

Institute of Space and Information Technologies

The Institute of Space and Information Technologies trains specialists in the development, design, maintenance and analysis of complex systems, process control, technical, socio-economic, environmental and other systems, and software development for their design.

Staff of School of Space and Information Technology performs research, connected with optimization of satellite systems control, Earth remote probing, development of algorithms for high-performance computing and design of modern advanced microprocessor systems.

We supplied more than 400 PCs enabling our students to carry out research and education activities. These computers are arranged into one Information computer network based on CISCO products. Students have free access to internet via WI-FI. Students use the latest technologies of modern world: computers, software and laboratory equipment.

We specially wish to focus on "Electronics and Circuit Engineering" Laboratory, which is equipped with up-to-dated instruments on the basis of "Elvis II" platform by National Instruments Corp.; other leading companies such as ALTERA, INTEL, ATMEL, MOTOROLA, ADVANTECH are equipment providers for The Laboratory "Micro-processor systems". Along with this, the Laboratory of "Automated Control Systems of Technological Processes" is provided with PIC-processor-based local automatics devices and industrial TREI-5B-02 controller, which are designed for local and distributed systems of automated control and operation of technological processes.

The Institute has close scientific cooperation with organizations of the Academy of Sciences, research institutes of other ministries and departments. First of all, these are Roscosmos, the Institute of Space Research of the Russian Academy of Sciences (Moscow), the Institute of Control Sciences of the Russian Academy of Sciences (Moscow), the Institute of Computational Modeling of the Siberian Branch of the Russian Academy of Sciences (Krasnoyarsk), the Institute of Medical Problems of the North of the Siberian Branch of the Russian Academy of Medical Sciences, the Siberian Law Institute of the Ministry of Internal Affairs of Russia.

The faculty of the Institute consists of highly qualified professionals including Corresponding Member of the Russian Academy of Sciences, Honored Scientists of the Russian Federation, Honorary Workers of Science and Technology of the Russian Federation.

After graduation our students can become

- **An architect of virtual environment** — this is a specialist on software and hardware development taking into account bio- and psychological parameters of users.
- **An architect for smart control systems**, a developer of software for systems of traffic management and unmanned transport, and also for smart control systems management.
- **An architect for information systems** who deals directly with data processing systems, in particular, develops algorithms of actions and designs data bases. This is a specialist on ensuring efficient access to data storages and control of data storage quality, logics of storage and retrieving of information.
- **A designer for virtual worlds** is responsible for development and creation of conceptual solutions for a virtual world. An interface designer is competent in usability (design of interfaces convenient for users), who designs and creation of user-friendly i.e. safe and adaptive software interfaces of different level, equipment and appliances.
- **A game master** — a master of development and organization of teaching games (including fantastic, business, historical etc. games), and a master at support of games with simulators.

Contact Information

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<http://ikit.sfu-kras.ru/>

Department of Informatics website:

<http://ikit.sfu-kras.ru/inf>

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Address: Office 1-04, 26 Kirenskogo street, Krasnoyarsk, 660074, Russia

Siberian Federal University website:

www.sfu-kras.ru

Telephone of the central admission committee of SFU:

+7 (391) 206-20-04

Hotline for passing the exam in the Krasnoyarsk Territory:

+7 (391) 227-76-49

Referral Service of the University:

+7 (391) 206-22-22



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С И Б И Р С К И Й
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Institute of Space and Information Technologies of Siberian Federal University

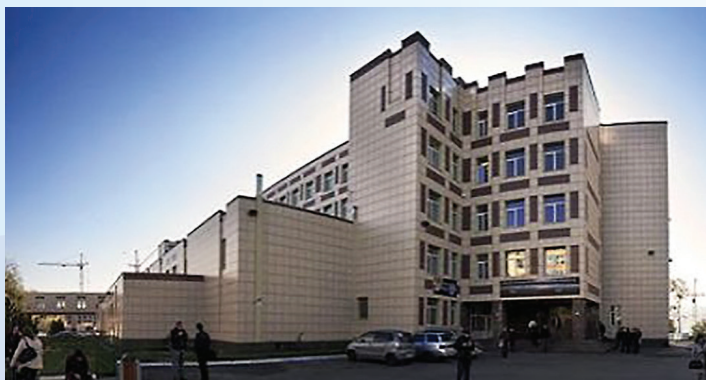
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- **Master's program 09.04.04.03 "Software Engineering and Cybernetics" developed with the support of the V. Potanin Foundation**

- **Major 09.04.04 - Software Engineering**



V L A D I M I R
P O T A N I N
F O U N D A T I O N



The Institute of Space and Information Technologies was founded in 2007 as a result of the merger of two faculties of the Krasnoyarsk State Technical University: the Faculty of Informatics and Computer Engineering and the Faculty of Informatics and Control Processes. Currently, the Institute employs over 200 faculty members including 30 Doctors of Sciences, and 98 PhD.

