference (See the conference website <http://conf.ostis.net/index.php?title=OSTIS-2014>). Each field of the application shall be filled in . By filling in the registration form, you confirm your agreement to the processing of personal data by the Organizing Committee of the Conference, the publication of papers and information about the authors in printed and electronic format. The application of the report must contain information about each author. The application of the report should be attached with **color photographs** of all the authors (this is necessary for the publication of the Conference Program).

The selection of papers for publication in the Conference Proceedings and participation in the Conference is performed by the number of the reviewers from among the members of the Conference Program Committee.

Incompliant applications and papers, will not be considered.

Before 10 January 2014, authors, whose articles were included in the Conference Program, will be sent the invitations for participating in the Conference.

Participation in the Conference does not require any registration fee.

PROCEDURE FOR SUBMISSION OF PAPERS

Papers (only on topics, mentioned above) should be submitted ready for publication. The text should be logically completed and contain new scientific and practical results. Each author is allowed to submit two reports maximum.

The Organizing Committee reserves the right to reject any report, if it does not meet the requirements of the registration and the Conference topics, as well as if there will be no application for the report.

PUBLICATION OF THE CONFERENCE PROCEEDINGS

The Conference Organizing Committee plans to publish the papers selected by the Program Committee on the results of their review in the Conference Proceedings and on the official Conference website <http://conf.ostis.net>. Non-property rights belong to the authors of the papers, so the publication and dissemination of papers on other information resources is permitted only with the authors' consent.

CONFERENCE PROGRAM FORMATION

The Conference program shall be formed by the Program Committee after reviewing the submitted papers, as well as on the basis of confirmation of the author (s) of the arrival to the Conference.

CONFERENCE KEY DATES

<i>October 1, 2013 -</i>	start of submitting materials for participation in the Conference
<i>December 1, 2013 -</i>	deadline for receipt of materials by the Conference Organizing Committee
<i>to January 10, 2014 -</i>	sending of the invitations to participate in the conference and notifications on inclusion of a paper in the OSTIS-2014 Conference Proceedings
<i>February 1, 2014 –</i>	presentation of the draft Conference Program on the conference website http://conf.ostis.net/index.php?title=OSTIS-2014
<i>February 12, 2014 –</i>	presentation of OSTIS-2014 Conference Program and Proceedings on the conference website http://conf.ostis.net/index.php?title=OSTIS-2014 .
<i>February 20, 2014 –</i>	registration of participants and opening of OSTIS-2014 Conference.
<i>February 21, 2014 –</i>	working of sections and the competition of student projects of intelligent systems in the framework of the Conference.
<i>February 22, 2014 –</i>	working of sections; summing up of the Conference results and awarding of the best reports of young scientists and the winners in the competition of student projects of intelligent systems.
<i>February 25, 2014 –</i>	publication of photos and the Conference report on the conference website: http://conf.ostis.net/index.php?title=OSTIS-2014

ACCOMODATION, REGISTRATION AND MEALS FOR THE CONFERENCE PARTICIPANTS

Participants shall be responsible for accommodation themselves at their own expense. All information about hotels in Minsk is presented on the Conference website: <http://conf.ostis.net/index.php?title=Категория:Места размещения участников>.

Registration will take place on 20th February 2014 from 9.00 to 12.00 in the 4th floor lobby. During other hours the registration will take place in auditorium 608 (territory of the Department of Intelligent Information Technologies).

Program of OSTIS-2014 Conference and Conference Proceedings will be provided to speakers during registration. Only one Program and one set of the Conference documentation will be handed out per one report, regardless of the number of the authors of the report.

Coffee breaks will be arranged during the Conference, so that participants will have the opportunity to ask their questions each other while having a cup of tea or coffee. Coffee breaks shall be held in the Department of Intelligent Information Technology (6th floor). For those who want to eat more tightly, there is an opportunity to visit one of the cafes (or restaurants) in Minsk near the Conference venue. Information on such catering facilities is available at the Conference website: <http://conf.ostis.net/index.php?title=Категория:Пункт общественного питания>, this information is being permanently updated.

CONTACTS OF THE OSTIS CONFERENCE ORGANIZERS

All the necessary information on the forthcoming and previous OSTIS Conferences can be found on the conference website <http://conf.ostis.net>.

The materials for the Conference are submitted to the Organizing Committee by e-mail ostisconf@gmail.com.

Methodological and consultancy assistance to the participants of the Conference shall be provided through the conference e-mail only.

Venue of the Conference: 5th academic building of the Belarusian State University of Informatics and Radioelectronics (39, Platonov str., Minsk, Republic of Belarus).