

Area of study

**01.04.02 Applied Mathematics and Informatics**

Program

**Applied Mathematics for High-Power Computer Systems**

Degree: master

Program length and study mode:  
2 years, full-time education

Language: Russian  
(some courses in English)

Credits: 120

Start date: September 1, 2020

Location: Department of Intelligent and Multiprocessor Systems of the Institute of Computer Technologies and Information Security of the Southern Federal University, Taganrog

Entry requirements: higher education (bachelor's degree), programming skills (any programming language), basic knowledge of mathematics.

**Program overview:**

The program is aimed at training specialists in the field of system and applied software development for high-performance computing systems including those with reconfigurable architecture.

**Program structure:**

- the students acquire necessary knowledge and skills to solve urgent problems of science and technology during studying the program disciplines;
- practical trainings are aimed at the application of the acquired knowledge in fundamental and/or applied research and development; participation of students in the real projects;
- state final certification – defense of the graduate qualification work

**Typical units of study may include:**

- Mathematical Models of Processes and Systems
- Mathematical Methods of Digital Signal and Image Processing
- FPGA-technologies and Methods of Effective Applications for RCS
- Programming of High-Performance Computing Systems

**Research areas:**

Mathematical modeling of natural and technogenic systems such as processes of seismic exploration and oil production; modeling of industrial, marine and air systems; digital signal processing, etc.; development, justification and testing of effective computational methods using modern computer technologies; implementation of effective numerical methods and algorithms for solving actual scientific problems on high-performance systems of different architectures.

**Careers:** developers and heads of research teams in the field of software development for solving different classes of problems on computing systems with various architectures. According to the results of training, most graduates are given the opportunity to work in “Scientific Research Center of Supercomputers and Neurocomputers” LLC (Taganrog), or in other partner organizations such as “Scientific Research Institute of Multiprocessor Computer and Control Systems” LLC (Taganrog), Rostov Research Institute of Radio Communications (Rostov-on-Don), “Eureca” JSC (Saint Petersburg).

**Get in touch:**

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