



**11th international scientific and technical conference
«Open Semantic Technologies
for Intelligent Systems»**

Open Semantic Technologies for Intelligent Systems

OSTIS-2021

September 16-18, 2021 Minsk. Republic of Belarus

C A L L F O R P A P E R S

We invite you to take part in XI International Scientific and Technical Conference “Open Semantic Technologies for Intelligent Systems” (OSTIS-2021), which will focus on areas of use of the semantic technologies.

Conference will take place from *September, 16th to September, 18th, 2021* at the Belarusian State University of Informatics and Radioelectronics, Minsk, Republic of Belarus.

Conference proceedings language: English

Working languages of the conference: Russian, Belarusian, English

MAIN ORGANIZERS OF THE CONFERENCE

- Ministry of Education
- Ministry of Communications and Informatization
- State Institution “Administration of High Technologies Park” (Republic of Belarus)
- Educational-scientific association in the direction of "Artificial Intelligence" (ESA-AI)
- Belarusian State University of Informatics and Radioelectronics (BSUIR)
- Brest State Technical University (BrSTU)
- The State Scientific Institution «The United Institute of Informatics Problems of the National Academy of Sciences of Belarus» (UIIP NASB)
- Russian Association of Artificial Intelligence (RAAI)
- Belarusian Public Association of Artificial Intelligence Specialists (BPA of Artificial Intelligence Specialists)

CONFERENCE TOPICS:

- *Underlying principles of semantics-based knowledge representation, and their unification. Types of knowledge and peculiarities of the semantics-based representation of various knowledge and metaknowledge types. Links between knowledge; relations, that are defined on the knowledge. Semantic structure of a global knowledge base, that integrates various accumulated knowledge.*
- *Parallel-oriented programming languages for processing of the semantics-based representation of knowledge bases.*
- *Models for problem solving, that are based on knowledge processing, which occurs directly at the semantics-based representation level of knowledge being processed. Semantic models of information retrieval, knowledge integration, correctness and quality analysis of knowledge bases, garbage collection, knowledge base optimization, deductive and inductive inference in knowledge bases, plausible reasoning, pattern recognition, intelligent control. Integration of various models for problem solving*
- *Semantic models of environment information perception and its translation into the knowledge base.*
- *Semantic models of multimodal user interfaces of intelligent systems, based on the semantic representation of knowledge used by them, and unification of such models.*
- *Semantic models of natural language user interfaces of intelligent systems. The structure of semantic representation of linguistic knowledge bases, which describe natural languages and facilitate solution of natural language text and speech interpretation problems, and of natural language texts and speech messages synthesis, that are semantically equal to certain knowledge base fragments.*
- *Integrated logic-semantic models of intelligent systems, based on semantic knowledge representation, and their unification*
- *Various technical platforms and implementation variants of unified logic-semantic models of intelligent systems, based on semantic knowledge representation*
- *Models and means, that are based on the semantic representation of knowledge and that are oriented to the design of various typical components of intelligent systems (knowledge bases, programs, problem solvers, user interfaces).*
- *Models and means, that are based on semantic representation of knowledge and that are oriented to the complex design of various 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, that are based on the semantic representation of knowledge used by them*

CONFERENCE GOALS AND FORMAT

The goal of the conference is to discuss problems of creation of the **Open Complex Semantic Technology for Hybrid Intelligent Systems Design**. This determines the Conference format, which

involves wide discussion of various questions of creating of such technology and poster sessions.

During the **poster sessions** every participant of the conference will have an opportunity to demonstrate his results. Conference format assumes exact start time of each report, and exact time of its exhibition presentation.

One of the major objectives of the conference is to attract 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.

PARTICIPATION TERMS AND CONDITIONS

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-2021 conference, it is necessary to register in the [CMT](#) system before May 17, 2021, find conference page, and from there:

- submit a **participation form** for the OSTIS-2021 conference. Each participation form field is required, including indication of the reporter. By filling in the registration form, you agree that your personal data will be processed by the Organizing Committee of the Conference, and that the paper and information about the authors will be published in printed and electronic format. Participation form should contain information on all of the authors. If author(s) are participating with a report, participation form should have their **color photo(s)** attached (they are needed for the Conference Program);
- upload an **article** for publication in the OSTIS-2021 Conference Proceedings. Papers should be formatted according to the provided template (see <https://proc.ostis.net/for-authors/>). Four full pages is a minimum size of a paper.
- send the signed **scan of the letter of consent**

If a report is submitted to participate in one of the contests, this intention should be clearly indicated in the participation form.

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

Incompliant applications and papers will be rejected.

