ANNUAL REPORT 2013

ITMO UNIVERSITY

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ITMO UNIVERSITY


Университет ИТМО

Dear Colleagues and Partners!

It's no secret that ITMO University with its unique scientific and learning environment is one of the leaders of higher education in Russia. For the past five years we've been engaged in the National Research University development program. We have created the necessary, favorable conditions for enhancing fundamental and applied research, as well as perfecting the innovation system and taking our research and scientific findings to market. Today, the University has two business incubators, a startup accelerator and a technopark, bringing together research and entrepreneurship into a virtuous circle. As a result, ITMO University is home to 38 innovative startups founded by our students and faculty.

In 2013, we became one of the 15 participants of the "5 in 100" program, designed to increase the competitiveness of Russian universities on a global scale. The program unites Russian universities that have already shown strong potential and which have established programs for improving their position in the international ratings. Now ITMO University faces an ambitious, but in our opinion, achievable goal – an even more intensive development and creation a favorable environment for growth of scientific potential and nurturing of world-class young professionals. An important step was the opening of over 30 international research centers, where specialists from our university work hand-in-hand with their foreign colleagues.

Last year we also got a status of an autonomous institution, which grants us more financial independence and positions us not just as a university, but as a player on the high-tech market. Research-oriented, entrepreneurial and international is how we see ITMO University today. Those are the directions we intend to follow in the coming years.

In this report you will find information about important events, results and achievements of ITMO University in 2013. We hope that it will be useful for students, faculty and partners of our university.

Vladimir N. Vasilyev

Rector
ITMO University

Professor Stephen Hagen

Vice Rector for Change Management

Partners, Colleagues, Students and Friends of the University!

The year 2013 marks a special moment of change for the University. On the basis of the decisions taken in 2013 and, thanks to the solid academic achievements of earlier years, ITMO University has set out on a new strategic plan to meet the global challenges of the future.

In 2013 the University initiated a program of investment in four key development-lines for future growth: high-quality, peer-recognised research; curriculum innovation - especially at master's level; enterprise and innovation; and internationalisation. These four strategic pathways are critical because they will determine and shape the University's profile for at least the next five years, leading to the new and ambitious vision of the University in 2020, which is set out in below this Annual Report.

Curricular innovation and academic renewal are a key aspect of university innovation. This year has seen the establishment of new principles of program development: in addition to the focus on research-led teaching, there have been multidisciplinary innovations and the introduction of courses taught through the medium of English, also a key part of our internationalisation strategy. By the end of 2013, the University has 96 BSc programs, 141 Master's and 2 specialist degree programs. Furthermore, plans have been laid for the introduction of a new common core program for all undergraduate students offering a range of new courses to develop students' practical skills and competences fit for employment in the external world.

For many years, ITMO University has been recognised for its focus on entrepreneurship, innovation and start-ups. By the end of 2013, 5% of faculty and students are engaged in innovation, with 32 'innovation partnerships', leading to 100 active start-ups, two business incubators and one Technopark. This record makes ITMO University one of the most active universities in Russia for student entrepreneurship and company formation. Moreover, during 2013 ITMO University has extended its links to 200 businesses, including major international companies such as General Motors, Nokia, Oxford Instruments and PPG.

Underpinning these developments and supporting the significant changes set out in the Report has been the University's internationalisation strategy. The University's international links and partnerships are extensive: 17 international universities have a formal partnership with ITMO University, involving 139 separate agreements and 37 inter-institutional collaborative research projects.

The University looks forward to a positive, albeit challenging, future in 2014-2020. In this regard, the foundations laid in 2013 have been instrumental in the change of strategy that has produced significant successes in only a short period of time.

Dear Friends!

Student government development is one of the key priorities for ITMO University. It's very important that every student feels part the University's development, embraces his or her opportunities and can bring to life even the boldest ideas.

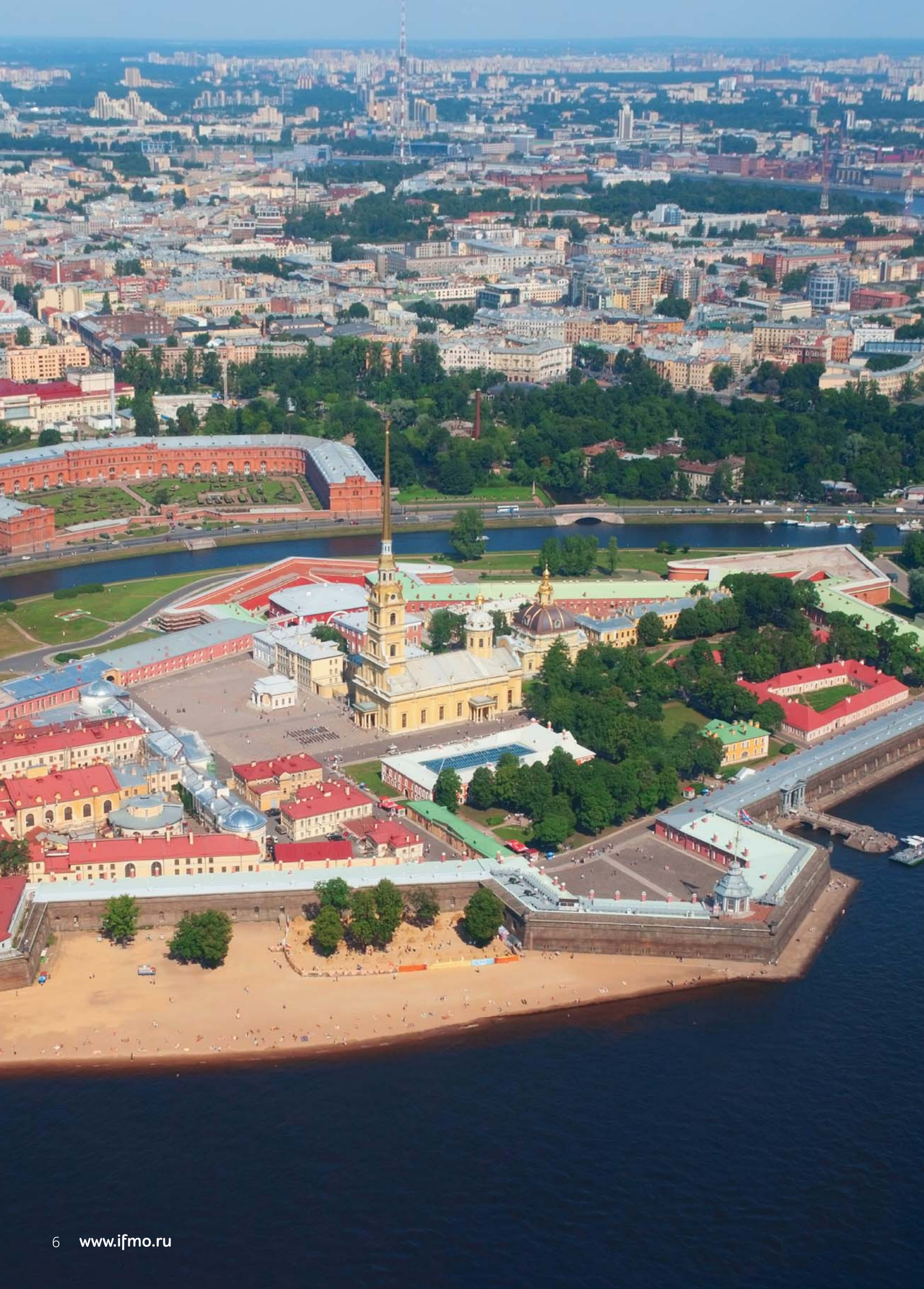
The structure of the Student Council that unites all student organizations of ITMO University keeps expanding, and 2013 was no exception. It was a year of new achievements, projects and ideas. We're glad to see that the number of activists in our university continues to grow, which leads to new, exciting events at the university, city and national levels.

The basic principle that guides the activity of the Student Council is that the development of student governance is based on the needs of the students.

In the 2013 Annual Report you'll be able to learn about the directions of extra-curricular activities and the projects that were part of the "Program of Student Governance Development at ITMO University in 2013."

Evgeny Raskin

Head of Student Council



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Mission

ITMO's Mission is to create a generation of cutting-edge knowledge, the implementation of innovative findings and the preparation of an elite workforce capable of working in a fast-paced world and ensuring progress in science, technology and other areas where there are challenges to be addressed:

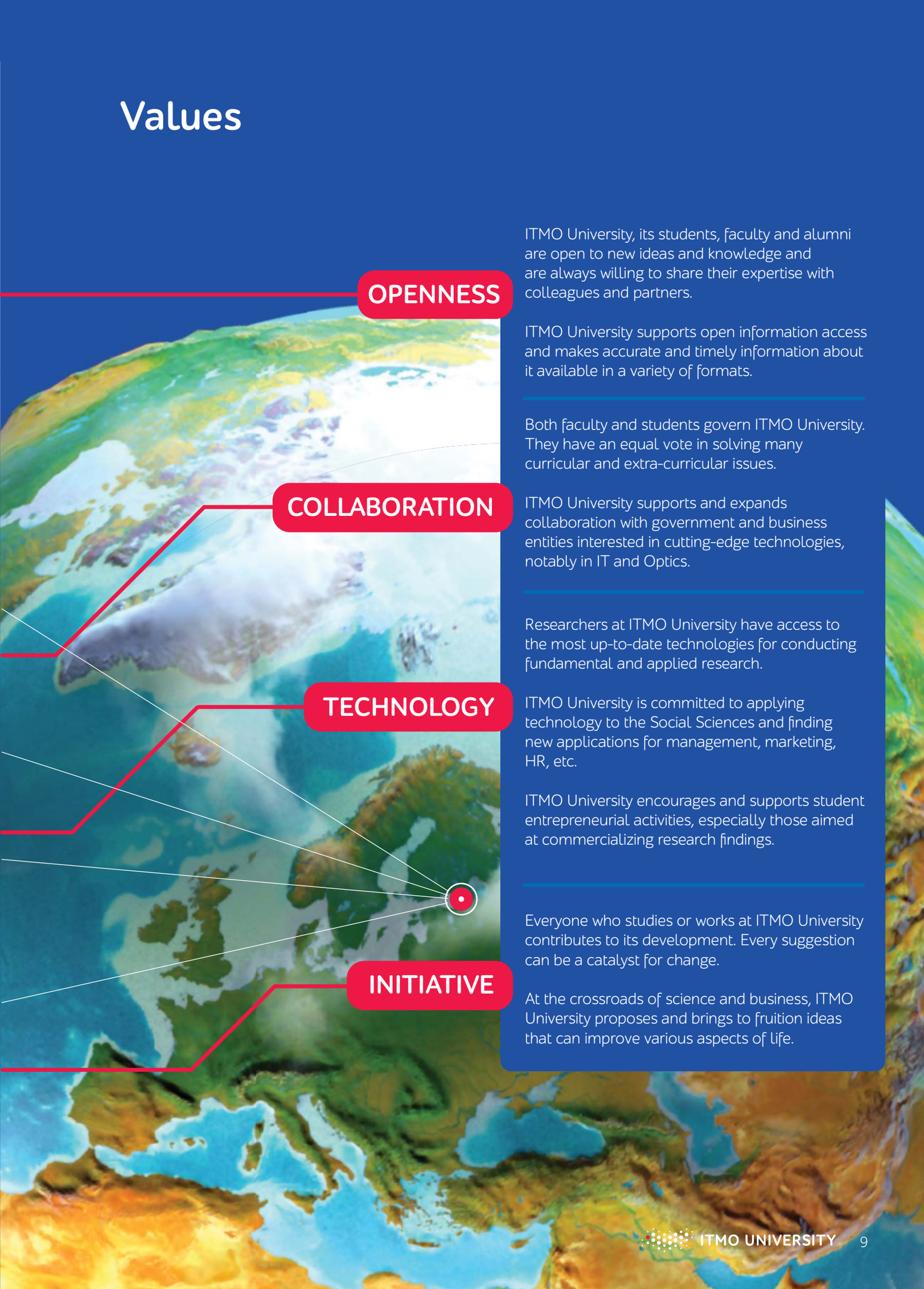
- **At the global level:**
  the discovery and development of breakthrough directions in top-priority fields of science and technology and implementation of research results;

- **At the national level:**
  the construction of an innovation-driven and socially-oriented economy in Russia;

- **At the regional level:**
  the development of St. Petersburg as a capital of science and education, the improvement of the overall quality of life, the sustainable increase in our investment attractiveness through collaboration between government, business and higher education (the triple helix);

- **On an industry level:**
  increase of competitiveness for industries in priority areas of economic modernization.

Values



OPENNESS

ITMO University, its students, faculty and alumni are open to new ideas and knowledge and are always willing to share their expertise with colleagues and partners.

ITMO University supports open information access and makes accurate and timely information about it available in a variety of formats.

COLLABORATION

Both faculty and students govern ITMO University. They have an equal vote in solving many curricular and extra-curricular issues.

ITMO University supports and expands collaboration with government and business entities interested in cutting-edge technologies, notably in IT and Optics.

TECHNOLOGY

Researchers at ITMO University have access to the most up-to-date technologies for conducting fundamental and applied research.

ITMO University is committed to applying technology to the Social Sciences and finding new applications for management, marketing, HR, etc.

ITMO University encourages and supports student entrepreneurial activities, especially those aimed at commercializing research findings.

INITIATIVE

Everyone who studies or works at ITMO University contributes to its development. Every suggestion can be a catalyst for change.

At the crossroads of science and business, ITMO University proposes and brings to fruition ideas that can improve various aspects of life.

History of ITMO University

Student's experiment

Transformed into the famous Leningrad Institute of Fine Mechanics and Optics ('LIFMO', 1930) where many R&D centers continued working even though the siege of Leningrad during the WWII.

Building of the University in 1950s

1900

1930

1938

1950

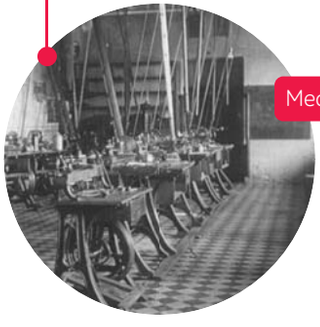
The history of ITMO University starts in 1900 with the establishment of the St. Petersburg Vocational School with optical, mechanical and clock departments.

In 1920 it was transformed into the Leningrad College of Fine Mechanics and Optics (1920)

Creating a poster

Over the years, the Institute developed as a technical college for engineers in a wide range of specialisms.

Microprocessor technologies that were rapidly developing led to creation of the programming departments.



Mechanical workshop

Navigation aids study

Diploma is awarded

In 2011, the University was renamed 'St. Petersburg National Research University of Information Technologies, Mechanics and Optics' (NRU ITMO).

Over the last decade the Academy of Management Methods and Technologies (LIMTU) was added to ITMO University's structure as well as the Interdisciplinary Institute of Professional Training in New Areas of Science and Technology and the State Scientific Institution Republican Scientific Center of Computer Telecommunication Networks of Higher Education, followed by St. Petersburg College of Marine Instrument Making, St. Petersburg State University of Refrigeration and Biotechnology and St. Petersburg Economic and Technological College of D.I. Mendeleev.

2004 world's champions in programming

In 1994, the Institute was given the status of a technical university following State review and certification.

2011

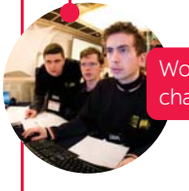
1994

2013

2004

1990

2006



World programming championship 2007

Reading hall

The university became the winner of innovative educational program of universities in Russia for 2007-2008. The implementation of innovative educational program has allowed us to reach a completely new level of training of graduates, and to meet the growing demand for professionals in the information, optical and other high-tech industries.

Currently ITMO University is one of the leading higher educational institutions in Russia. In 2013 we won the competition for the right to receive a special federal grant for the implementation of programs which will contribute to the advancement of the university in the international rankings. The goal of the "5 in 100" program is to enhance the competitive advantages of our university and position it among the world's leading research and educational centers.

Portraits

PhD, Head of the International Research Centre for Nanophotonics and Metamaterials, Chief Researcher of the Department of Photonics and Optoinformatics.

Pavel Belov

Pavel Belov's research focuses on one of the newest areas of modern Physics – the physics of metamaterials, artificial materials with electromagnetic qualities that are not found in nature. One of his chief achievements is the development of a new class of metamaterials that transmit an ultra-high definition image.

His discovery has both fundamental and practical significance as it can radically change the concept of construction of optical and microwave components of various devices and can thus lead to a revolution in information and telecommunication technologies. For his outstanding contribution to the development of physics of metamaterials and development of devices for the transmission and processing of ultra-high definition images, Pavel Belov received the 2009 President of Russian Federation Innovation Award for Young Scientists.

He is also a recipient of IET Achievement Award 2006 and International Dennis Gabor Award 2003. He has a vast experience in working with international research centers and global industry partners, such as Nokia, Samsung Electronics and Bosch. Pavel is the author of over 100 scientific publications in peer-reviewed journals, 10 chapters in books and over 100 presentations at scientific conferences.

PhD, Dean of the Faculty of Computer Technologies and Management, Head of the Department of Informatics and Applied Mathematics.

Alexey Bobtsov

Professor Bobtsov is an expert on theory of control systems and automation processes, adaptive, robust and non-linear control, intelligent control, mechatronics and robotics, information technology in education. He is the head of several scientific projects led by the Russian Fund for Fundamental Research and analytical program "Development of Scientific Potential of Higher Education."

In 2009, Alexey Bobtsov was elected the head of the St. Petersburg government's Council of Young Scientists and Specialists. He also is very active in the international scientific community and is a member of international Academy of Navigation and Traffic Management, deputy head of the Russian North-West section of the Institute of Electrical and Electronic Engineers and a member of the research project between ITMO University and General Motors.

PhD, Director of e-Science Research Institute at ITMO University, Head of the Department for High Performance Computing.

Alexander Boukhanovsky

Dr. Boukhanovsky's research interests lie in high-performance computing, computer modeling of complex systems, intelligent computational technologies, statistical analysis and synthesis of spatial-temporal fields, parallel and distributed computing, distributed environments for multidisciplinary researches, decision support systems & technologies, statistical analysis and simulation in marine sciences.

He has vast experience in successfully completing research and development projects in the framework of the federal program "Research and Development in the Priority Areas for Russia in 2007 - 2012." He is also a recipient of several large international grants. A unique system for predicting extreme weather conditions and their consequences was developed under his supervision.

Among other applications, this system is used in the complex system that protects St. Petersburg against flooding and helps to make decisions about closing and opening the dam. Alexey Boukhanovsky is the author of over 190 publications, including 58 articles in peer-reviewed journals and 4 monographs.

PhD, Head of the International Research Center "Physics of Nanostructures" at ITMO University and is an Associate Professor at the Institute for Nanotechnologies in Trinity College (Dublin, Ireland).

Yuri Gunko

Dr. Gunko graduated from the Chemistry Department of Moscow State University in 1987. He received his PhD degree in Inorganic Chemistry from Moscow State University in 1990 and subsequently worked in Belarus, England and Germany.

He has lectured at Trinity College (Dublin), the oldest and most prestigious university in Ireland, and is one of the world's top experts in nanotechnologies. His scientific interests lie in quantum dots for biomedical and photonic applications, chemical functionalization of carbon nanotubes, magnetic nanoparticles and magnetic liquids for MRI, catalysis and drug delivery.