One of the leading graduating departments of the institute is the Department of Informatics with a highly qualified teaching staff. The new Master's program "Software Engineering and Cybernetics" is opened by the Department of Informatics.

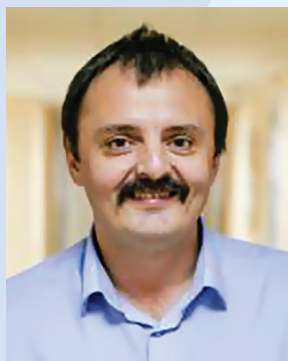


Director of the Institute of Space and Information Technologies

Aleksey Kytmanov –

Doctor of Physics and Mathematics, Professor.

"Space, information and telecommunication technologies are included into the list of priority areas for the development of science and technology in Russia and in the world."



Head of the Department of Informatics

Alexander Kuznetsov – PhD, Associate Professor.

"The department teaches students in modern and popular bachelor's, master's, postgraduate and graduate programs. Our graduates are successful in their professional spheres."

New Master's Program

"Software Engineering and Cybernetics"

Major: 09.04.04 – Software Engineering

The program complies with the priority areas of development of science and technology in the Russian Federation, the list of critical technologies and the requirements of the modern era of digitalization. The project-oriented activity of students laid in the basis of the program is based on methods and models of management of cyber-physical systems, which requires the development of new intelligent software products operating in real time with the possibility of cross-platform execution. Graduates of the master's program gain experience in the implementation of the full cycle of software engineering, which ensures bringing the development to the level of a completed commercial software product.

The ability to dispose intellectual property in the form of created software systems, teamwork skills contribute to the active social adaptation of graduates of the Master's program to professional activities in the modern labor market at the regional, Russian and international levels.

The relevance the program is due to the general importance of cybernetics for the modern world. It is almost impossible to control various spheres of human activity and technology without cybernetics today.

Blocks of the educational program include project activities, such as: design of distributed information systems and protocols for their interaction, systems with parallel data processing and high-performance systems, system software, auxiliary programming languages and data presentation.

The program includes such research activities as: conducting scientific research related to objects of professional activity, developing new and improving existing methods and algorithms for data processing in information and computing systems, formal methods of software engineering, writing reports on research work carried out with obligatory publication of scientific results in foreign publications in English.

The Master's program is structured in such a way as to ensure the solution of key tasks in the course of project activities both independently and at enterprises that are strategic partners of the Department of Informatics. Areas of scientific activity of the Department of Informatics for the Master's program include informatization of state enterprises, non-profit sector, small and medium-sized

businesses; processing of "big" data; intelligent information systems; software quality and its equivalent transformation.

The program logically continues the long-term successful experience of implementing bachelor's programs in the "Software engineering" and "Informatics and computer engineering" majors. The basis for integration into the educational process of the university is the successful implementation of R&D and cooperation of the graduating department with enterprises of the real sector of the economy, small and medium-sized businesses, NPOs in the social sphere. Training specialists in the development of management systems for cyber-physical products has become very urgent for these enterprises nowadays. This is precisely the task that the new Master's program is solving.

The developer and supervisor of the Program is Igor Kovalev, Doctor of Technical Sciences, Professor. The project was carried out jointly with the creative team of the Department of Informatics with the support of the Vladimir Potanin Foundation.

Igor Kovalev,
Professor of the
Department of Informatics, Doctor of Technical Sciences. Education: Krasnoyarsk Polytechnic Institute, Automation and Telemechanics, 1985. Teaching and research experience in the field of software engineering and cybernetics is over 30 years.



Research interests: models, methods and algorithms for the design and analysis of programs and software systems, their equivalent transformations, verification; software reliability; quality assessment, standardization and maintenance of software systems; multiversion programming; multilingual educational technologies.

Honorary Worker of Science and Technology of the Russian Federation.

Professor Kovalev supervises Master's post-graduate programs. He has been scientific supervisor of more than 50 PhD and dissertations in the field of Informatics and computer technologies.