

## CALL FOR PAPERS



**Pafnuty Lvovich Chebyshev (1821-1894)**

***P. Chebyshev Mathematical Ideas and Their Applications to Natural Sciences International Conference commemorating the 200<sup>th</sup> anniversary of P. Chebyshev, the great Russian mathematician, will be held on May 14-18, 2021 in Obninsk.***

The conference continues the series of P. Chebyshev conferences held in 2002-2019.

The Conference is supported by the Kaluga Region Government; System Analysis Research Institute, Russian Academy of Sciences; and the Russian Foundation for Basic Research. The organizer of the conference is the Russian Academy of Sciences.

The Conference aims is intended to establish a community of experts in nonlinear models and information technology who investigate the theory and approximate methods in mathematical physics, continuum mechanics, as well as experts in simulation, parallel algorithms and

high-performance computer systems, big data processing, visualization, difference methods, singularly perturbed and uncorrected problems, approximation theory, probability theory, and their applications to natural sciences, oil and gas, and power engineering.

P. Chebyshev's mathematical concepts are still closely studied by the leading Russian and global experts.

### **The Conference topics of interest:**

- Natural Sciences Education Today and P. Chebyshev's Scientific Heritage
- Number theory and cryptography
- Probability theory and statistical theory
- Approximation theory
- Computational mathematics
- Differential equations (nonlinear dynamics, dynamic systems)
- Wave modeling
- Software models and systems
- Viscous fluid dynamics
- Heat and mass transfer
- Physicochemical fluid dynamics in multiphase media
- Capillary flow thermohydrodynamics
- Hydrodynamic simulation of oil & gas deposits
- Simulation models and IT for the oil&gas industry
- AI for decision making
- Knowledge acquisition, representation, processing, and integration; knowledge bases
- Predictive analysis of physical systems
- AI for information search, processing, and analysis

### **Important Dates**

March 1, 2021: deadline for application submissions at <http://chebconf.ru>.

March 14, 2021: deadline for abstract submission at <http://chebconf.ru>.

April 1, 2021: notification of acceptance and draft agenda.

May 14, 2021: Conference opening

May 14–18, 2021: Conference sessions

**Note: due to the COVID-19 pandemic restrictions, the Conference may be held fully and partially online. The final decision will be made later.**

**Organizing Committee:**

K.M. Gorobtsov, Vice Governor, Kaluga Region, Co-chairperson of the Organizing Committee

V.B. Betelin, member of the Russian Academy of Sciences, Doctor of Science (Physics and Mathematics), Scientific Adviser, Scientific Research Institute for System Analysis of the Russian Academy of Sciences, Co-chairperson of the Organizing Committee

T.Ye. Golovatskaya, senior expert, Vocational Education and Research Board, Ministry of Science and Education, Kaluga Region Government, secretary of the Organizing Committee

**Organizing Committee Members:**

A.S. Anikeev, Minister for Science and Education, Kaluga Region Government

S.Ye. Vlasov, Doctor of Science (Engineering), Director, Scientific Research Institute for System Analysis of the Russian Academy of Sciences

Prof. V.A. Galkin, Doctor of Science (Physics and Mathematics), Director, Surgut Site, Scientific Research Institute for System Analysis of the Russian Academy of Sciences

Prof. V.P. Ginkin, Doctor of Science (Physics and Mathematics), founder, MATECH Limited Liability Company

V.V. Domozhir, PhD (Economics), First Vice Director, Tsiolkovsky Kaluga State University

I.S. Zenov, Vice Minister for Internal Policy and Mass Media, Kaluga Region Government, Head, IT and Mass Media Accessibility Dept.

T.N. Leonova, Head of Administration, Obninsk city

A.V. Oksyuta, Vice Minister for Culture, Kaluga Region Government, Head, Dept. of Government Support for Culture, Arts, and Crafts

T.A. Osipova, Acting Director, Obninsk Institute for Nuclear Power Engineering, a branch of the National Research Nuclear University MEPhI

Prof. V.Ya. Panchenko, member of the Russian Academy of Sciences, Doctor of Science (Physics and Mathematics), Chairperson, Russian Foundation for Basic Research

Prof. G.I. Savin, member of the Russian Academy of Sciences, Scientific Adviser, Joint Supercomputer Center of the Russian Academy of Sciences, a branch of the Scientific Research Institute for System Analysis

Prof. S.O. Starkov, Doctor of Science (Physics and Mathematics), Head, Division of Cyber Intelligence Systems, Obninsk Institute for Nuclear Power Engineering, a branch of the National Research Nuclear University MEPhI

A.V. Suyarko, Head of Administration, Zhukovsky Municipality

Prof. A.V. Tsarkov, Doctor of Science (Engineering) Director, Kaluga Campus, Bauman Moscow State Technical University

Ye. Ye. Chudakov, Head, Cultural Heritage Protection Dept., Kaluga Region Government

To discuss the important research problems with the highly professional Conference contributors, the Conference will feature a school for young researchers and round tables to be attended by renowned experts in P. Chebyshev's scientific heritage studies, young scientists, doctorate, and graduate students of the leading Russian universities, university-industry collaboration departments, research and education centers of the RAS research institutes. The famous Russian researchers will speak to the young colleagues with reviews of the latest achievements in their areas of research, while the young scientists, graduate and doctorate students will present their research results.

