

# About the Intra-University Scientific Congress *Higher School. Scientific Research. We are in Science: Physics pro, Chemistry lab, Bio&Geo field, Math.com, IT.park*

Irina B. Gorbunova

**Abstract—** For the first time in the 2025-2026 academic year, the Herzen State Pedagogical University of Russia is hosting the *Intra-University Scientific Congress Higher School. Scientific Research. We are in Science: Physics.pro, Chemistry.lab, Bio&Geo.field, Math.com, IT.park*

The creation of the Congress was preceded by many years (more than 20 years) of joint work by the Institute of Foreign Languages and the Research and Methods Laboratory Music Computer Technologies in cooperation with a number of faculties and institutes, representing the mathematical and natural science fields of education implemented of the Herzen State Pedagogical University Russia.

**Keywords—** Congress, Creative Work, Education, Higher School, Music Computer Technologies, Scientific Research.

## I. INTRODUCTION

The Intra-University Scientific Congress *Higher School. Scientific Research. We are in Science: Physics.pro, Chemistry.lab, Bio&Geo.field, Math.com, IT.park* is an open platform for the participation of scientists and specialists from other universities, and scientific institutions in Russia and countries near and far abroad. It includes lectures, seminars, master classes, exhibitions of industry innovations.

The participants of the Congress were undergraduates, postgraduates and doctoral students of natural sciences and fundamental research areas, teachers, deans of faculties and directors of institutes of the Herzen State Pedagogical University of Russia, as well as students of professional retraining programs.

The participants of the Congress prepared presentations in English in one of the following formats: "Science Slam," "3-minute Science," "Pitch Deck," "Blitz Presentation," and others. The presentation time is no more than 10 minutes.

The opening of the Intra-University Scientific Congress *Higher School. Scientific Research. We are in Science: Physics.pro, Chemistry.lab, Bio&Geo.field, Math.com, IT.park* took place on October 29, 2025 at 15:00 in a Large Lecture Hall at the address: Saint Petersburg, Herzen State

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Irina B. Gorbunova. She is now with Research and Methods Laboratory *Music Computer Technologies* at the Herzen State Pedagogical University of Russia, St. Petersburg

Pedagogical University of Russia, Moika River Embankment, 48, Building 1.

II. THE ORGANIZERS OF THE INTRA-UNIVERSITY SCIENTIFIC CONGRESS *HIGHER SCHOOL. SCIENTIFIC RESEARCH. WE ARE IN SCIENCE: PHYSICS.PRO, CHEMISTRY.LAB, BIO&GEO.FIELD, MATH.COM, IT.PARK*

### A. *The organizers of the Congress are:*

- The Department of English for Professional Communication, the Institute of Foreign Languages at the Herzen State Pedagogical University of Russia,
- The Research and Methods Laboratory Music Computer Technologies at the Herzen State Pedagogical University of Russia.

### B. *The main objectives of the Congress were*

- The approval of scientific research through public discussion and exchange of opinions;
- Exchange of experience of scientific and pedagogical workers in the field of modern research of higher education in various fields of natural and mathematical sciences, practical and applied research;
- Publication of the best scientific developments.

*The Congress Higher School. Scientific Research. We are in Science: Physics.pro, Chemistry.lab, Bio&Geo.field, Math.com, IT.park* was designed to bring together students, young professionals, and their mentors to further conduct joint research based on the rich scientific and creative heritage of outstanding Russian scientists and inventors, as well as to initiate and promote the development of innovative solutions that are in demand and contribute to strengthening Russia's position as a global leader in science and technology.

III. SEVERAL STAGES OF THE INTRA-UNIVERSITY SCIENTIFIC CONGRESS *HIGHER SCHOOL. SCIENTIFIC RESEARCH. WE ARE IN SCIENCE: PHYSICS.PRO, CHEMISTRY.LAB, BIO&GEO.FIELD, MATH.COM, IT.PARK*

- The Congress was held in several stages:
  - «Higher School. Scientific Research. We are in Science: IT.park» (October)

- «Higher School. Scientific Research. We are in Science: Chemistry.lab» (November)
- «Higher School. Scientific Research. We are in Science: Physics.pro» (December)
- «Higher School. Scientific Research. We are in Science: Bio&Geo.field» (February)
- «Higher School. Scientific Research. We are in Science: Math.com» (March)
- «Higher School. Scientific Research. We are in Science: Physics.pro, Chemistry.lab, Bio&Geo.field, Math.com, IT.park» – final stage (April)

At the final stage of the Congress, the results are summarized, and the most interesting and informative reports are presented, which are the results of ongoing scientific research or scientific and creative projects (developments, prototypes, software and hardware systems, inventions, etc.) created by various departments of Herzen University, which deserve support for publication and further promotion.

#### IV. CONCLUSION

The participants of the Intra-University Scientific Congress *Higher School. Scientific Research. We are in Science: Physics.pro, Chemistry.lab, Bio&Geo.field, Math.com, IT.park* was attended by more than 1,500 students, master's students, postgraduate students, and teachers, as well as deans and heads of departments, research institutes, and laboratories at the Herzen State Pedagogical University of Russia, and the heads of the Herzen University were undergraduates, postgraduates and doctoral students of natural sciences and fundamental research areas, teachers, deans of faculties and directors of institutes of the Herzen State Pedagogical University of Russia, as well as students of professional retraining programs.