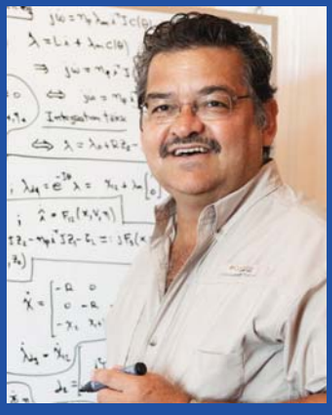
PhD, Head of the International Research Laboratory "Metamaterials" at ITMO University, Creator and Head of the Nonlinear Physics Centre at the Australian National University.

Yuri Kivshar

Since early 2000's, Yuri Kivshar has been working with various aspects of nonlinear optics, focusing on solitons and metamaterials, theory of nonlinear photon crystals and optical composite materials with nonlinear qualities.

He made a fundamental contribution to understanding of the effect of self-focusing in optics, nonlinear instabilities, nonlinear waves in non-integrating systems, as well as the concept of optical processing of data and optical communications.

Yuri Kivshar is considered one of the forefathers of optical solitons and vortices and was the first to predict and study a row of solitons. Professor Kivshar is the author and co-author of over 800 publications and books. As of January 2014, he has the h-index score of 72.



PhD, Head of International Laboratory for Nonlinear and Adaptive Control Systems at ITMO University, professor in the area of analysis and synthesis of automated control systems at the Laboratory of Signals and Systems at the French National Research Centre.

Romeo Ortega

Together with his colleagues at the Department of Management Systems and Informatics of ITMO University Ortega developed a project dealing with the development and research of adaptive and robust management systems, functioning in uncertain conditions.

Romeo Ortega is the author of over 600 publications in peer-reviewed journals and monograms and is a member of programming committees of some 73 conferences. For the past 30 years he has lectured at the world's top universities, including SUPELEC, University of Illinois, McGill University, Sophia University and Zhejiang University.

He is also one of the organizers of 32 international seminars and workshops. He is the recipient of IEEE Fellowship award in 2009.

Petrus Maria Arnoldus Sloot

Professor Sloot is the author of over 50 publications in peer-reviewed journals and monographs. His area of interest is wide - from computational sciences and technologies to physics and biology.

With over 4,000 hyperlinks, his h-score is 29. Since 2002 Dr. Sloot is the scientific director of International Conference on Computational Science.

He is also an editor-in-chief two of the world's top journals about supercomputer technologies: the "Journal of Computational Science' and 'Future Generation of Computing Systems".

PhD. Scientific Advisor of Troika: the Technology and Research of Information Driven Knowledge Alliance, and is the Professor of Computational Science at the University of Amsterdam.

Anatoly Fedorov

Professor Fedorov is a leading scientist in R&D in Nanoscience, Physics of Low-dimensional Solid Systems and Nanostructures, Electronic and Optical Properties of Nanostructures, Excitations of Nanostructures: Phonons, Polarons, Excitons, Polaritons, and Plasmons, Linear and Nonlinear Optical Spectroscopy.

After graduating from Leningrad Politechnical Institute in 1981, he worked in the Vavilov State Optical Institute until 2006. He is the author of two monographs and over 80 publications in peer-reviewed journals indexed by Web of Science.

PhD, Director of the Center of Information Optical Technologies and head of the Department of Optical Physics and Modern Natural Science.

Yuri Denisyuk (1927-2006)

His arguably most significant contribution was the discovery of 3D holography and the creation of high-resolution halogen-silver as well as previously unknown light-sensitive materials for recording of 3D holograms.

His contributions propelled Soviet and Russian holography onto a new level and have provided a solid technical and scientific foundation for future applications of holography in art, industry and medicine.

PhD. An outstanding optics researcher, Dr. Denisyuk is a renowned specialist in holography, author of 240 publications and 35 discoveries. A member of the Russian Academy of Sciences (RAS), a member of the Royal Photographic Society (UK) and a recipient of the R.W. Wood Prize by the Optical Society of America.

Mikhail Rusinov (1909 - 2004)

His discoveries include: aberrational vignetting phenomenon (1938), the phenomenon of destruction of the projection center (1958), and the existence of second-order aberrations (1986) that changed the scientific view of aberrations.

He was also a long-time member of the Highest Assessment Commission (VAK) and a member of the expert commission of VAK. Rusinov was the founder of the "Applied and Computational Optics" School and the experimental design bureau "Russar". He was the author of 130 publications, 280 discoveries and 10 patents.

PhD. A famous optics scientist, who made a significant contribution to optical engineering and found international acclaim.

Events of the Year 2013

January

Two projects undertaken in partnership by ITMO University, "Concern CSRI Elektropribor, JSC" and "Diakont", were the winners of a grant after winning a competition by the Government Order of the Russian Federation #218.

The first project aims at creating a technological base for the development and manufacturing of fiber-optic angular speed systems and navigation systems that meet the requirements of the Russian Maritime Register.

The second project is dedicated to the development of precision high speed power electromechanical actuators of the next generation.

February

ITMO University became a venture partner of Russian Venture Company (RVC).

Becoming a venture partner allowed ITMO University, as an innovation hub, to coordinate the work aimed at attracting venture capital to St. Petersburg startups.

ITMO University Student Union got a third place in the nationwide Competition for Best Student Government Organization.

The annual competition is held with support from the Ministry of Science of Russian Federation.

In 2013, over 160 institutions from 60 regions submitted over 300 applications in 11 nominations. ITMO University was in the top three in the nomination "Most Effective Student Council."

March

Head of the "Nanomaterials" lab Pavel Belov and Deputy Director for Innovations Nikolai Toivonen received silver diplomas in the "Expert of the Year" competition, in the category "Science and Innovations."

The online distance learning platform for St. Petersburg public administrators was launched in a beta version.

The project was co-created by the Administration of the St. Petersburg Governor and the St. Petersburg Interregional Resources Center together with ITMO University.

ITMO University signed a collaboration agreement with North-Western Center for Technology Transfer.

Project FUEL (Future University and Entrepreneurship Leaders) won approval to carry out the main part of the "Eureka" Program aimed at improving the effectiveness of research and entrepreneurship of universities. FUEL received an approval for $2 million of funding. This is a joint project of ITMO University and University of California, Los Angeles and Higher School of Economics, Moscow.

April

ITMO University won an open competition and a grant from the Government Order of the Russian Federation #220.

Yuri Gunko, professor of Trinity College, received a mega-grant for 90 million rubles.

Thus, the laboratory for anisotropic and optically active nanostructures was opened at ITMO University.

An ITMO University delegation, headed by Rector Vladimir Vasyliev, visited top Chinese universities.

May

- The Faculty of ITMO University received awards from the St. Petersburg government for outstanding achievements in higher and professional education in 2013.

- The ITMO Soccer Team wins second place in the mini-soccer championship of Russia.

  ITMO's soccer players got silver in the "Golden League," the highest division of student mini-soccer in Russia that allows participation of professional players.

- ITMO University Rector Vladimir Vasyliev was awarded the title "Honorary Citizen of St. Petersburg."

June

- ITMO University placed 10th in the national ranking of classic and research universities 2012/2013 in the "Innovation and Entrepreneurship" category and 18-22 in the general ranking.

- ITMO University signed a trilateral agreement with "Carl Zeiss" and "Optek."

- ITMO University and Cluster Hi-Tech signed an agreement about the opening of a base department and Master's program "Information Systems and Technologies in High-Tech Business."

- Association of Technical Universities of Russia and China elected ITMO University as a co-chair.

- ITMO Student Council won the All-Russian Competition of Student union management "Student Assets" in the category of nomination "Best Student Union management Organization."

July

- Some 2,838 students graduated from ITMO University in 2013.

- For the fifth time, a team of ITMO University students became World Champions in Programming (ACM -ICPC).

- ITMO University won the competition to receive government funding for improving the University's standing among the world's centers of research.

- Marina Sukhorokova, PhD, Director of the Inter-University Student Business Incubator QD and the head of the Technological Entrepreneurship and Innovations Management Department, received an 'Imagine Cup' Faculty Award.

August

- Fund for Development of Internet Initiatives (FDII) signed an agreement with ITMO University about launching accelerators in Russia's regions.

  FDII plans to open accelerators in Ekaterinburg, Novisibirsk, Kazan', Tomsk, Perm', St. Petersburg and other major cities. Some regional accelerators had already been launched in early 2014.

September

- Project-study "Kronstadt Vision 2040"" started. It is developed by the curators and students of the education program "Urban Ecosystem Design" at ITMO University.

- An agreement is signed to create a Russian-Kyrgyz Consortium of Technical Universities. ITMO University Rector Vladimir Vasilyev was elected to its Board of Directors.

  A Delegation from ITMO University participated in the inaugural assembly of representatives of technical universities of Russia and Kyrgyzstan that resulted in signing an agreement to create a Russian-Kyrgyz Consortium of Technical Universities. The Consortium includes 22 universities.

October

- ITMO University and "ELTech SPb" sign a cooperation agreement.

  The two partners agreed to work together in research and development of cutting-edge industrial technologies, collaborate on a wide range of tasks in development or high-tech areas of Russian industries, creation and modernization of knowledge intensive industries, engineering centers, research and application labs, support development of innovation clusters in the regions. In the August of 2013, the partners began to collaborate on creating an Engineering Center for Fiber Optics and Optoelectronics in the Republic of Mordovia.

- ITMO University and Russian Museum sign a cooperation agreement.

  Researchers at ITMO University proposed several technologies to be applied at the Russian Museum, including the laser cleaning of sculptures, 3D digital copies of paintings and methods of remote identification for the museum's treasures.

November

- The Head of the ITMO Student Union Ekaterina Kalkina won the competition "St. Petersburg Student of the Year" in the nomination category of "Best Leader of Student Union Management in a Higher Education Institution."

- Several important agreements are signed at the "Open Innovations" Forum.

- "Exturion," a company started by the faculty of the Management Systems and Informatics Department in 2012, won first place in the Russian Robotics Challenge, organized by the Skolkovo Fund.

December

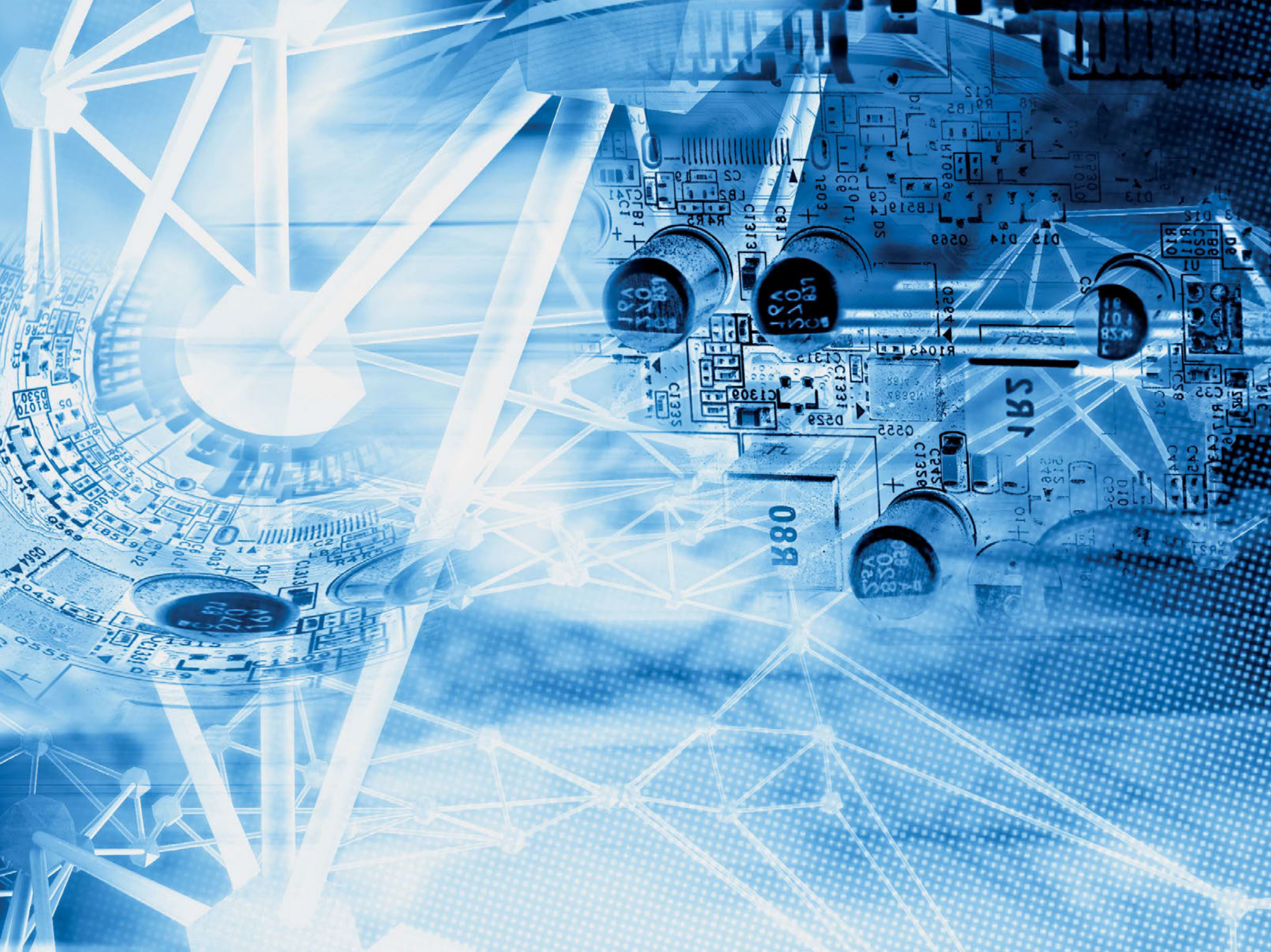
- ITMO University Rector Vladimir Vasyliev was awarded the "Person of the Year" title in category "Science" by "Expert North-West" magazine.

- Startup accelerator iDealMachine became one of the top 10 most active accelerators in Russia.

- The Student Council of ITMO University became the winner of the All-Russian Competition of development programs for student organizations of higher education institutions, planned for 2014.

- ITMO University won the open grant competition by the Government Order of the Russian Federation #220.

- Four members of ITMO staff were nominated for awards of Saint Petersburg government for their research and pedagogical efforts.



01

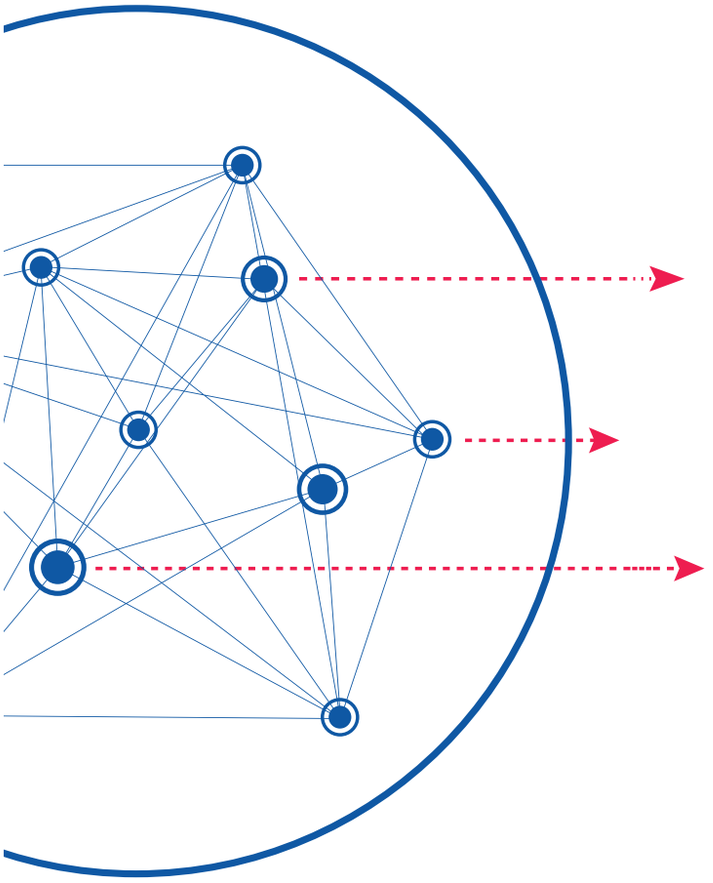
SCIENCE

Key Research Fields

In the 20th century, research by scientists and scientific groups at ITMO University defined the development of entire fields in the Soviet, Russian and global science and technology.

By the beginning of the 21st century, the University had formed as a major scientific and education center, with deep traditions and unique scientific and pedagogical schools.

Combining fundamental research and applications with educational processes proves to be a solid foundation for the preparation of highly qualified personnel.



Research & Development is performed in research centers and institutes, as well as in departments and in the international research labs headed by leading Russian and international scientists.

Key research fields at ITMO University include:

Photonics, Optics and Optoinformatics

Information and Computer Technologies

Control Systems and Robotics

"Smart" Materials, Nanomaterials and Nanotechnologies

Natural Sciences

IT in Economics, Humanities and Art

Biotechnology, Health Sciences

NUMBERS 2013

8

research centers and institutes *

37

international research centers *

FACTS

Over

200

companies – partners and customers

33

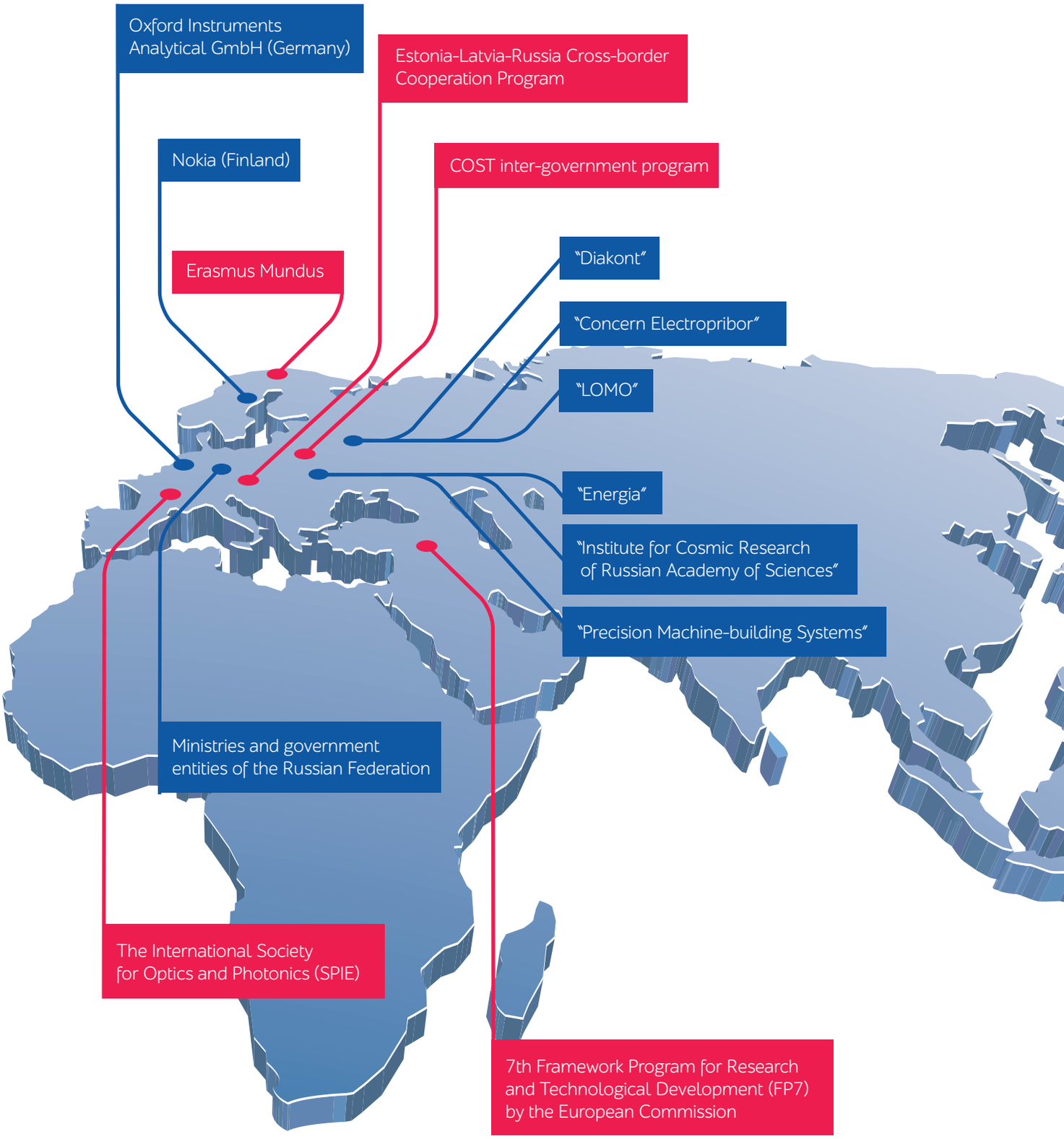
scientific schools

* See the lists of scientific labs, research centers and schools in the appendix.