Authors, whose articles were included in the Conference Program, will receive the invitations for participating in the Conference before September 1st, 2021.

Conference participation does not require any fees.

PAPERS SUBMISSION PROCEDURE

Papers (only on topics mentioned above) should be submitted ready for publication (<http://proc.ostis.net/eng/main.html> -> For authors). The text should be logically complete and contain new scientific and practical results. Each author is allowed to submit two reports maximum.

After the article was submitted, it is sent for review. Review results will become available to the paper author(s) on the CMT website before September 1th.

The Organizing Committee reserves the right to reject any paper, if it does not meet the formatting requirements and the Conference topics, as well as if there was no participation form submitted for the paper.

YOUNG SCIENTIST REPORTS CONTEST

Authors of the report submitted to the contest may include scientists with scientific degrees, but the report should be made by those without a degree and under 35 years old.

To take part in the young scientists report contest, it is necessary to:

- 1) fill in the participation form, where your participation in the contest is clearly indicated;
- 2) write an article and upload it to the [CMT](#) website;
- 3) fill in, sign, scan and send letter of consent via the email.
- 4) make a report at the conference (in person);

YOUNG SCIENTIST PROJECTS CONTEST

Projects of applied intelligent systems and systems aimed at supporting the design of intelligent systems are allowed to take part in the contest; they have to be presented by a scientist without a degree and under 35 years old.

To take part in the young scientist projects contest, it is necessary to:

- 1) fill in the participation form, where your participation in the contest is clearly indicated;
- 2) write an article and upload it to the [CMT](#) website;
- 3) make a report at the conference (in person);
- 4) make an exhibition presentation of the software

STUDENT INTELLIGENT SYSTEM PROJECTS CONTEST

To participate in the contest, a project must meet the following criteria: (a) it was developed by students and/or undergraduates of the higher education institutions, and (b) project consultants and advisors must hold a scientific degree and title. To participate in this contest, it is necessary to:

- 1) familiarize yourself with contest's terms and conditions (<http://conf.ostis.net>);
- 2) fill in the participation form for the contest (<http://conf.ostis.net>);
- 3) prepare a summary of the project (<http://conf.ostis.net>).
- 4) submit the participation form and project summary to the student projects' email address: ostis.stud@gmail.com.

CONFERENCE PROCEEDINGS PUBLICATION

The Conference Organizing Committee plans to publish the papers selected by the Program Committee based on the results of their review, in the Conference Proceedings, on the official Conference website <http://conf.ostis.net> and on the Conference Proceedings website <http://proc.ostis.net>.

Upon successful review author sends a letter of consent to the Organizational Committee. Author therefore agrees that his paper can be made freely available in electronic form at other resources at the Editorial Board's discretion.

Since 2020, the OSTIS Collection of Scientific Papers has been included in the List of Scientific Publications of the Republic of Belarus for publishing the results of dissertation research (List of the Higher Attestation Commission of the Republic of Belarus) in the technical field of science (informatics, computer technology and management).

In addition, following the results of the conference, it is planned to publish the Collection of selected materials of the OSTIS conference in the series "Communications in Computer and Information Science" (CCIS) published by Springer. Detailed information about this can be found on the conference website (<http://conf.ostis.net>).

KEY DATES OF THE CONFERENCE

<i>April 12th, 2021</i>	paper submission opens
<i>May 17th, 2021</i>	paper submission deadline
<i>June 28th, 2021</i>	paper review deadline
<i>September 1st, 2021</i>	final decision on paper publication; sending out invitations and notifications on inclusion of a paper in the OSTIS-2021 Conference Proceedings
<i>September 6th, 2021</i>	Draft Conference Program publication on the conference website http://conf.ostis.net
<i>September 13th, 2021</i>	Conference Proceedings and Conference program publication on the conference website http://proc.ostis.net
<i>September 16th, 2021</i>	Participant registration and OSTIS-2021 conference opening
<i>September 16th to 18th, 2021</i>	OSTIS-2021 conference
<i>October 1st, 2021</i>	photoreport and conference report publication on the conference website:

	http://conf.ostis.net
<i>October 15th, 2021</i>	conference proceedings will be uploaded to the Russian Science Citation Index database

CONFERENCE PROGRAM FORMATION

Conference program is formed by the Program Committee according to the paper review results; author(s)' confirmation of participation is required as well.

CONTACTS

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

For questions regarding conference participation and dispute resolution please contact: ostisconf@gmail.com.

Methodological and advisory support to the conference participants shall be provided through the conference e-mail only.

The conference venue is the 5th academic building of the Belarusian State University of Informatics and Radioelectronics (39, Platonov str., Minsk, Republic of Belarus).