### **Program Committee**

#### **Chairperson:**

V.B. Betelin, member of the Russian Academy of Sciences, Doctor of Science (Physics and Mathematics), Scientific Adviser, Scientific Research Institute for System Analysis of the Russian Academy of Sciences

#### **Vice Chairpersons:**

Prof. V.A. Galkin, Doctor of Science (Physics and Mathematics), Director, Surgut Site, Scientific Research Institute for System Analysis of the Russian Academy of Sciences

R.D. Gimranov, IT Dept. Head, Surgutneftegas

Prof. V.Ya. Panchenko, member of the Russian Academy of Sciences, Doctor of Science (Physics and Mathematics), Chairperson, Russian Foundation for Basic Research

#### **Program Committee Members:**

Prof. G.I. Savin, member of the Russian Academy of Sciences, Scientific Adviser, Joint Supercomputer Center of the Russian Academy of Sciences, a branch of the Scientific Research Institute for System Analysis

S.Ye. Vlasov, Doctor of Science (Engineering), Director, Scientific Research Institute for System Analysis of the Russian Academy of Sciences

M. Yu. Savastyn, PhD (Engineering), Director, Surgut Campus, Industrial University of Tyumen

Prof. I.B. Petrov, corresponding member of the Russian Academy of Sciences, Doctor of Science (Physics and Mathematics). Head, Dept. of Computer Science, Moscow Institute of Physics and Technology

Prof. S.A. Kashchenko, Doctor of Science (Physics and Mathematics), First Vice Director, Demidov Yaroslavl State University

Prof. N.N. Smirnov, Doctor of Science (Physics and Mathematics), Vice Director for Strategic IT, Scientific Research Institute for System Analysis of the Russian Academy of Sciences, Professor Emeritus, Lomonosov Moscow State University

R.M. Shagaliev, Doctor of Science (Physics and Mathematics) Vice Director, Russian Federal Nuclear Center, Russian Research Institute of Experimental Physics

Prof. V.N. Chubarikov, Doctor of Science (Physics and Mathematics). Head, Dept. of Mathematical and Computer Analysis, Lomonosov Moscow State University

Prof. M.M. Lavrentiev, Doctor of Science (Physics and Mathematics), Dean, IT School, Novosibirsk State University

Athanase Papadopoulos, Doctorat d'Etat (Habilitation), mathematics, Director for Research, French National Center for Scientific Research, University of Strasbourg, France

Prof. Y. Zempo, PhD (Physics), Dept. of Digital Media, Hosei University, Tokyo, Japan

V.V. Savchenko, PhD (Theoretical Mechanics), Professor Emeritus, Dept. of Digital Media, Hosei University, Tokyo, Japan

Prof. B.-W. Schulze, University of Potsdam, Golm Campus, Institute of Mathematics, Germany

Prof. S.O. Starkov, Doctor of Science (Physics and Mathematics), Head, Division of Cyber Intelligence Systems, Obninsk Institute for Nuclear Power Engineering

Prof. V.P. Ginkin, Doctor of Science (Physics and Mathematics), founder, MATECH Limited Liability Company

Conference languages: **Russian, English.**

The application deadline is March 1, 2021. Please apply at <http://chebconf.ru>. The application shall contain:

- topic of interest
- author (-s) name (-s)
- paper title in Russian and English
- affiliation (-s)
- corresponding author email.

The Conference web site is <http://chebconf.ru>.

The site hosts the past conference archives and e-proceedings.

Abstract submission (in Russian and English) deadline: March 14, 2021. An abstract shall be 1 A4 page incl. references for both Russian and English versions. The Conference web site at <http://chebconf.ru> will feature the abstract formatting guidelines and templates. By the Conference opening day, the abstracts will be published in the Proceedings and on the web site. The Program Committee will invite the selected abstract authors to publish full-length papers in the *Russian Journal of Cybernetics*.

The Organizing Committee is looking forward to seeing you and your colleagues at the Conference.

The conference does not involve the provision of financial support to the participants. The participant pays all expenses from travel funds, or personal funds. The registration fee is not expected. Officially invited conference participants get access to conference events and materials based on an invitation from the Program Committee.

**K.M. Gorobtsov, Vice Governor, Kaluga Region,  
Co-chairperson of the Organizing Committee**

**V.B. Betelin, member of the Russian Academy of  
Sciences, Scientific Adviser, Scientific Research  
Institute for System Analysis of the Russian  
Academy of Sciences**