Structure and Scope of Research

CUSTOMERS

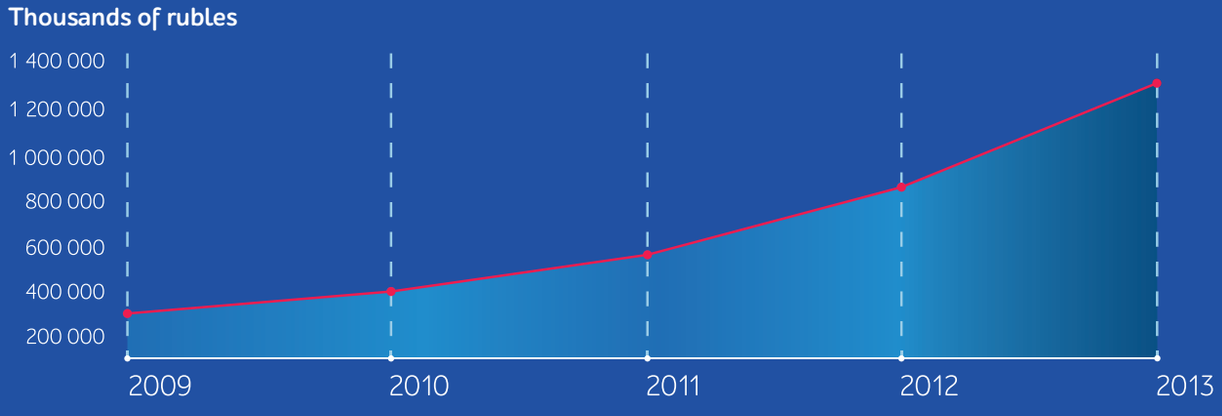
GRANTS BY INTERNATIONAL ORGANIZATIONS AND FUNDS



Other large Russian and international companies.

Funding for Research and Development

Amount of funding



The dynamics of R&D Funding

Work as part of the Federal Target Programs (FTP)

1 project
30 million rubles of funding
→ Development of the Defense Industry Complex during 2007-10 and up to 2015

5 projects
21 million rubles of funding
→ Culture of Russia (2012 - 2018)

19 projects
86 million rubles of funding
→ Research and Development in Priority Fields for the Science and Technology Complex of Russia

43 projects
35,5 million rubles of funding
→ Scientific and Scientific-Pedagogical Personnel of Innovative Russia for 2009-2013

Scientific Projects

International Space Project "Spectr-Uf"

In this project scientists at ITMO University are creating optical elements for telescope "Spectr-Uf" which will be instrumental in studying the processes of formation of new stars, planetary systems, cosmic, physical and chemical development of the interstellar and intergalactic space. Scientific capabilities of the "Spectr-Uf" telescope will greatly exceed the current capabilities of available scientific space instruments.

This hypersensitive telescope will be able to replace the famous "Hubble" telescope which is scheduled to expire in 2014.

Multifunctional diagnostic complex for telemedicine

The project to create the first Russian multifunctional complex for telemedicine was realized by ITMO University and "LOMO" PLC St. Petersburg. The application includes the latest microvision and videoendoscopic equipment in combination with modern computer technologies. The new complex has passed the clinical trials and is ready for use by medical facilities.

New materials for photonics

The Institute for Nanophotonics and Optoinformatics of ITMO University developed new glass and glass ceramic phosphors for white LEDs, converters of UV and IR radiation for solar panels, and sensors of biological and chemical objects.

New optical elements and equipment were created: diffraction gratings for the space spectrograph, holographic pattern reticle for collimator sights. The new diffraction gratings were implemented by Russian and foreign companies, including Lumex and Oxford Instruments Analytical, and are used for civilian and military purposes.

Nonlinear and nonlocal metamaterials for optical and microwave applications

A team of 49 people, mostly early career scientists, implemented the project for development of nonlinear and nonlocal metamaterials.

The team studied the Purcell effect that allows controlling emissions of quantum sources and developed diamagnetic metamaterials with low magnetic penetrability that can demonstrate levitation.

Also in the framework of the project, the team developed nanoantennae coverings that improve effectiveness of thin-film solar panels.

Extreme Weather Forecasting System

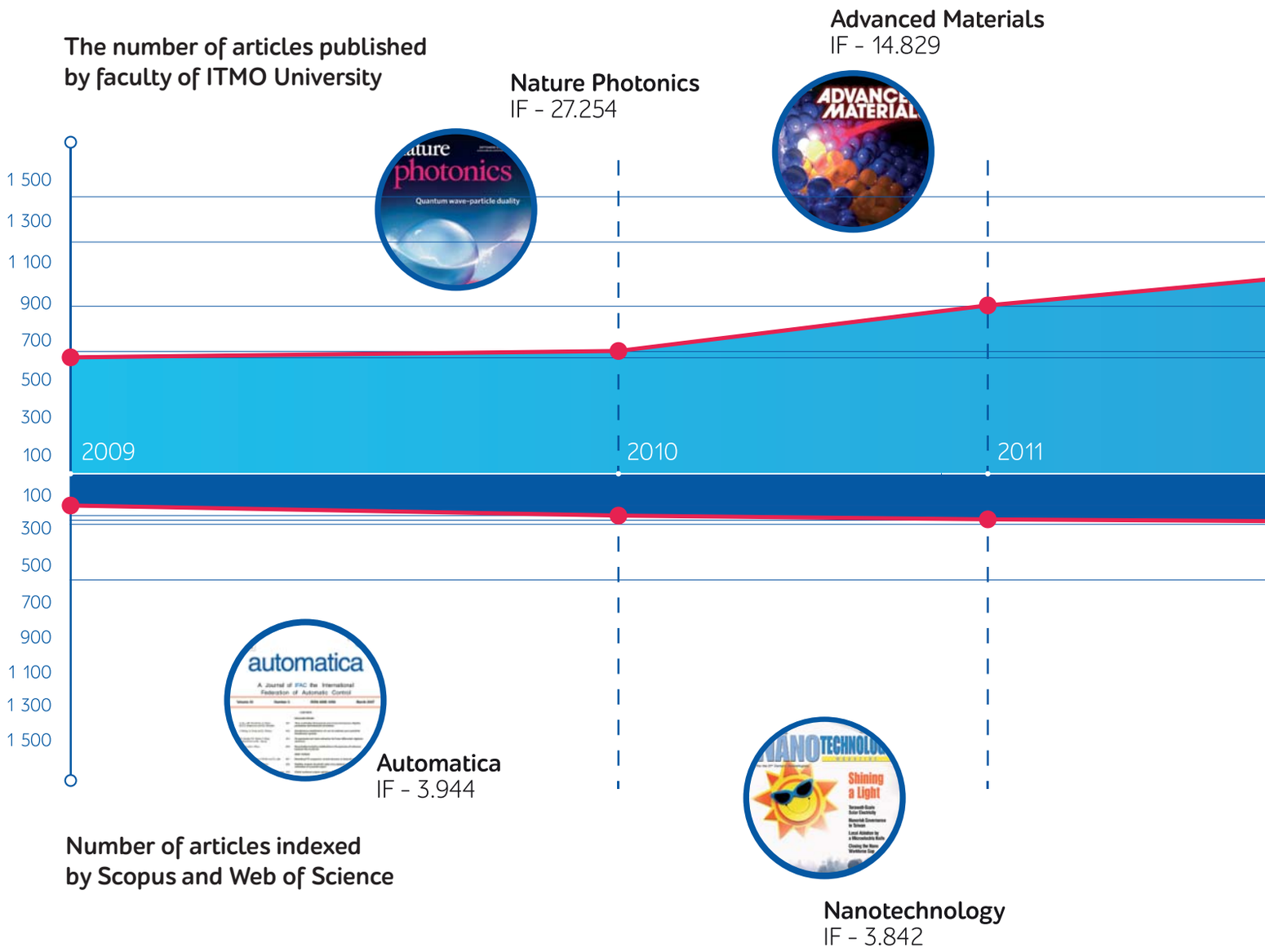
Specialists of the Research Institute for High Technologies of ITMO University have developed a system for modeling surge floods. St. Petersburg, along with Rotterdam, London and Venice, is at a high risk of such floods.

The system forecasts extreme weather conditions and their consequences as well as helps make decisions about the closing or opening of the dam. St. Petersburg dam across the Gulf of Finland has been protecting the city from floods for several years.

Computer calculations, done by the forecasting system, allow scientists to study various scenarios of catastrophes and quickly react in emergencies.

Scientific Publications

Dynamics of publications by the faculty of ITMO University

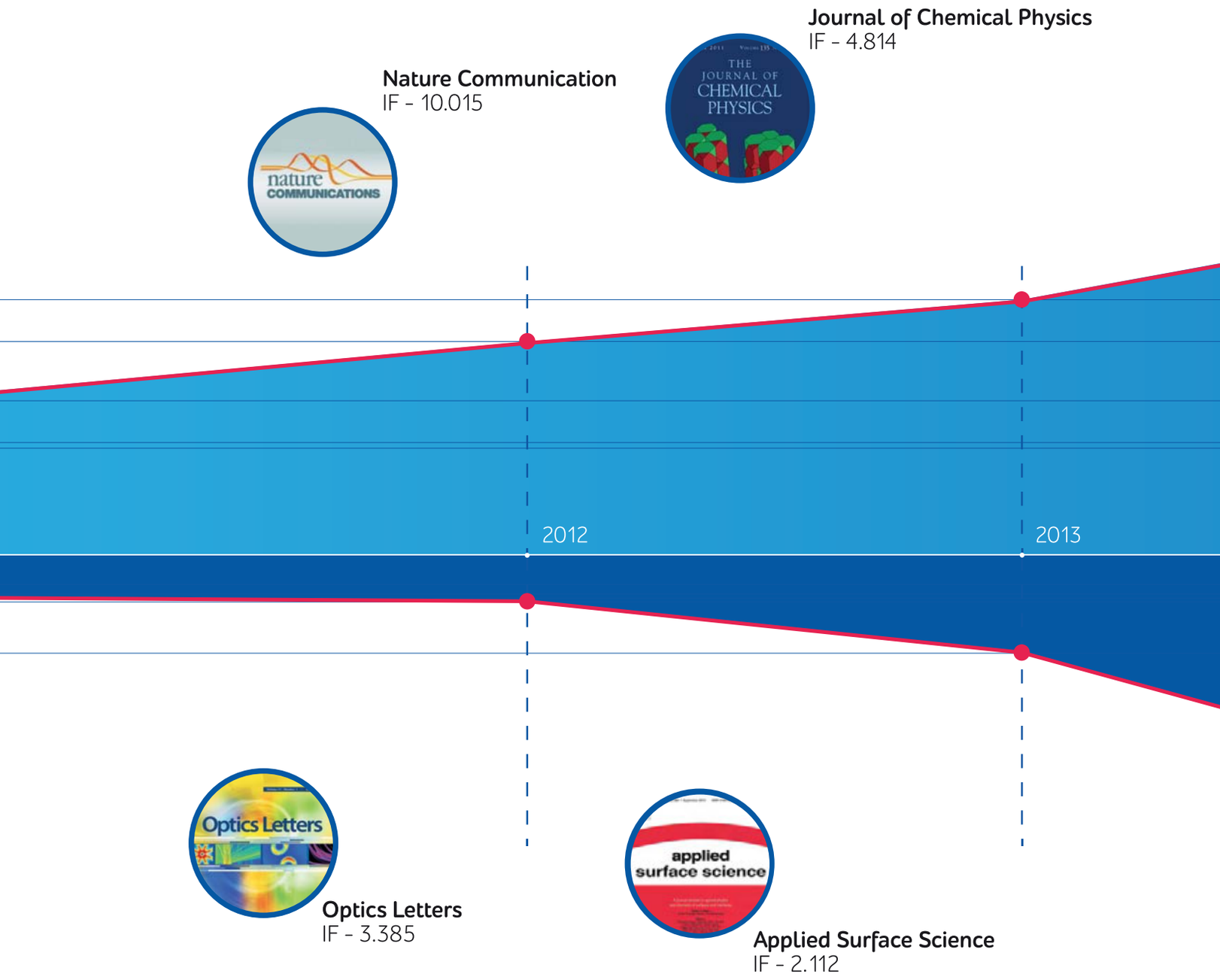


NUMBERS 2013

1385
scientific publications

580
articles in foreign journals, indexed by Web of Science and Scopus

1100
citations of articles by ITMO University faculty in Web of Science и Scopus



184
textbooks and manuals

49
monographs, including 21 in foreign publications

39
collections of academic papers, including 29 in proceedings of international and all-Russian scientific conferences

Scientific Publications of ITMO University

pribor.ifmo.ru

"Instruments Design and Fabrication"

Editor in Chief:
Eugeny B. Yakovkev
D.Sc., Professor

economics.ihbt.ifmo.ru

"Economics and Environmental Management"

Editor in Chief:
Victor L. Vasilenok
D.Sc., Professor

ntv.ifmo.ru

"Scientific and Technical Journal of IT, Mechanics and Optics"

Editor in Chief:
Vladimir O. Nikiforov
D.Sc., Professor

nanojournal.ifmo.ru

"Nanosystems: Physics, Chemistry, Mathematics"

Editor in Chief:
Nikita F. Morozov
D.Sc., Academician of the Russian Academy of Sciences

opticjourn.ru

"Optic Journal"

Editor in Chief:
Alexander S. Tibilov
PhD., Senior researcher

refrigeration.ihbt.ifmo.ru

"Refrigeration and Air Conditioning"

Editor in Chief:
Alexander V. Baranenko
D.Sc., Professor

processes.ihbt.ifmo.ru

"Processes and Equipment for Food Production"

Editor in Chief:
Valery V. Pelenko
D.Sc., Professor

ITMO University Library

University library holds more than 2.5 million copies of foreign and Russian publications on such topics as optics, laser physics, thermal physics, mechanics, instrumentation, precision instruments, automation and telemechanics, cryogenic technologies and equipment in food production industry.

We are happy to provide access to the electronic and printed resources on scientific topics to students, faculty and staff.

At visitors' disposal are library's 8 reading halls, 15 departments and 3 classrooms with Internet access.

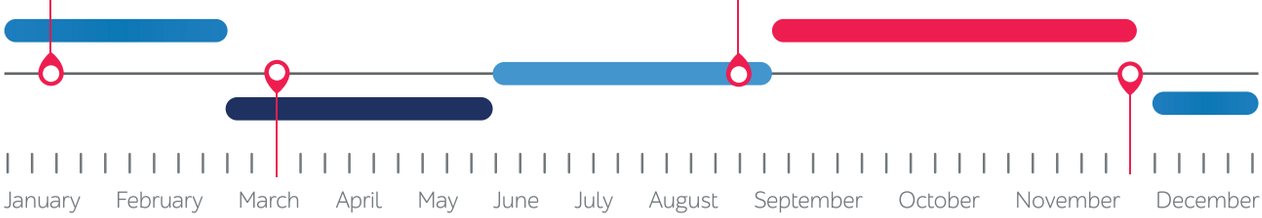
Scientific Events

9th Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering

In collaboration with Association for Computer Machinery, Special Interest Group on Software Engineering и Swiss Federal Institute of Technology.

Knowledge Engineering and Semantic Web Conference

With support from Semantic Technology Institute International and World Wide Web Consortium.



Eight International Conference for Young Scientists and Specialists "Optics - 2013"

In collaboration with Optical Society named after Rozhdestvennsky, Lomonosov Moscow State University, Vavilov State Optical Institute, Ioffe Physics and Technical Institute, with participation of The Optical Society (USA), International Society for Optics and Photonics (SPIE), International Society of Radio engineers, the Photonics Department (IEEE Photonics Society).

International Optical Seminar

With support from Cross Border Photonics Initiative (European Union-Finland-Russia) and European Neighborhood and Partnership Instrument (European Union-Russia).

Over **60** conferences organized, including **22** international

ITMO University places special emphasis on events that focus on the integration of science and business.

The festival of scientific laboratories, with its goal to establish business contacts between scientists and business people, as well as to attract talented students into scientific projects, received over 60 entrepreneurs from Russian and international companies.