The Congress is an open platform for the participation of scientists and specialists from other universities, and scientific institutions in Russia and countries near and far abroad. It includes lectures, seminars, master classes, exhibitions of industry innovations.

All participants who presented reports received Certificates of participation in the Congress.

Based on the results of the Congress, the Organizing Committee selected presentations for publication in peer-reviewed scientific journals of the Russian Higher Attestation Commission.

The format of participation was only in-person.

The working language was English.

The presentation time was no more than 10 minutes.

The participants of the Congress prepared presentations in English in one of the following formats: "Science Slam," "3-minute Science," "Pitch Deck," "Blitz Presentation," and others. The presentation time is no more than 10 minutes.

The Intra-University Scientific Congress *Higher School. Scientific Research. We are in Science: Physics.pro, Chemistry.lab, Bio&Geo.field, Math.com, IT.park* was attended by more than 1,500 students, master's students, postgraduate students, and teachers, as well as deans and heads of departments, research institutes, and laboratories at

the Herzen State Pedagogical University of Russia, and the heads of the Herzen University.



**Irina B. Gorbunova** was born in Saint Petersburg (Leningrad), Russia.

DipMus, Special Music Higher School of the St. Petersburg State Conservatory named after N.A. Rimsky-Korsakov; BSc in Computer Science: Information Technology, Computer Science and Multimedia, Leningrad State University, Ussurisk State Pedagogical University; MA in Education, the Herzen

State Pedagogical University of Russia; PhD in Information Technology and Pedagogical Sciences, the Herzen State Pedagogical University of Russia, St. Petersburg, 1989; Doctor degree: Doctor of Pedagogical Sciences and Information Technology, the Herzen State Pedagogical University of Russia, St. Petersburg, 1999.

Dr., Full Professor, Chief Researcher of the Education and Methods Laboratory *Music Computer Technologies* at the Herzen State Pedagogical University of Russia, St. Petersburg; hold the degree of Honorary Worker of Higher Professional Education of the Russian Federation.

Prof. Dr. Gorbunova is a Chairperson of the annual International Research and Practical Conference *Contemporary Musical Education: Creative Work, Research, Technology*, held since 2002; Chairperson of the annual International Research and Practical Conference *Music Computer Technologies in the System of Contemporary Education*, held since 2007; International Research Conference, held since 2017; ); Chairperson of the annual International Research Conference *Interdisciplinary East-West Discourse: The 21st Century. Creative Work. Research. Technology. Education*, held since 2020 (Baku, Azerbaijan – St. Petersburg, Russia).

Dr. Gorbunova is a member of the Jury of national and international competitions of musical creative works, including *Electronic Palette* (Saint-Petersburg), *Music and Electronics* (Moscow), *Music of the 21st Century* (Moscow / Saint-Petersburg), International Festivals and Competitions *Musical Electronics and Multimedia* (Moscow / St.-Petersburg), *CLARINE of the 21st Century* (St. Petersburg), *The World of Art without Borders* (Saint-Petersburg, Russia - Szeged, Hungary), *Bridge of Friendship* (Dortmund, Germany), All-Russian Competition of Electroacoustic Music *DEMO* (St. Petersburg, Russia).

Under the guidance of the professor, Dr. Gorbunova developed the first-ever bachelor's degree programs in *Music Computer Technologies* (2004) and *Information Technology in Music and Sound Design* (2023), as well as Master's degree programs in *Music Computer Technologies in Education* (2006) and *Digital Technology in Music and Sound Design* (2022).

Professor Dr. Gorbunova directs a number of doctoral and postdoctoral studies (more than 30) and lectures on music computer technology and information technology in music. She directs research in various fields, including: Theory and history of culture, musical art, information systems and processes, Theory and Methodology of vocational education, mathematical modeling, numerical methods and software systems, Theory and methods of teaching and educational work (in music, computer science, natural sciences). The research results of Prof. Gorbunova has published more than 550 peer-reviewed publications, including more than 50 books and more than 300 articles in various scientific journals.

Her research activities include such directions as:

MCT in professional musical education (as a means to expand creative opportunities);

MCT in general musical education (as one of the means of education);

MCT as a means of rehabilitation of people with disabilities;

MCT as the new direction in preparation of specialists of humanitarian and technological profile;

MCT in the field of digital arts;

MCT in information technology, psychoacoustics and musical acoustics; system of training arrangements and the art of performing skills on electronic musical instruments.

Her circle of interests also includes the problems of interrelation of natural and technical sciences and humanities, as well as the possibilities of applying the results of such interrelation for the purposes of music education and upbringing.

She also takes part in working out the specialized software for computer music devices and in application of this software in pedagogical processes.

Her developments and researches also belong to the field of musical

pedagogics and musicology, musical informatics, computer modeling of processes of musical creativity, timbre programming, art of performing skills and arrangement on electronic musical instruments, creative work in the field of computer music, mathematical methods in musicology.