The latter included:

Microsoft

Hewlet-Packard

EMC

Diakont

Lenmonolitpoligraph

Lanit North West

Electroglass

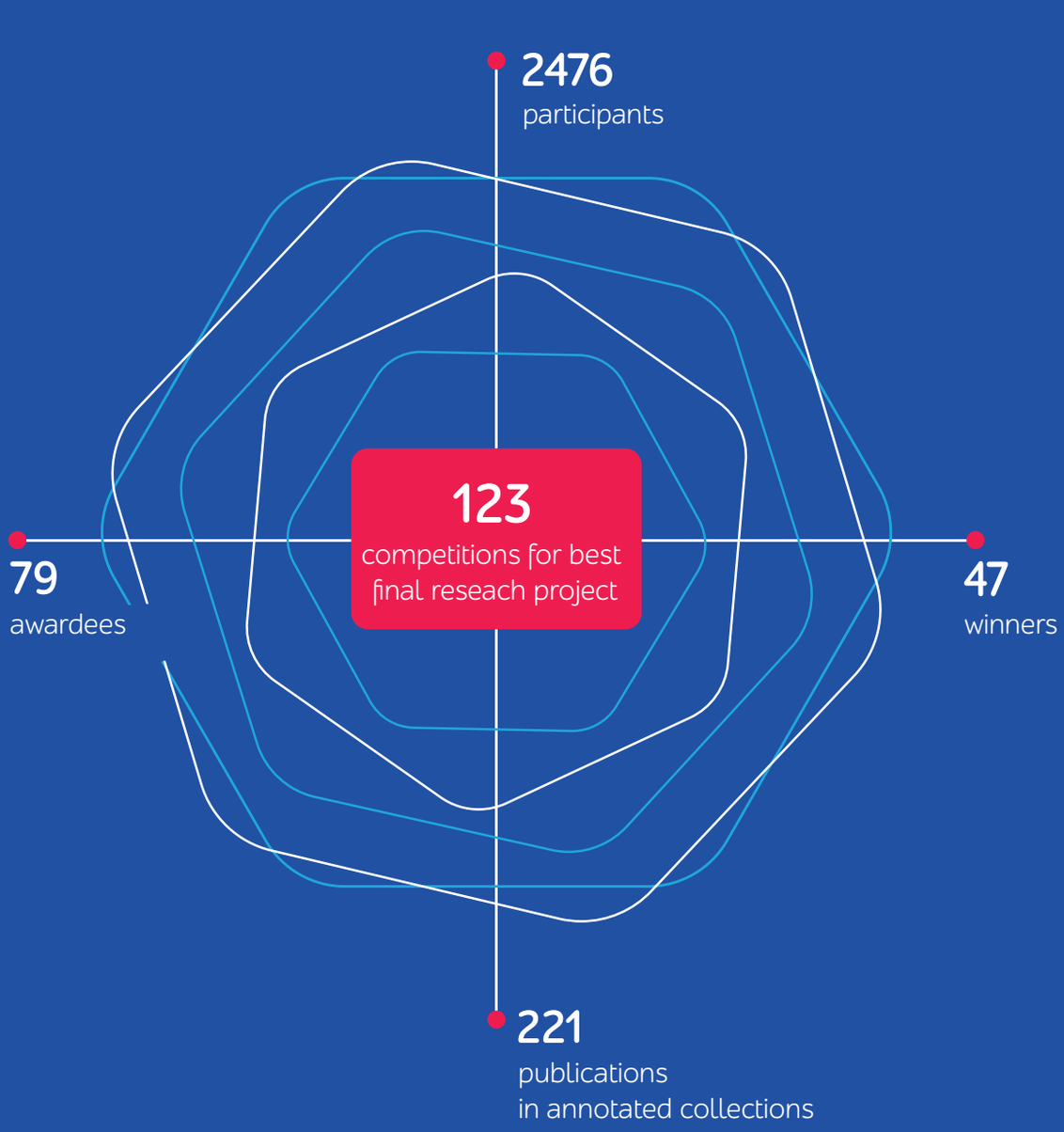
Perm NPPK

620 faculty members participated in 450 conferences where they made over 20 presentations

The university holds various competitions for undergraduate and graduate students.

Which include an annual contest for the best final research project for every major and The Big Bang contest, where student projects are evaluated by business representatives.

In 2013, The Big Bang contest was held for the second time, with 36 student teams presenting their projects.



The Training of Highly Qualified Personnel

aspirantura.ifmo.ru

ITMO University provides training on 45 PhD and 15 Doctorate degree programs in compliance with the requirements of scientific bodies.

fppo.ifmo.ru

Nine dissertation committees at ITMO evaluate dissertations for PhD degrees.*

125 dissertations were defended in physics, mathematics, technical and economics sciences

* lists of majors, PhD programs and dissertation committees of the university can be found in the appendix.

ITMO University is committed to international cooperation with partner universities around the world and implements several joint graduate programs.

ITMO University is committed to international cooperation with partner universities around the world and implements several joint graduate programs.

ITMO post-graduate students have simultaneously studied at universities in:

Graduate students in these programs carry out scientific research under the joint supervision of two scientific advisors.

The Strategy to 2020

One of the strategic priorities for ITMO University being targeted for 2020 is the continuous development of science.

It is planned to reform the organizational structure of conducting of scientific and educational activities, to create and develop new "points of growth."

- International research centers in diversified fields of research under the joint supervision of Russian and foreign scientists;
- Centers of excellence that unite international research centers and graduate research programs;
- Academies that include centers of excellence and a variety of graduate research programs, oriented towards working with graduate, doctorate and post-doctorate students.

By 2020, it is expected there will be a functioning system for transferring the research generated by international research centers, excellence centers and other ITMO University departments into industry through the mechanisms of tech transfer and commercialization.

60 international research centers under co-leadership with prominent foreign scientists by 2016

5 centers of excellence that unite international research centers and graduate programs by 2020

It is also expected we shall move into an active phase of our program of international recruitment of professors, researchers and leading scientists through ITMO Fellowships (target- 5% by 2020) and also by means of a program of monetary stimulation for increasing the personal publication activity of ITMO University faculty and students – the ITMO University Portfolio.

Most of the faculty and students will participate in research, which will become the basis of educational programs.

The results of student research performed under supervision of eminent scientists will be actively used in the learning process.

02

EDUCATION

Educational Standards and Programs

ITMO University is one of the leaders in preparing elite engineering, scientific and pedagogical personnel for various industries.

The university is constantly developing a system of effective mechanisms for creating innovative graduate programs and continuous education programs in the priority fields for the development of Russian economy.

Educational programs at ITMO University enjoy a high competitive advantage in the Russian market thanks to the development of proprietary educational standards, the implementation of competency-oriented learning environment, innovative learning and grading technologies, current educational-methodical and informational support.

NUMBERS 2013

- Computer Science and Engineering
- Information Systems and Technologies
- Software Engineering
- Information Security
- Space science and cosmonautics
- Information and Communication Technology and Communication Systems
- Instrumentation
- Optical Engineering
- Photonics and Optoinformatics
- Laser Technology
- Power and Electrical Engineering
- Energy and resource saving processes in chemical engineering, petrochemical and biotechnology
- Technical Physics
- Refrigeration, cryogenics and life support systems
- Mechatronics and Robotics
- Biotechnologies

455
undergraduate, graduate and associate degree programs

28
educational programs in the priority fields of training won the All-Russian competition "Best Educational Programs in Innovative Russia."

121
departments, including

18
basic departments at enterprises

Departments with bases in High-Tech Enterprises

"Svetlana - Optoelektronica" — Department of LED Technology

"Elektropribor" — Department of Information and Navigation Systems

"LOMO" — Department of optical and digital systems and technologies

"Diakont" — Department of systems and technologies for technogenic security

"Techpribor" — Department of Integrated Systems of Technical Preparation of Manufacturing

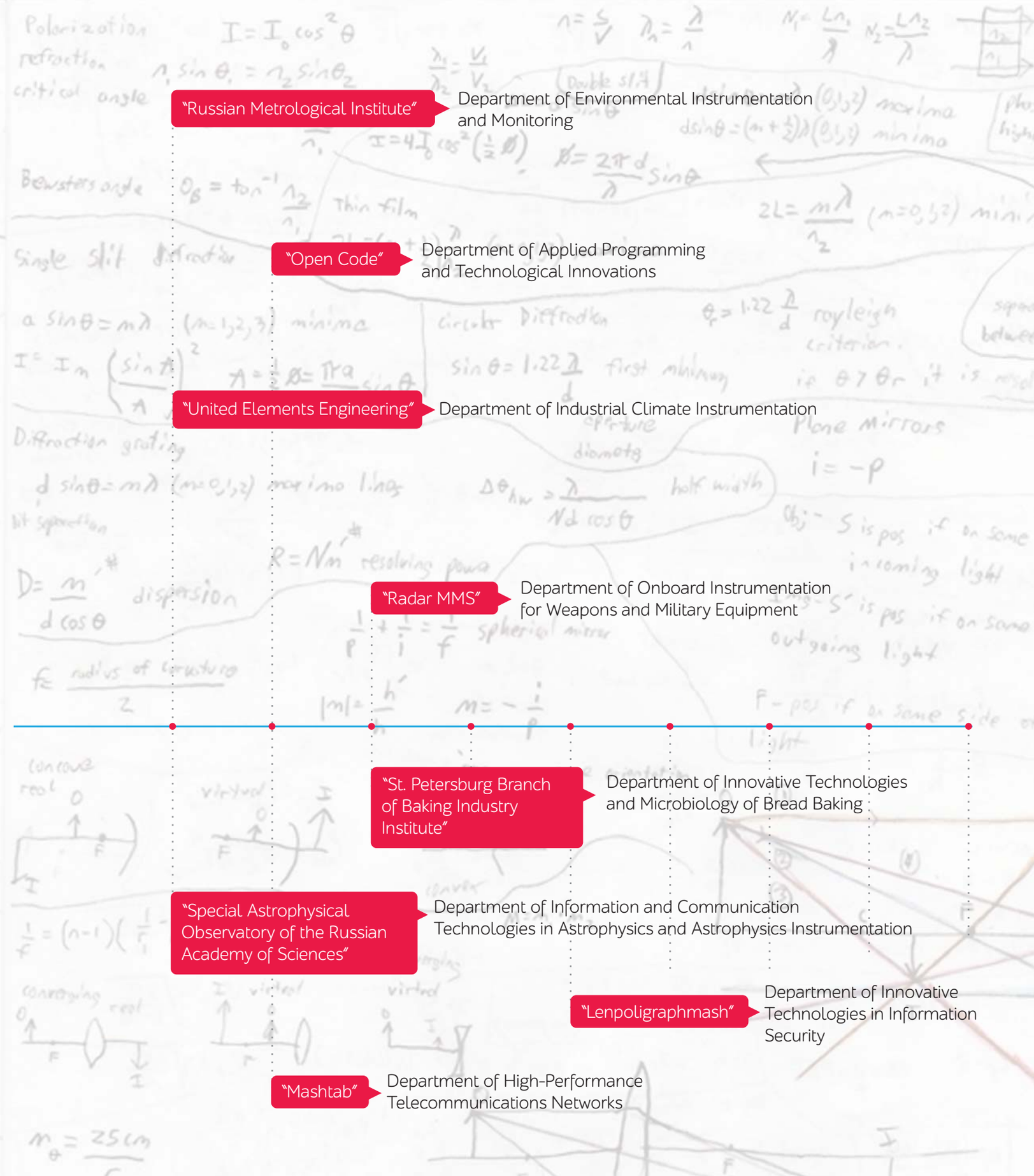
"Speech Technology Center" — Department of Oral Information Systems

"Signal" — Department for Information Security Equipment

"Elektroavtomatica" — Department of Computer-aided Design of Onboard Instrumentation

"Avangard" — Department of Security of Technical Systems

"Institute for Innovative Technologies in Business" — Department of Information Systems and Technologies in High-Tech Business



The development and implementation of new educational programs required for the transformation of educational standards of the university, primarily in establishing the requirements to structure and scope of programs. In 2013, basic principles of the new generation standards were formed based on the new edition of the federal standards, new modular structure, required and elective parts of educational programs.

Basic Principles of the New Educational Standards of ITMO University

- Authenticity and uniqueness of the educational process
- Interdisciplinary nature of research
- Multi-language learning and flexibility in studying

Russian professional standards and international standards, such as CDIO, EUR-ACE, and others, were considered during the development of the new educational standards at ITMO.

The new standards will allow the university to better implement joint programs with leading foreign universities as well as Russian and international high-tech companies.

The highest form of internationalization of learning will be on international double degree programs.

The new standards will be the basis for quality control and transfer of grades between partner universities.

7 international double degree programs

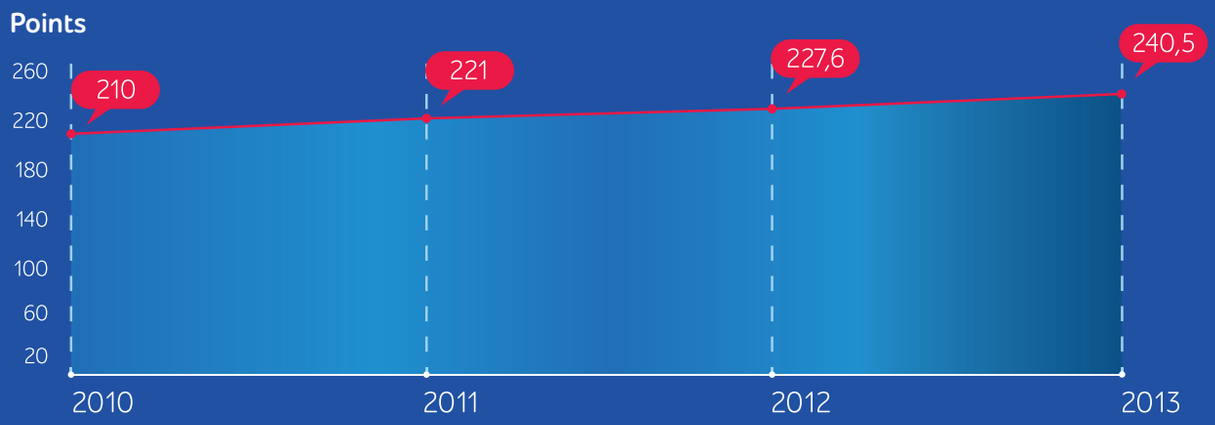
35 proprietary educational standards for graduate programs

Leading educators as well as high-ranking specialists, certified by Microsoft, Diakont, etc., participate in the development of educational programs.


Carl Zeiss

Admissions

The Trajectory of average scores in the Standard Test:



In 2013, ITMO University welcomes students from 17 other countries:

- Azerbaijan
- Algeria
- Afghanistan
- Belarus
- Vietnam
- Iraq
- Iran
- Kazakhstan
- China
- Lithuania
- Moldova
- Tajikistan
- Turkmenistan
- Uzbekistan
- Ukraine
- Ecuador
- Estonia

NUMBERS 2013

240.5

average score in three subjects in the Standard Test score in 2013

211

applications from organizations for specialized staff training

Applications are accepted on:

96

Bachelor's programs

141

Master's programs

2

specialist programs

238 students accepted into ITMO University in 2013 are winners of All-Russian and international contests (Olympiads) in Math, Physics and IT

Students

The University has implemented a special project for the selection and training of talented young people, thus enhancing the numbers of students deciding to choose admission to ITMO University before leaving high school.

For career guidance and the specialized training of high school students, ITMO University offers the following:

- Physics and Math school
- School of video informatics
- School of laser technologies
- Academy of informatics and programming for high schools
- St. Petersburg children and young people's computer center
- Basic career guidance school for the Faculty of Computer Technologies and Management

Over the past few years, the students of ITMO University won the majority of All-Russian and city-wide Olympiads competitions in Math, Physics, Applied Math and IT. ITMO University is home to one of the best centers for the selection and training of young gifted programmers in Russia.

In 1996, the ITMO University student team became the first Champions in programming n Russia and this remains so to this day, where ITMO is still the only continuing annual finalist in the World's Programming Championship.

FACTS

ITMO University student team is the only five-time champion of the world's largest team competition in programming ACM-ICPC.

Among our students are recipients of awards by the President of Russia, Government of Russian Federation, St. Petersburg, as well as other honors and grants.

Master's Degree Programs

ITMO University continues to expand the introduction of new Master's degree programs in conjunction with high-tech Russian organizations and companies through the creation of joint structures, combining resources and scientific and educational activities.

This practice has achieved strong growth in master's graduation rates.

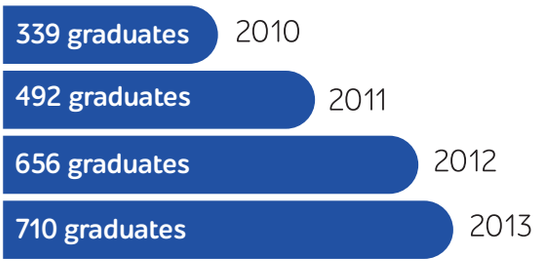
Masters training is organized by means of an integrated program of continuous training on undergraduate and graduate programs.

The educational environment of the program is based on the basis of information competence-oriented project-based learning (problem-based and project learning, design-built), which allows students on the basis of their abilities and interests to choose technology and learning paths, access information resources to perform real-world projects in order to achieve and evaluate specified learning, as well as the results of research (reports, articles, projects, etc.).

ITMO University is distinguished by a practice-oriented approach to learning and is constantly expanding the number of partnership programs with Russian leading high-tech companies.

Today the university graduate students are enrolled at 18 work-based departments in enterprises.

The Growth Rate of Graduation from Master's programs:



NUMBERS 2013

18 new Master's programs

When developing new Master's programs, the university considers both the current scientific trends and the demands of the local, urban community.

In 2013, the program "Design of Urban Ecosystems" was launched, where participants study the quality of the living environment of St. Petersburg and work on the development of urban spaces.

The new program drastically changes the approach to studying cities. While participating in practical research, the students get a broad view of the complex economic, political, social and environmental aspects that affect the growth and development of cities and design processes of urban transformation.

Since October 2013 the specialists in "Design of Urban Ecosystems" together with graduate students have been working on the project «Kronstadt vision 2040", in which they study the territory of Kronstadt and test out scenarios of urban development.

The next step for the authors of the project will be to prepare concrete proposals for the transformation of urban spaces in Kronstadt.

The program "Design of Urban Ecosystems" during the 2014-2016 will include training modules in conjunction with European schools of urban development and planning in the Netherlands, Finland and Poland.

It will also include joint project studios and educational programs with European practices and design research in several European cities.

Strategy-2020

By 2020 there will be a special focus on the internationalization of training. The University will commit resources to:

- Introducing joint educational programs with the world's leading universities
- International accreditation of educational programs in the EUR-ACE
- Attracting foreign students
- Organizing scientific and educational activities in collaboration with foreign teachers and researchers on the basis of international 'virtual' departments remotely.

Innovative teaching technologies will continue to be developed. Specifically, individual educational tracks will be widely implemented through the use of distance learning and educational modules.

All programs will utilize project-oriented and problem-solving teaching approaches.

100 joint educational programs the world's leading universities by 2020

24 educational programs accredited by EUR-ACE by 2020

2020

22% percentage of international students in the student body by 2020

Starting in 2019, ITMO University will be primarily focused on training graduate students.

It is planned to have three types of Master's programs:

Research Master's –
training of world-class researchers on the basis of academies of ITMO University

Process Master's –
training of experts in the field of design and technological activities in the framework of strategic partnerships and targeted training

Entrepreneurial Master's –
training experts with managerial competencies for the innovative high-tech sector of the economy

03

INETRNATIONAL ACTIVITIES

IT'S MORE THAN A
UNIVERSITY
IT'S MORE THAN A
UNIVERSITY

Priorities

International activities at ITMO University are aimed at strengthening the University's position and elevating its status as a world-class scientific and training center.

The opportunities for student, faculty and specialist mobility are constantly expanding through exchange of experience, international exchange programs and double degree programs with partner universities around the world.

Priority in the development of international cooperation of ITMO University is the internationalization of all activities:

- Activation of international cooperation
- Curricular enhancement
- Establishment of joint educational programs
- Development of partner relationships with foreign universities and colleges
- Participating in academic exchange
- Providing opportunities for staff to participate in international research networks
- Development of the University's multilingual website
- Establishment of an English-speaking, multicultural environment at ITMO University for comfortable international collaboration

The University is strongly positioned in the global scientific, educational and innovative environment through its participation in a variety of international societies and associations, including:

- European University Association, EUA
- Shanghai Cooperation Organization
- Association of Technical Universities in Russia and China
- Society of Photo-Optical Instrumentation Engineers, SPIE
- European Optical Society, EOS
- International Institute of Refrigeration, IIR
- Institute of Electrical and Electronic Engineers, IEEE
- Austro-Russian Society in Styria
- The Fulbright Program
- Erasmus Mundus
- Deutscher Akademischer Austauschdienst, DAAD
- UNESCO-UNEVOC

NUMBERS 2013

17

universities around the world became partners of ITMO University

FACTS

139

agreements of international collaboration

International activities of ITMO University are constantly developing in step with current trends. An International Council is being set up at ITMO University to advise on international developments and it will include high-profile academics and research experts.

The Council will advise the university on international collaboration and development.

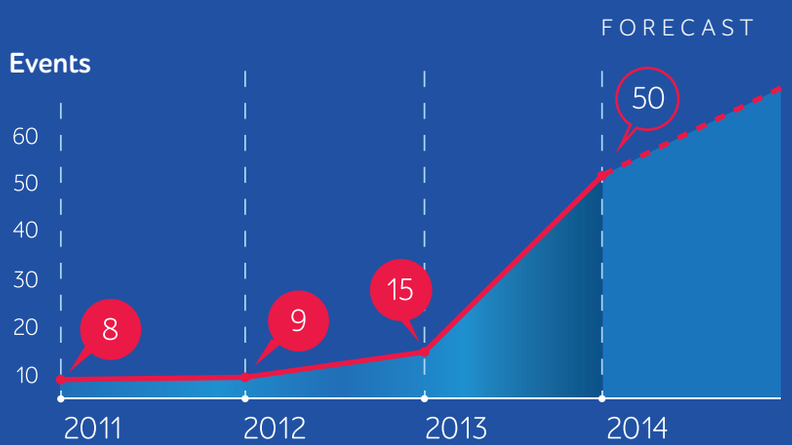
Partner universities

At ITMO University, several unique projects are being undertaken in the framework of international research centers. Students, professors and experts from around the world collaborate on solving pressing problems in a variety of scientific areas, including:

- **Photonics and optics**
- **Information technologies**
- **Intellectual technologies and robotics**
- **"Smart" materials and nanotechnologies**

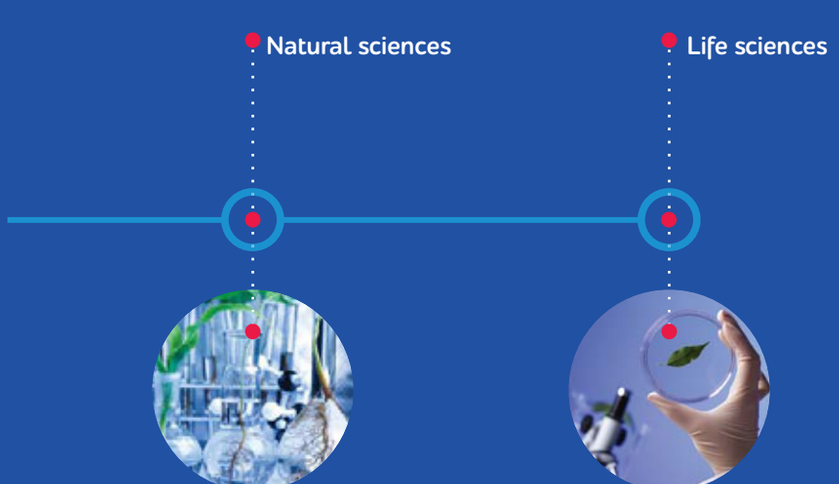



Growth of Events held in English:



Main mechanisms for attracting students from foreign universities – international educational programs:

- Double degree programs
- Internships
- Intensive education



NUMBERS 2013

Over
900
international students

7%
of the overall student body

An International Student Council was founded at ITMO University in 2013.

The main object of the council is to inform foreign students and to support their initiatives.

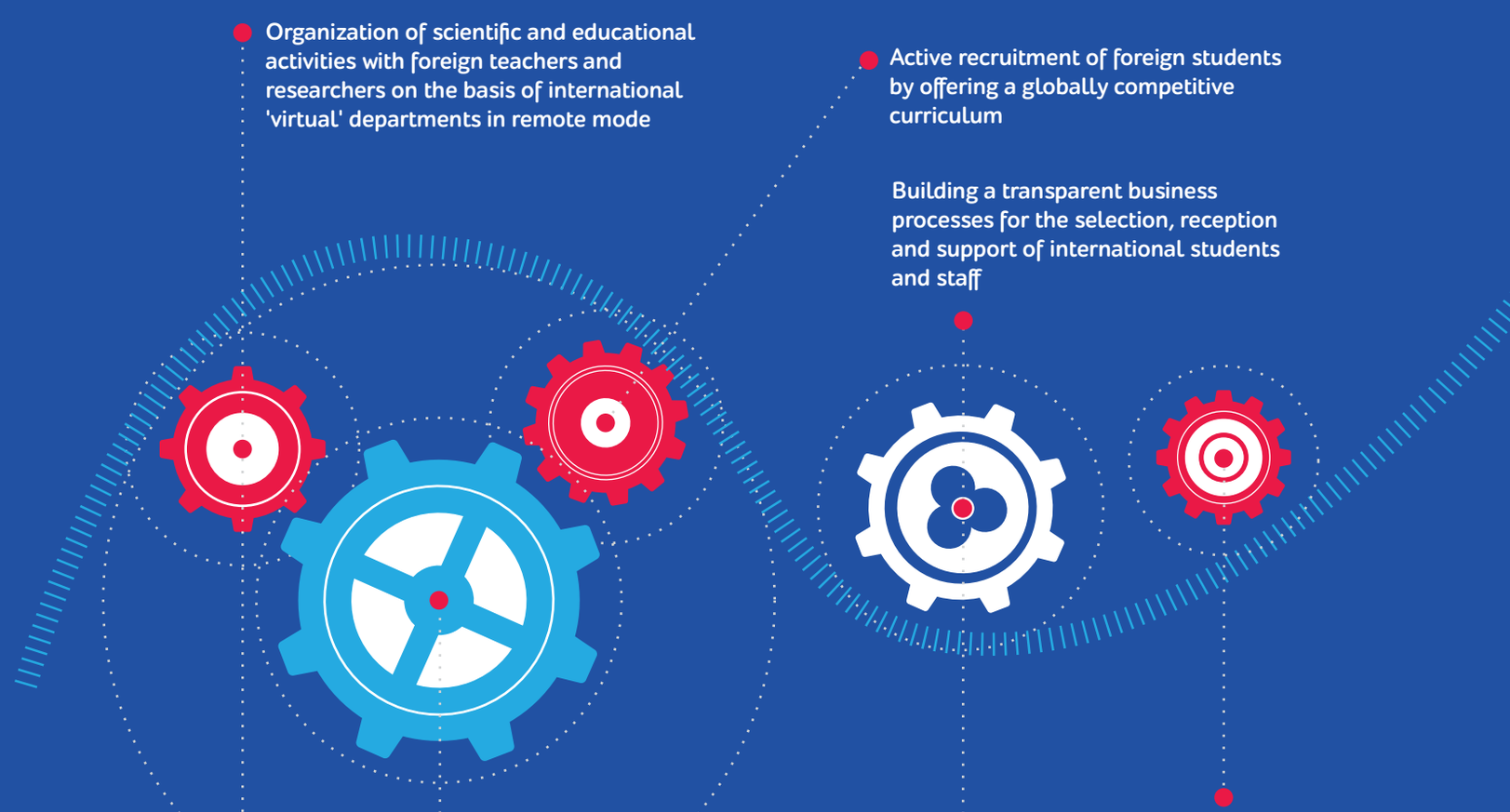
It already has over a
100 members

Over
100
international events

Strategy-2020

The main focus of the university's development strategy is becoming a world-class research university, with strong entrepreneurial ties and oriented towards the internationalization of all activities.

The following zones of development have been identified for achieving leading positions in global educational rankings:

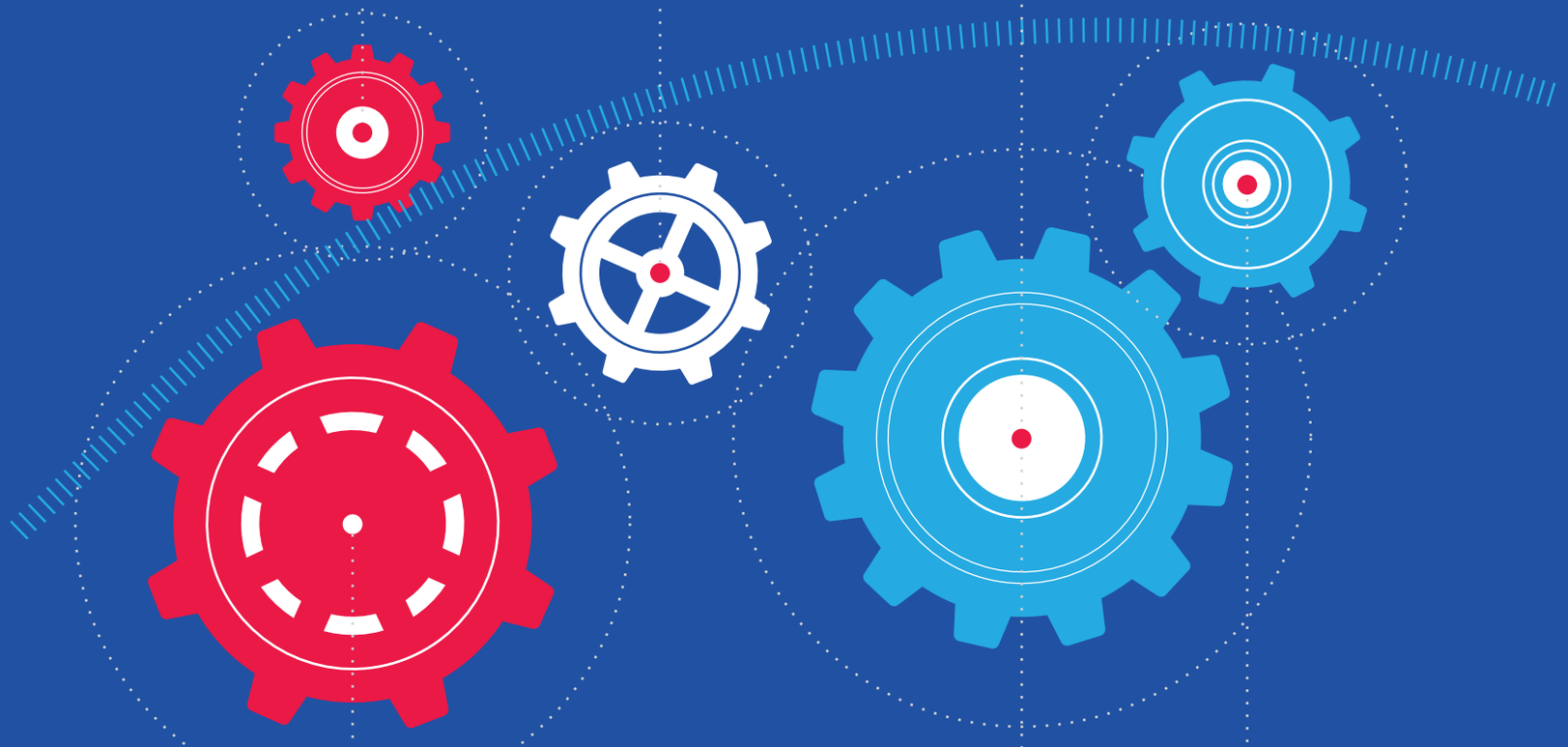


- Organization of scientific and educational activities with foreign teachers and researchers on the basis of international 'virtual' departments in remote mode
- Active recruitment of foreign students by offering a globally competitive curriculum
- Building a transparent business processes for the selection, reception and support of international students and staff
- Active development of the system of international patenting of intellectual property at ITMO University
- Organization of active international academic mobility (incoming and outgoing): Internships for graduate students, doctoral students and faculty in leading scientific and educational centers; Internship representatives of foreign scientific and educational centers at ITMO University
- Marketing of research and innovation activities of ITMO University to foreign markets through partnership with foreign companies
- Development of an integrated, multi-lingual, primarily English-speaking environment at the university for foreign students and visiting researchers

Organizing and conducting major international forums, conferences, seminars and other events with the support of the international scientific community and organizations

Organizing and hosting of large international forums, conferences, seminars and other events with support from international scientific societies and organizations

Establishment of a multi-lingual, primarily English-speaking, environment for international students and faculty



Increasing the level of English language competence among students, faculty and staff of the university through establishing additional training programs and testing

Increasing the level of English proficiency of students, faculty and staff of the University of Information Technologies by implementing testing and additional training

Building transparent business processes for selection, admission and guidance of international students and faculty

22%
international students by 2020

35%
English-speaking faculty and staff

By 2016, ranked in the top 300 of the QS World University Rankings and Times Higher Education (THE World University league)

04

INNOVATION AND ENTREPRENEURSHIP


IDEA

Innovation

Innovation and entrepreneurship are one of three key areas of development for ITMO University.

The University's objective is to materialize cutting-edge technologies by successfully bringing them to market.

New services and divisions have been set up specifically for engaging ITMO students and faculty in entrepreneurial and research activities which will include talented young people from other colleges and universities.

In 2013, the university opened:

The Center for Technology Transfer

The Engineering Center "Robotics and Instrumentation"

2009

When ITMO University was granted the status of international research center, it made significant progress in forming an environment that stimulates and supports innovation activities by students and faculty.

2013

The university started to implement the first step of a strategic initiative for the development of a innovation-friendly ecosystem, aimed at implementation of modern commercialization methods and technology transfer.

Participants that received management, marketing and fundraising skills can get financial and mentoring support at iDeal Machine, a Russian-American-Israeli startup accelerator organized by ITMO University.

The accelerator is financed by a $6 million venture fund. In 2013, four startups participated in the startup accelerator program.

NUMBERS 2013

5%

of students and faculty are involved in innovation businesses

1176

people were involved in ITMO University's innovation and entrepreneurship-related activities

FACTS

Over **100** active startups

2 business incubators

1 Technopark

ITMO University Partners in Innovation and Project Activities

ITMO University pays special attention to building a partnership network with the participants of innovative ecosystems at the city, national and international levels. Collaboration with partners is mostly aimed at improving the system of service support and development of **Innovation Hub**.

INNOVATION HUB

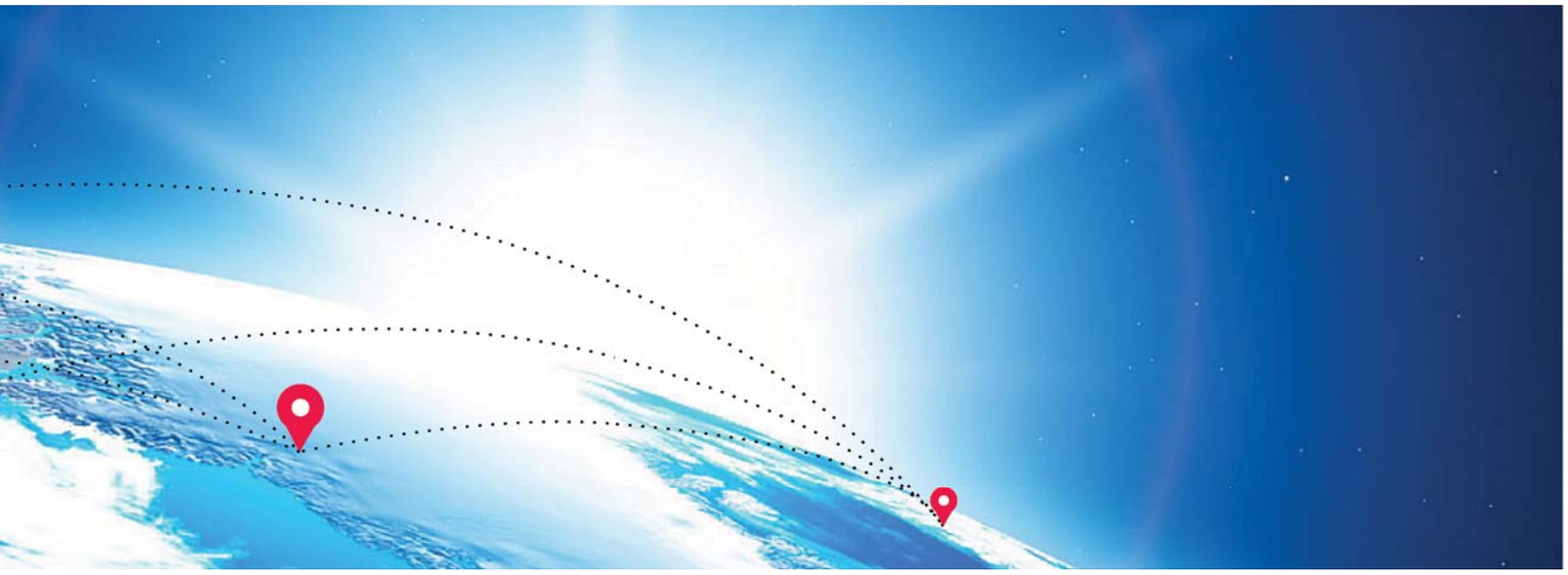
An innovation system that along with developing its own projects and infrastructure offers other organizations consulting and research services as well as technology, infrastructure and production services for technology transferring and commercialization of intellectual property.

FACTS

32

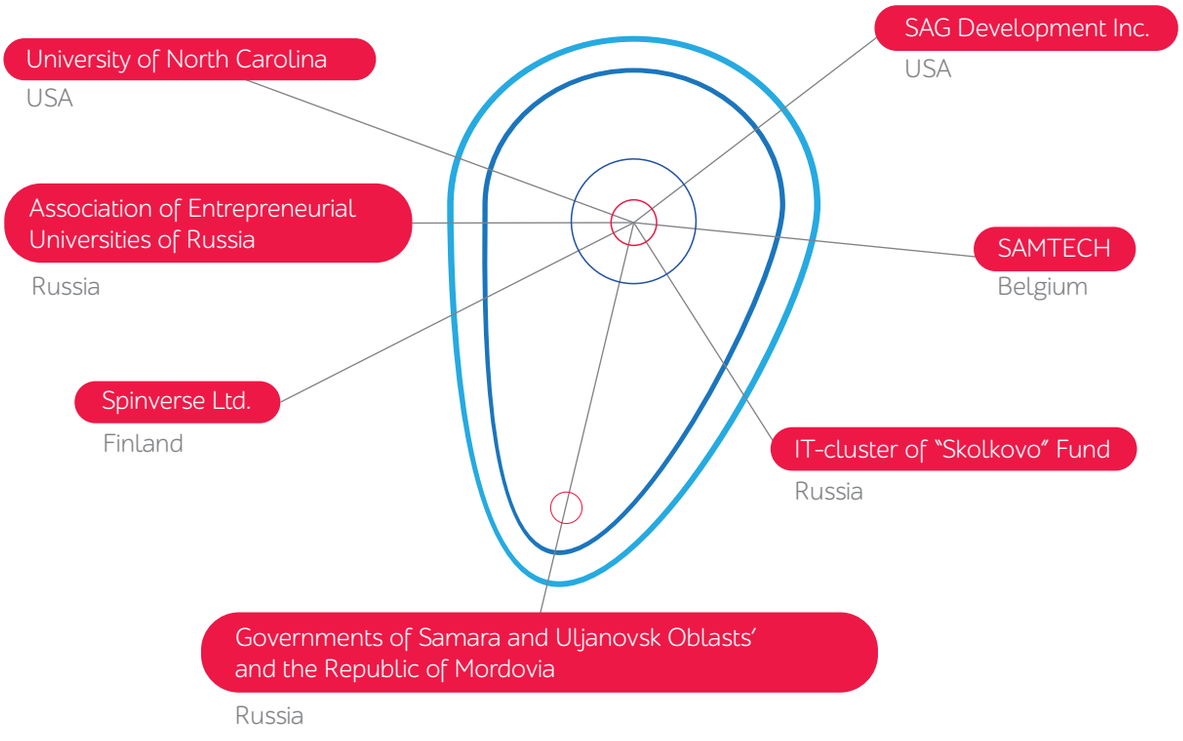
current partnership agreements in the area of innovations

The University is developing a strategic partnership with North-Western Center for Technology Transfer "Rosnano" and is a venture partner of RBK seed venture fund. In 2013, a tech company "Sensor systems" was through collaboration between Rosnano and the laboratory of sensors and telemetrics at ITMO.



Some of the company's projects include a new generation heat flux sensor that allows to measure the amount of heat in homes and enterprises, ultrasound emitters for home and medical use and a system for touch-free diagnostics of pipelines.

Among the University's partners are:



Small Innovative Enterprises (SIE)

Since 2009, in accordance with 217-F3 universities can become founders of companies and business partnerships, which are formed to implement the results of university research.

The result of stimulating high-tech entrepreneurship at ITMO University became the opening of over 40 small innovative enterprises, including five with international participation.

One of the best examples of successful realization of the strategic initiative for the development of the innovations ecosystem is the optimization of activities of "Zagar ITMO", reorganized in 2013 into "Aspekt Arkhangelsk."

Founded in 2009, the company had no commercial activities until 2013.

By the end of 2013 it showed over $2 million in profits.

An important indicator of the effectiveness of startup management was a change in leadership and the founders of "INNOVAK" LLC. By the end of 2013, the new Board of Directors of the Northwest Center for Technology Transfer decided to finance the project "Development of line wound dressings based on biocompatible and noninvasive acrylic composites."

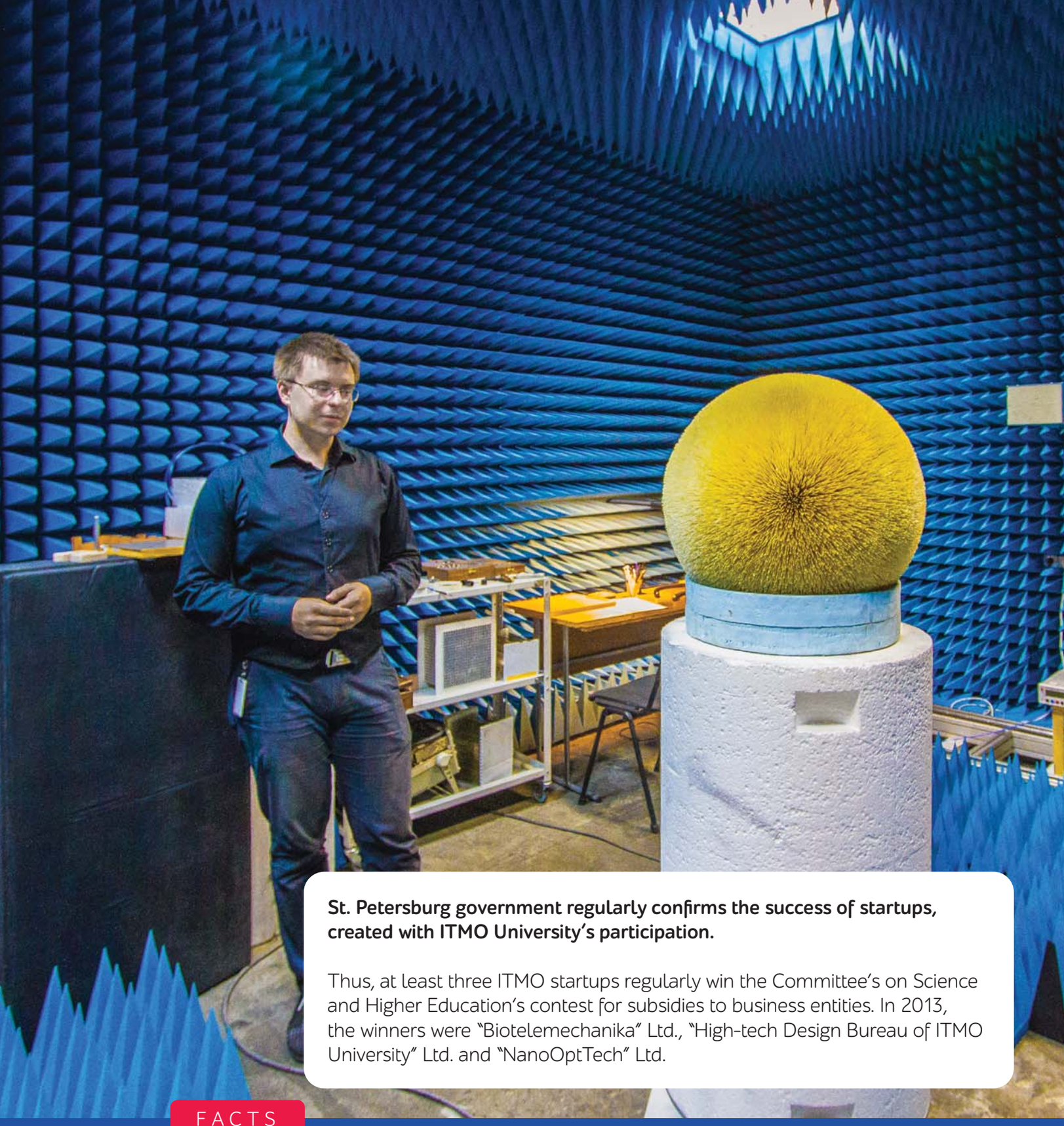
NUMBERS 2013

6
startups were created with participation by ITMO University and partner organizations

3rd place among Russian National Research Universities (NRU) in number of SIEs

1st place among NRU in Northwest Federal District in number of SIEs

5th place among Russian universities in the number of startups



St. Petersburg government regularly confirms the success of startups, created with ITMO University's participation.

Thus, at least three ITMO startups regularly win the Committee's on Science and Higher Education's contest for subsidies to business entities. In 2013, the winners were "Biotelemechanika" Ltd., "High-tech Design Bureau of ITMO University" Ltd. and "NanoOptTech" Ltd.

FACTS

39 startups

Over 100 jobs

70 **million rubles** in orders

Collaboration with Regions

ITMO University's support for the development of Russia's regions is recognized and valued by local governments and independent investors.

The support is realized through effective collaboration between leading regional universities and other members of the innovation ecosystem and taking a system of scientific findings to the market.

Implementation the "EURECA" Program

Since 2010, ITMO University is an organizational and methodological hub of the pilot phase of the program "Eureca" ("The development of a research and entrepreneurial potential of Russian Universities") of the USRF fund.

In 2013, the University again won the competition for implementation of the program and began to replicate the knowledge and expertise in the regions and universities of the Russian Federation.

To create a network of regional start-up accelerators, ITMO University is working with the University of California, Los Angeles, (USA) and the Higher School of Economics.
The funding for the project is $ 2 million for 2013-2014.

Results of the first stage of "EURECA" 2010-2012

International startup-school SUMIT;

Establishment of startup accelerator iDeal Machine

Adoption of the program for the development of innovation-friendly ecosystem at ITMO

$6 million in funding

Network of startup accelerators:

Events

ITMO University aims to bring together various participants of the innovations marketplace.

International Forum "From Science to Business"

The international forum "From Science to Business" took place in 2013 for the seventh time and was dedicated to globalization of innovations. It was attended by representatives of 74 universities and colleges, 37 companies, 11 government organization from 44 cities of Russia, USA, Finland, Germany and NIS.

Over 40 reports on globalization of the innovation process, commercialization of findings, internationalization of high-tech startups and integration of startups into the innovation-related activities of global corporations were presented.

In the framework of the forum the youth school ""Anticipation, Innovation and converging technologies" took place as well as the award ceremony for the winners of the program "Participant of Youth Research and Innovation Competitions" by the Fund of Support for Small Businesses in the Research Field.

Along with its proprietary events, ITMO University organized a variety of seminars, round tables and workshops at partner events in 2013, including:

Round table devoted to the problems of a sustainable flow of innovative projects in Russia's regions in the framework of the VI Petersburg International Innovations Forum, organized in collaboration with American-Russian fund for economic and legal advancement "USRF"

Seminar "Business Development and Collaboration in Digital Technologies," organized in partnership with Russian-Finnish Research Center, Loft project "Etazhi," Animation Association, NP Russoft, , Kouvola Innovation, Digibusiness and OSKE, Finland with participation of European digital research clusters

Collaborating with partners is in part developed through organizing various events, some of which have already become the hallmark of the university.

Startup Laboratory SUMIT

In 2013, the eight-week startup laboratory SUMIT was held twice.

An intensive educational accelerating program, it is aimed at supporting innovators the development of business models for their commercial projects, search for funding, developing technical details of projects, etc. A landmark event was the launch of an entrepreneurial exchange program: startup teams from ITMO University and UCLA participated in American and Russian accelerator programs.

SUMIT also saw active participation by prominent companies, such as RIS Ventures, LP, EMC2, "Mann, Ivanov and Ferber" Publishing House, SoftLine Venture Partners, GTI, Minerva Capital, ABRT, DaVinci Ventures, 99 ventures, Esprito Ventures, Startup Access, GeneSys Asset Management.

Fund:It

In 2013 took place the second fall school of fundraising FundIT. Some 50 participants attended lectures about attracting grant funding, particulars of the application process, project budgeting, intricacies of working with international funds and programs.

With support from ITMO University project managers developed project applications that were submitted to a variety funds and programs.

Four best projects in the fields of nanotechnologies, control systems, bio-and socio-technologies were selected at the conclusion of the school. Project managers at ITMO University attracted a total of over 140 million rubles in co-funding in 2013.

Round table "Startup Acceleration vs Business Incubation?" in the framework of STARTUP Village conference

Seminar "Motivation with Passion" for project managers, organized at ITMO University by the International Project Management Association (IPMA) - the largest event for early career professionals in northern Europe devoted to project management

Section "Innovative projects in IT: from idea to startup" in the framework of the XX All-Russian scientific conference TELEMATIKA-2013

Social Responsibility Projects

ITMO University's contribution in solving social problems is realized through the introduction of innovative approaches and the application of scientific research in the social sphere. University participation in the life of the city contributes to more efficient development of the region and enhances social stability.

Support for social projects at ITMO University allows both for training of professionals, and also for shaping the personality, as well as motivate students to learning throughout life, including through the «service learning».

An example of the university's innovative approach of solving social problems is a youth contest "People Need You!", organized by ITMO University to promote social activity of students, as well as to establish a system of initiation and implementation of socially important projects.

"People Need You!" Contest

The result of the 2013 contest was the formation of 17 volunteer teams with 3-6 participants that realized 18 socially important projects in the following fields:

- Charitable activities and activities in promoting philanthropy and volunteerism

Among the socially-oriented projects of the university are:

- The project "Improving access to health information and counseling" (2011-2013.), supported by the "Estonia-Latvia-Russia Cross-border Cooperation Program" within the framework of the European Neighborhood and Partnership Instrument (ENPI);
- Project "University and Community" (2012-2013.), supported by the fund "New Eurasia" as part of the Charles Mott Foundation grant;
- Project for creation and development of the portal "University of the Third Age" - Russia's first distance-learning portal for the elderly, implemented by ITMO University since 2009 within the framework of a national research university.

Social support of citizens, including seniors, disabled, orphans, etc.

Activities in the field of training, education, science, culture, the arts, health care, prevention and health protection

Environmental and animal protection

Electronic Government

In 2009, ITMO University opened the Center for Electronic Government to offer comprehensive support and concentration of intellectual and organizational resources needed for forming the e-government of the Russian Federation.

The department accepts applications on to Master's programs that utilize individual learning tracks and distance education.

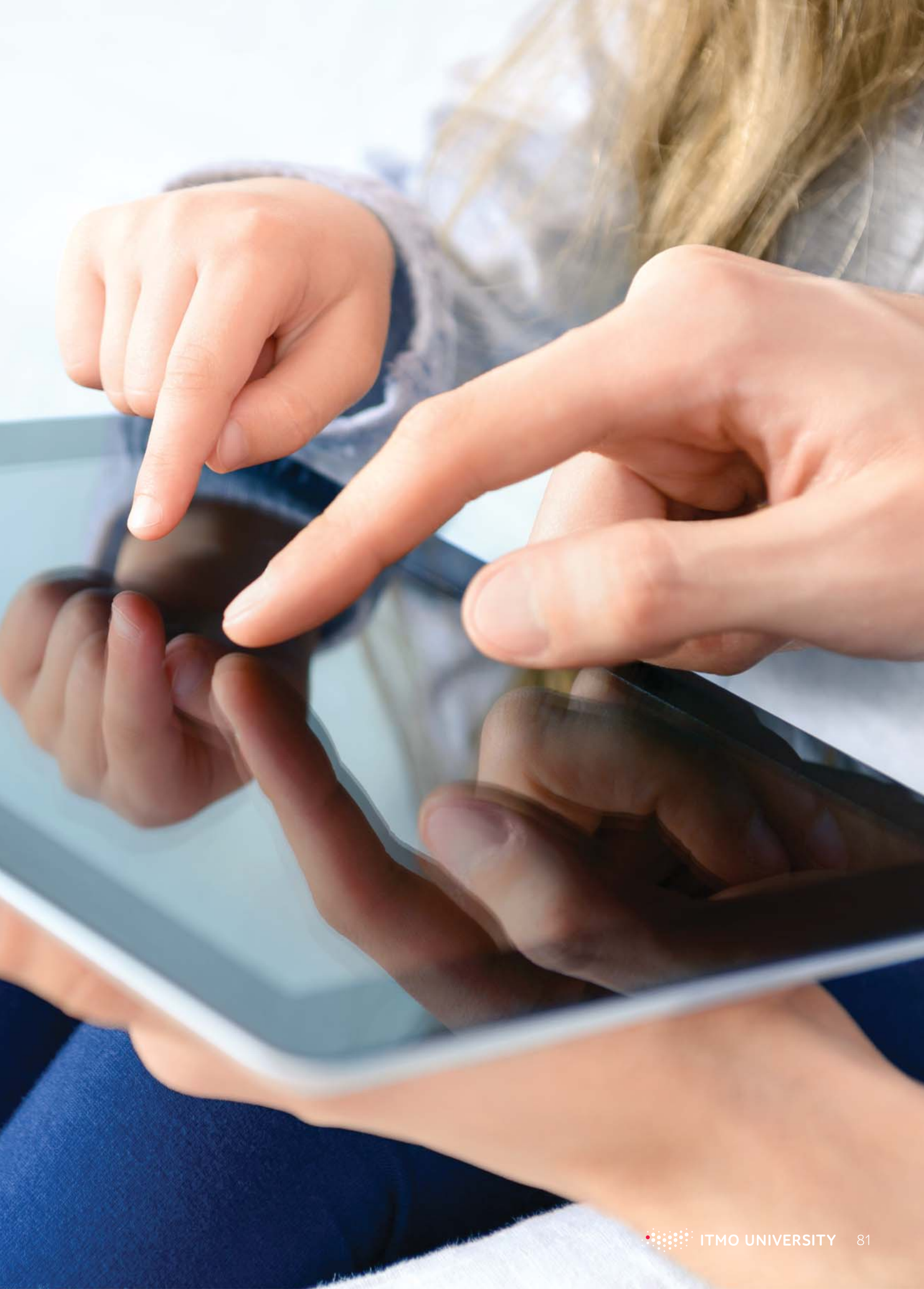
The department also offers short-term and long-term programs and workshops for IT managers in government.

The department accepts applications on to Master's programs that utilize individual learning tracks and distance education.

The department also offers short-term and long-term programs and workshops for IT managers in government.

Experts at ITMO University develop proprietary teaching mechanisms and manuals.

The Department of Government Information Systems Management, the first in Russia, was opened on the basis of the center to train qualified personnel for IT departments of every level of government and various organizations.



International projects

- R&D
- Marketing research and Expert evaluation
- Educational services

International projects

Russian projects

During 2013, the Center for Electronic Government participated in several international projects:

Project "Increasing the Potential of Local Government Offering Electronics Services in Ida-Virumaa, Leningrad Region and Pre-Border Territories"
(in the framework of ENPI Estonia, Latvia, Russia)

Project Policy Compass
(in the framework of FP7)

Project eGovPoliNet
(in the framework of FP7)

The goal of the project is the establishment of an international community of experts in applied IT and modeling of the policies for electronic technologies in government. The consortium implmenting the project consists of 17 participants from14 countries.

Project Russian Federation in International ICT Ratings

The goal of the project is the formulation of proposals for the improvement of Russia's position in international ICT rankings, as well as recommendations on carrying out activities aimed at improving the country's position in those ratings, including the methodological changes in the leading indicators of information society.

Also a number of projects were implemented by requests from regional and federal authorities.

Among such projects - programs for the development of information society in the Republic of Mordovia and the Vologda region; the study of the demand for e-government services in the framework of the Federal Target Program "Scientific and scientific-pedagogical personnel of innovative Russia"; examination and monitoring of e-government in the Leningrad region.

NUMBERS 2013

$8.66

mln the amount of project funding

The goal of the project – increasing the potential in the area of socially important services through the development of collaboration and the joint use of electronic government opportunities in the border regions of Russia and Estonia.

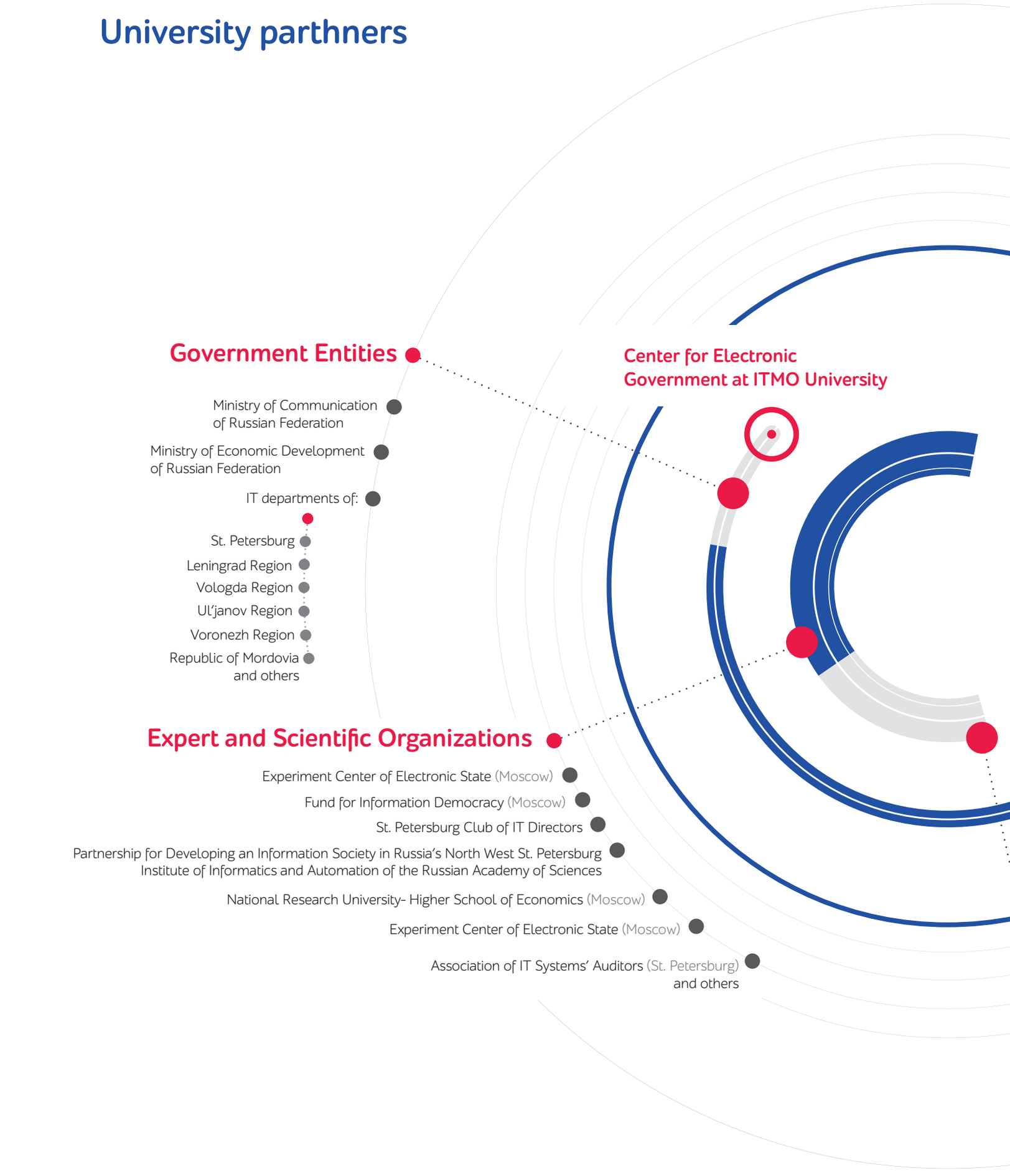
Carried out by seven partners from UK, Germany, Greece, Spain and Russia, the project is aimed at researching the theory and practice of methods and instruments for modeling the processes of the federal and municipal government. Part of the research will be devoted to the improvement and testing of mathematical models and applied solutions that use openly available government data, social medial, crowdsourcing, and platforms for electronic participation for identification and forecasting of complex social and economic trends.

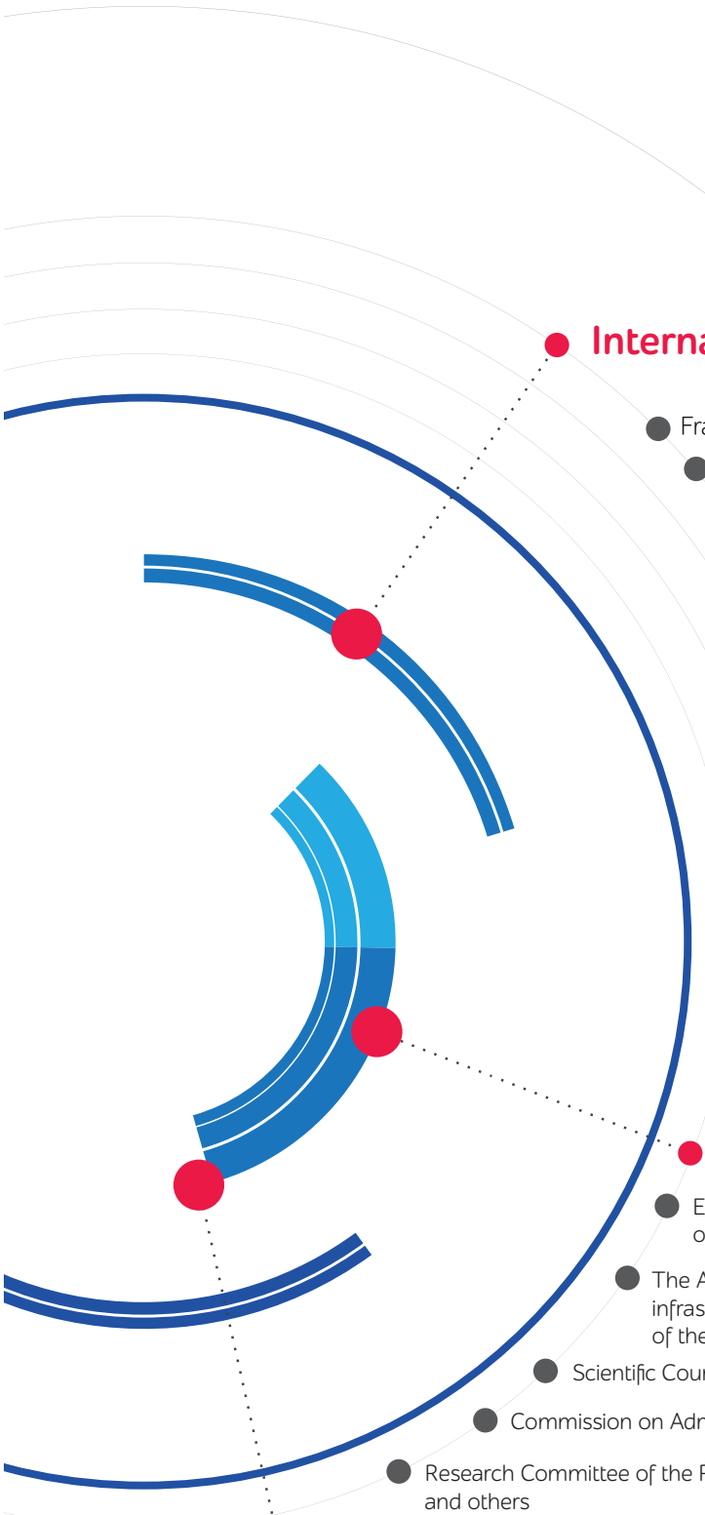
ims.ifmo.ru

Conference "Internet and Modern Society - IMS"

IMS is an annual conference that is held in St-Petersburg since1998.
Since 2011 IMS is facilitated by ITMO University. Conference brings together experts from leading Russian and international research centers. Scientists discuss issues connected with the development of interdisciplinary research in the fields of IT, digital libraries, integration and interaction of information resources, digital editions and development of e-document space for R&D.

University parthners





International Organizations

- Fraunhofer Institute for Open Communication Systems (Germany)
- e-Governance Academy (Estonia)
- Center for Technology in Government, University Albany (SUNY, USA)
- University of Koblenz-Landau (Germany)
- Center for Electronic Governance, United Nations University
- World Bank, ICT department (USA)
- International Information Technologies University (Kazakhstan)
- Narva Business Advisory Service Foundation (Estonia)
- Innopartnership (Finland-Russia)

Expert Councils and Panels

- Expert Council to the Commission on the development of the information society of the Federation Council of the Federal Assembly of the Russian Federation
- The Advisory Council on the development and operation of e-government infrastructure under the Ministry of Communications and Mass Communications of the Russian Federation
- Scientific Council on Informatization of St. Petersburg
- Commission on Administrative Reform of St. Petersburg
- Research Committee of the Russian Political Science Association, "Information Technology and Politics," and others

Expert Councils and Panels

- Microsoft
- CISCO Systems
- BIG-St. Petersburg
- PEAK Systems
- Evolenta and others

Strategy-2020

Improving of innovation activities at ITMO University is aimed at positioning the university as a driver of the knowledge based economy.

The attention is focused transferring the results of intellectual activity to the economy, taking university's scientific, educational, innovative and entrepreneurial services to foreign markets in partnership with foreign companies.

12 licensing agreements with high-tech manufacturers by 2020

79.6% The share of non-government financing by 2020

One of the vectors of development – promoting the development of innovative products, including in conjunction with development institutions (primarily, "RUSNANO" and JSC "Russian Venture Company") and the world's leading high-tech and R & D industries, in particular, the Fraunhofer Institute (Germany).

The University's development strategy is focused on improving the entrepreneurial culture within the university, creating motivation and organizing a comfortable working environment for staff and students in the existing as well as emerging startup accelerators, engineering centers, business incubators and fabrication laboratories.

Over
70
startups and small businesses by faculty and students by 2020

25% of faculty and students involved in innovations by 2020

2020

Key targets for ITMO University:

- A developed network of innovation infrastructure, which provides easy access to information, offers comprehensive educational and consulting services for both ITMO University faculty and staff and external customers.
- A steady flow of new business projects are to be generated by students, namely Master's degree programs graduates (as a part of their Master's thesis). SIEs shall be created as a result, boosting general University entrepreneurial environment. Business disciplines should thus be included in required curriculum for students at ITMO.
- Marketing of innovative, entrepreneurial, research and educational services of ITMO University to international audiences in close partnership with foreign partner companies.

05

EXTRA-CURRICUAL ACTIVITIES

Structure

Students, of course, are the most important part of the team at ITMO University. The university has always supported and continues to support the ideas and initiatives of students, which has led to the creation of one of the largest systems of student self-government in Russia.

It allows young people to participate in dealing with strategic issues and directly influence the development of the university.

NUMBERS 2013

54

million rubles – the amount of subsidies by the Russian Ministry of Sciences and Education in support of ITMO University's student organizations

FACTS

21
sports clubs

29
arts clubs

9
Student Construction Teams

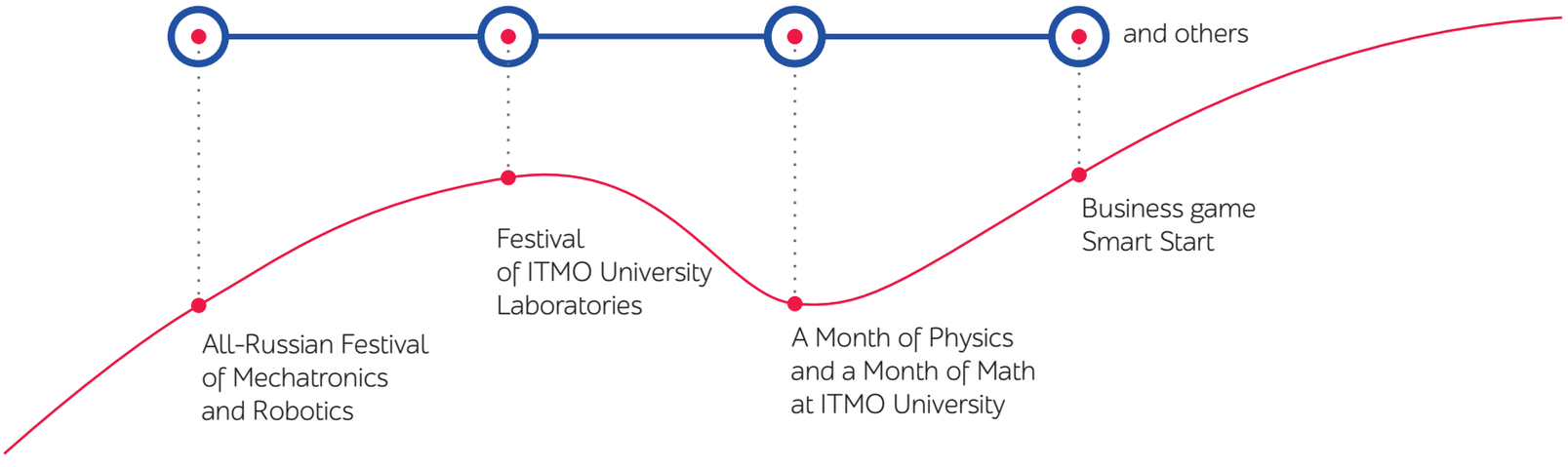
ITMO University Student Council includes all student organizations of the university and has focused its activities on 11 main areas in 2013.

ITMO University Student Council

- Student Union
- Student Group Leaders
- Student Scientific Society
- Student Club
- Headquarters of Student Teams
- Student Sports Club "Kronverk Panthers"
- Student Volunteer Center
- Marketing Club
- Student Council of the Campus
- Student Press Center
- Foreign Students' Council
- Councils of teaching departments and institutes

Science and Innovation

Student Council participated in creating a student mechatronics lab and in the organization of several scientific events:



Student Construction Teams

Events held by student teams develop the student construction movement, increase cultural and creative level, as well as the skills of its participants.

NUMBERS 2013

Over

400

people participated in student teams

Youth Entrepreneurship

The goals of the Council in this area include:

- Supporting the initiatives of talented students in project development
- Creation of youth entrepreneurial environment
- Integration of science and entrepreneurship
- Educating students about the basics of business and entrepreneurship

In 2013, the council was instrumental in holding the Big Bang contest of student research and innovations projects and also a business game "Creative, Initiative, Business-oriented" among the students of St. Petersburg colleges and universities.

Careers and Employment

Student Council worked on the creation of a shared database of company profiles for all departments, assisted in the preparation of the Open Days, the festival "Entrant" and a series of events dedicated to the students to get acquainted with their future profession.

Development of Student Self-Government

Student Council organizes annual retreats, allowing students to develop social activities, teach them to work as a team, reveal the creative and organizational skills.

In November 2013 ITMO University was one of the hosts of the All-Russian Student Forum with a keynote by the ITMO University head of student council Evgeny Raskin.

Leisure and Creativity

The most ambitious events of 2013 were the contest "Miss ITMO" and "Mr. ITMO," the graduation and two major students' festival – "Spring at ITMO" and "I'm a Freshman!" Creative teams of ITMO University became winners of several competitions and festivals: "Art Studio," "Student Spring," "City of our friendship."

The University established league of KVN (comedy), and the ITMO KVN team competes in the International League of KVN in Minsk.

200 leisure and creativity events

24 teams are part of ITMO's Comedy KVN League

"Miss ITMO" and "Mr. ITMO" Contests

The contests are held at the St. Petersburg Music Hall and traditionally gather over 1,500 spectators.

"I'm a Freshman" Festival

Over 600 freshmen show off their talents by taking part in this annual festival.

Department teams are then assessed by an invited jury during a gala concert.

They select individual and team winners in various categories. A complete champion in 2013 was the freshman class of the Physics and Engineering Department.

"Spring at ITMO" Festival

The festival unites several events at ITMO University. The departments present their best acts during a gala concert of the festival.

The jury that consists of notable actors, journalists, and dignitaries evaluate the acts as well as the general participation in the festival.

The winner is the department with the most points.

Graduation

ITMO University graduates receive their diplomas at the "Oktiabrsky Concert Hall," one of the best concert venues in the city.

The two top graduates get to shoot the signal cannon at Peter and Paul's Fortress.

Sport and Healthy Living

In 2013, ITMO University launched "Kronverk Panthers" sports club, bringing together more than twenty sports sections of the university, including the new – ice hockey team, opened mini soccer league, downhill skiing, football, stretching.

The sporting events held in 2013 include night skating and a trip to water park, roller blading and skiing.

ITMO University men's mini soccer team became the champion of the city, the vice-champion of Russia ("Golden League") and the winner of the All-Russian tournament "Cup of Discoveries".

NUMBERS 2013

60

times ITMO University students took part in all-Russian an city-wide competitions and championships in 2013


BAUER
ITMO
40

Volunteering

The Student Volunteer Center of ITMO University organizes a variety of volunteer projects. One of the major activities of the volunteer center is the "Week of Kindness", aimed at promoting creative volunteering and involving students in social responsibility activities.

Some of the activities that were part of the Week were a "Day without a Cigarette," grounds maintenance day, volunteering at the Botanical Gardens, collecting books for children.

Another major project was the competition "People Need You," In which 17 student teams from St. Petersburg worked on the volunteer projects with partner organizations.

Patriotism

Throughout the year, the university regularly conducted field trips to cultural attractions in Russian cities.

It also organized a celebration of the Astronauts Day, trips to the Planetarium and the Museum of Artillery, celebrations dedicated to the Victory Day and other memorable dates, such as special days of support for just causes.

International Student Collaboration

As part of hosting delegations, students at ITMO University together with guests visited museums and exhibitions, learned more about culture of foreigners in our country.

One of the best examples of international youth cooperation was the participation of ITMO University students in the project "Train of Friendship Association of Technical Universities in Russia and China."

Along the way, students made stops in Beijing, Harbin, Dalian and Shanghai. The delegation stayed 3-4 days in each city. ITMO University students delivered creative presentations and discussed with their Chinese counterparts issues important to young people of both countries.

Information Resources

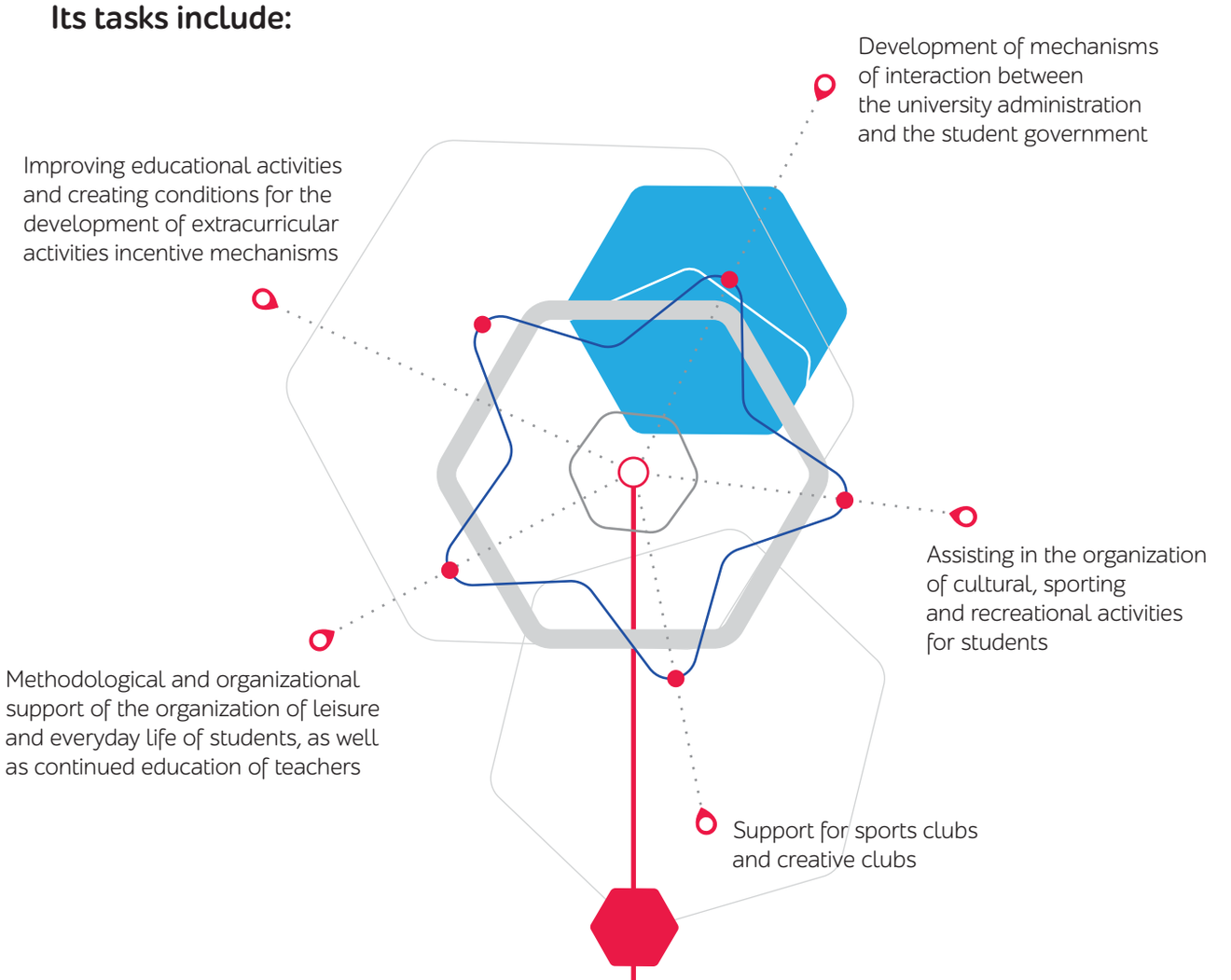
In 2013 started its work an online-radio station "MB. ITMO," which also offers a recording studio for podcasts and music compositions.

It is broadcasted in the university's canteen. Student TV and print publications continue their successful work.

Extra-curricular social work

The administration of ITMO University traditionally focuses on working with students. The main unit responsible for the development of students' activity is the Department of Extracurricular and Social Work.

Its tasks include:



The department includes the following organizations:

Center for Extra-curricular Activities

Center for the Development of Student Government

Media Center

Training and Fitness Center "Yagodnoe"

Center for Student Social Support

Students and Alumni Employment Assistance Center

Sports Club

Opportunities

For applicants

- City and nation-wide Olympiads and contests
- Career guidance schools and centers
- Preparatory classes

For business

- Joint educational departments (at business locations)
- Production facilities on campus
- Customized research and development
- Forecasting of scenarios in technological development
- Joint educational programs for students
- Internships for young specialists
- Individual continued education programs for staff

For students

- Over 450 bachelor, master and professional education programs
- Internships in leading Russian and international companie
- Joint programs, including "double degree" with colleges and universities in Germany, USA, Finland, the Netherlands, etc.
- Open lectures by leading domestic and foreign scientists and business leaders
- Research in teams with leading Russian and foreign scientists
- 500 arts and sports clubs
- Over 450 bachelor, master and professional education programs
- Over 10 organizations of student government
- Competition-based financing for implementation of business projects

For scientists

- 15 specialized PhD programs
- Russian and international grants
- Internal competitions for implementation of research projects, opening of scientific labs, etc.
- Internal information system about foreign and Russian grants and competitions
- Modern scientific labs
- International research projects

For alumni

- Two business incubators and technical facilities
- Assistance with employment
- Continued professional education, graduate programs
- Alumni association
  - Access to university technical infrastructure at discount rates
  - Collaboration with students and young scientists
  - Participation in a variety of events

Since 2013, ITMO University has held an open international competition for researchers who can apply as ITMO Fellows и Visiting Professors.

The competition offers three levels type of short-term research positions at the university:

- ITMO Post-doctoral Fellow
- ITMO Fellow
- Visiting Professor

Winners are guaranteed:

- Competitive compensation
- Research funds
- Assistance with rent

Learn more at fellowship.ifmo.ru

Partners


RVC

ROSNANO

CATEX
СОЗДАНИЕ НАУКОЁМКИХ ПРОИЗВОДСТВ

ЭВРИКА
EUREKA

Skoltech
Skolkovo Institute of Science and Technology

Sk
Сколково


1С


cisco

DASSAULT
SYSTEMES

EMC²

GM

hp

HERIOT
WATT
UNIVERSITY

IBM

@mail.ru
group

Microsoft

ORACLE

R-Pro
IT-CONCERN

SAMSUNG
ELECTRONICS

UCLA

ALEXANDRINSKY
THEATRE

DIAKONT

DIPOLE

ДЮКОН

ЛАЗЕРНЫЙ ЦЕНТР
LASER CENTER

ХОЛДИНГ
«ЛЕНПОЛИГРАФМАШ»

LOMO

МЭРИТ
Министерство экономического развития,
инвестиций и торговли Самарской области

Yandex

Russian
Railways

РЦИ
Некоммерческое партнерство
«Региональный центр инноваций»

ГРУППА КОМПАНИЙ
АЛКОР БИО


JSC «TECHPRIBOR»

TRANSAS

РИС
КАФЕДРА РЕЧЕВЫХ
ИНФОРМАЦИОННЫХ
СИСТЕМ

Riki

ЭЛЕКТРО
ПРИБОР

АГЕНТСТВО
СТРАТЕГИЧЕСКИХ
ИНИЦИАТИВ

bee pitron

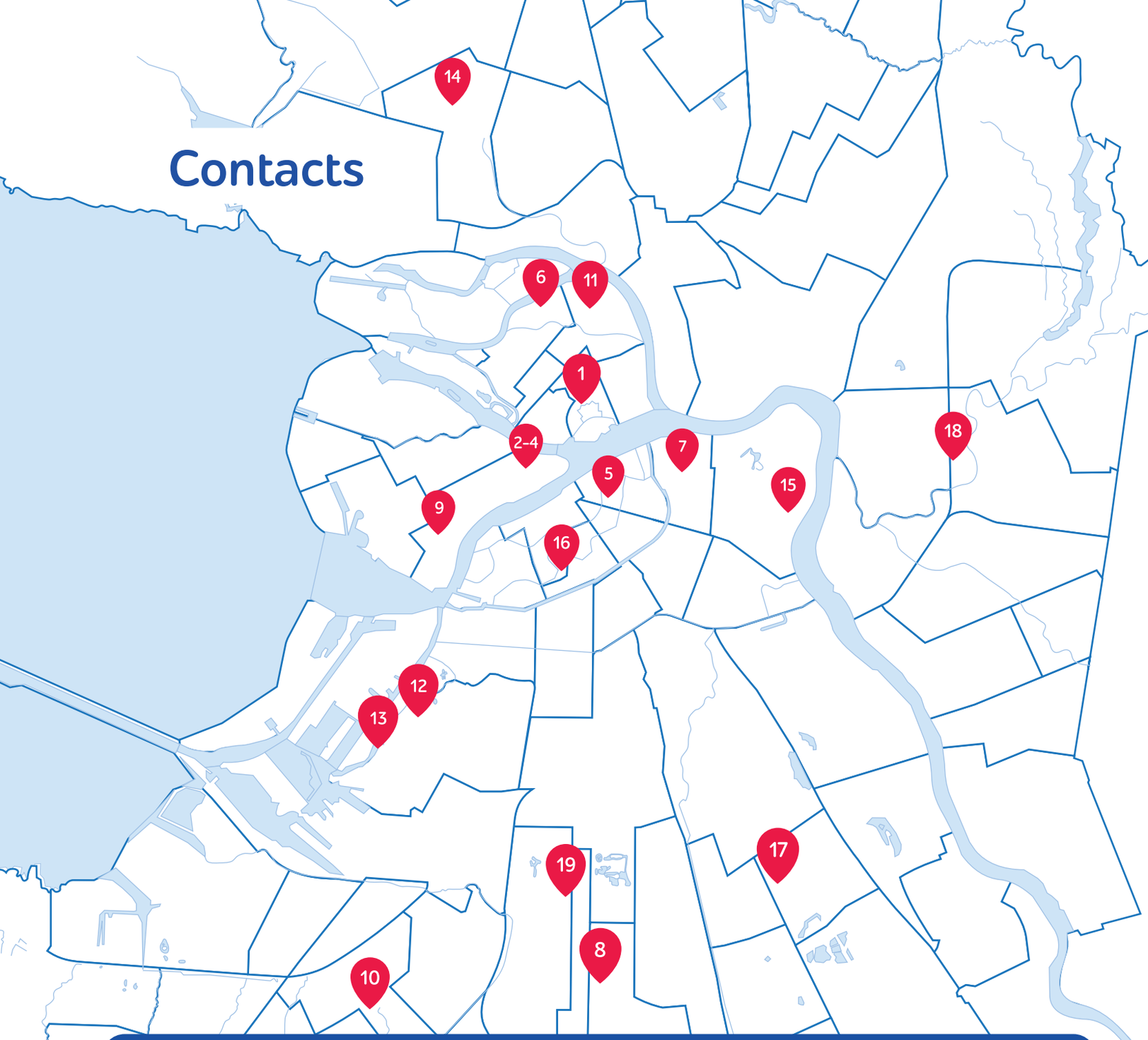
HiTEC
HIGH TECHNOLOGIES
AND ENGINEERING CLUSTER

ВНИИМ
1842

USRF
The U.S. Russia Foundation

SPINVERSE
Capital & Consulting

Contacts



ITMO University`s Buildings

1. ITMO University Main Building, Kronverksky prospect, d. 49
2. Birzhevaya liniya, d. 4
3. Birzhevaya liniya, d. 16
4. Birzhevaya liniya, d. 14
5. Grivtsova per.,d. 14-16
6. Pesochnaya nab., d. 14
7. Chaikovskogo ul., d. 11/2
8. Gastello ul., d. 12
9. Kadetskaya Liniya V.O., d. 3, k. 2
10. Novoizmailovsky prospect, d. 34, k. 3
11. Vyazemsky per., d. 5-7
12. 2 Komsomolskaya ul., d. 5
13. 2 Komsomolskaya ul, d. 7, k. 1
14. Serebristiy bul., d. 29, k. 1
15. Khrustalnaya ul, d. 14
16. Lomonosova ul, d. 9
17. Alpiysky per., d. 15, k. 2
18. Belorusskaya ul, d. 6
19. Lensoveta ul, d.23

Rector`s Office

To inquire about the work of the Rector, please contact Rector's office:

BUSINESS HOURS

Monday-Thursday: 10:00 - 18:00
Friday: 10:00 - 17:00
Saturday and Sunday: closed
Lunch break: 13:00 - 14:00

CONTACTS

Irina Mikhailova
Rector's PA
Phone:+7 (812) 233-00-89
E-mail: rector@mail.ifmo.ru

ADDRESS

197101, St. Petersburg, Kronverksky prospect, 49

Student Admissions (Bachelor`s and Master`s programs)

To inquire about admissions to Bachelor's or Master's degree programs, please contact Student Admissions of ITMO University:

BUSINESS HOURS

Monday-Friday: 10:00 - 17:00
Saturday and Sunday: closed
Lunch break: 13:00 - 14:00

CONTACTS

Gennady Boltunov
Executive Secretary of ITMO University Admissions Committee
Phone: +7 (812) 232-28-93 (Kronverksky prospect, 49)
Phone: +7 (812) 314-78-69 (ul. Lomonosova, 9)
E-mail: abit@cde.ifmo.ru

ADDRESS

197101, St. Petersburg, Kronverksky prospect, 49

Admissions Committee (PhD programs)

To inquire about admissions to PhD degree programs, please contact the PhD academic department of ITMO University:

BUSINESS HOURS

Tuesday-Friday: 11:00 - 17:00
Saturday and Sunday: closed
Lunch break: 13:00 - 14:00

Galina Lukianova
Dean of PhD Department
Phone: 7 (812) 232-81-90 (room 309A)
E-mail: lukianova@mail.ifmo.ru

Monday-Friday: 11:00 - 17:00
Saturday and Sunday: closed
Lunch break: 13:00 - 14:00

Maria Skvortsova
Head of international PhD and Doctorate Programs Department
Phone: +7 (812) 232-80-95 (office 308)
Phone: +7 (921) 313-52-51
E-mail: aspirantura@mail.ifmo.ru
E-mail: skvortsova@mail.ifmo.ru

ADDRESS

197101, St. Petersburg, Kronverksky prospect, 49
(office 308, 309A)

General Accounting

To receive general information please contact the staff of the General Accounting:

BUSINESS HOURS

Monday-Friday: 10:00 - 17:00
Saturday and Sunday: closed
Lunch break: 13:00 - 14:00

CONTACTS

Irina Ivanova
Head of General Office
Phone: +7 (812) 232-97-04
Fax: +7 (812) 232-23-07
E-mail: od@mail.ifmo.ru

ADDRESS

197101, St. Petersburg, Kronverksky prospect, 49
(office 284)

International Office

To inquire about international partnership, joint educational programs, international students and teaching staff support please contact International Office of ITMO University:

BUSINESS HOURS

Monday-Friday: 10:00 - 18:00
Saturday and Sunday: closed

CONTACTS

Daria Kozlova
Director of Institute of International Development and Partnership
Phone: +7 (812) 498-10-70
E-mail: international@mail.ifmo.ru

ADDRESS

197101, St. Petersburg, Kronverksky prospect, 49 (office 259)
199034, St. Petersburg, Birzhevaya liniya, 14 (office 433)

Department of Strategic Communications and Marketing

To inquire about Information sponsorship, interviews and official comments for media, use of ITMO University`s elements of corporate style, please contact Head of Department of Strategic Communications and Marketing:

BUSINESS HOURS

Monday-Friday: 10:00 - 19:00
Saturday and Sunday: closed

CONTACTS

Anna Veklich
PR advisor to the Rector
Phone: +7 (906) 27-06-298
E-mail: pressa@mail.ifmo.ru

ADDRESS

197101, St. Petersburg, Kronverksky prospect, 49 (office 270)

International Office

To inquire about international partnership, joint educational programs, international students and teaching staff support please contact International Office of ITMO University:

BUSINESS HOURS

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E-mail: pressa@mail.ifmo.ru

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197101, St. Petersburg, Kronverksky prospect, 49 (office 270)

HR Department

To inquire about employment, dismissals and other HR related questions, please contact HR Department.

BUSINESS HOURS

Monday-Thursday: 10:00 - 17:00
Friday: 09:00 - 17:00
Saturday and Sunday: closed
Lunch break: 13:00 - 14:00

CONTACTS

Olga Kotuseva
Head of HR Department of ITMO University
Phone: +7 (812) 233-54-95
E-mail: oko@mail.ifmo.ru

Svetlana Petrova
Head of HR Department of Institute of Refrigeration and Biotechnology
Phone: +7 (812) 764-83-83

ADDRESS

197101, St. Petersburg, Kronverksky prospect, 49
(office 265, 266)

197101, St. Petersburg, Lomonosova ul., 9
(office 1104-1106)

Student Council of ITMO University

To inquire about student activities and cooperation with student clubs and organizations please contact the Student Council:

BUSINESS HOURS

Monday-Friday: 10:00 - 19:00
Saturday and Sunday: closed

CONTACTS

Evgeny Raskin
Head of the ITMO University Student Council
Phone: +7 (812) 233-38-22
E-mail: oko@mail.ifmo.ru

Andrey Zlenko
Head of the ITMO University Student Union
Phone: +7 (812) 232-76-72

ADDRESS

197101, St. Petersburg, Kronverksky prospect, 49
(office 159-a)

Appendix

Research Institutes and Centers

Name	Head
Research Center for Nanophotonics and Optoinformatics	Nikolai Nikonorov D.Sc. Tech., Prof.
Research Center for High Performance Computing	Aleksandr Bukhanovsky D.Sc. Tech., Prof.
Research Center for Laser Physics	Arthur Mack D.Sc. Tech., Prof.
Center for Information Optical Technologies	Anatoly Fedorov D.Sc. Tech., Prof.
Learning, Scientific and Manufacturing center "Russar"	Dmitri Rumiantsev
Research and Learning Center "Nanotechnologies"	Vladimir Vasiliev RAS corresponding member, D.Sc. Tech., Prof. Alexander Golubok D.Sc. Tech., Prof., senior researcher
Joint Use Center "Prototypes and Commercial Design"	Aleksei Gribovksy PhD.Sc.Tech, associate prof.
Research Institute of Testing and Monitoring	Vladimir Prokhorovich D.Sc. Tech., Prof.

International Research Centers

Name	Head
Photonics, optics and optoinformatics	
International laboratory "Intelligent Optical Systems"	Nikolay Belashenkov PhD. Phys.-Math.Sci.
International laboratory "Laser Systems"	Evgeny Viktorov PhD. Phys.-Math.Sci.
International Scientific-Technical Center for Computational Optics, Photonics and Imaging	Igor P. Gurov D.Sc. Tech., Prof.
International Institute "Photonics and Optical Information Technology"	Sergey Kozlov D.Sc. Tech., Prof.
International laboratory "Technosphere safety"	Valery Korotayev D.Sc. Tech., Prof.
International laboratory "Information technologies in optical design and testing"	Irina Livshits PhD.Sc.Tech, Senior researcher
Laboratory of Nonlinear Optical Informatics	Nikolay Rosanov D.Sc. Tech., Prof.
International laboratory "Laser micro- and nanotechnologies"	Vadim Veiko D.Sc. Tech., Prof.
Information Technology and Robotics	
Adaptive and Nonlinear Control Systems Lab	Aleksei Bobtsov D.Sc. Tech., Prof.
International laboratory "Cognitive technology analysis of large databases"	Vladimir Vitkovsky PhD.Sc.Tech., Prof.
International laboratory "SCA Research Lab"	Igor Zikratov D.Sc. Tech., Prof.
International laboratory "Intelligent information processing methods and semantic technologies"	Dmity Muromtsev PhD.Sc.Tech, Associate prof.

Name	Head
Information Technology and Robotics	
Laboratory of architectures and design techniques for embedded systems and systems on chip	Alexey Platunov D.Sc. Tech., Prof.
Laboratory of power electronics and automated electric drive	Valentin Tomasov PhD. Sc.Tech, Associate prof.
Международная лаборатория «Сетевые технологии в распределенных компьютерных системах»	Sergey E. Khoruzhnikov PhD. Phys.-Math.Sci., Associate prof.
IT in economics , culture and social sphere	
International laboratory "Networking technologies in distributed computer systems"	Nikolai Borisov D.Sc. Tech., Senior researcher
TROIKA: Technology and Research On Information-driven Knowledge Alliance	Aleksandr Bukhanovsky D.Sc. Tech., Prof.
International laboratory "Sustainable development and resource efficiency in the food chain"	Viktor L. Vasilyonok D.Sc. Tech., Prof.
International laboratory "Science Studies"	Sergey Polotayko Dr.Sc.Philosophy, Associate prof.
International laboratory "Design of urban ecosystems"	Marina Sukhorukova PhD. Phys.-Math.Sci., Associate prof.
International scientific laboratory of e-learning technologies	Lubov Lysitsina D.Sc. Tech., Prof.
International Research and Education Center «Economic and humanitarian technologies in scientific-technical field»	Petr Kolychev Dr.Sc.Philosophy, Associate prof.

Name	Head
Natural Science	
International laboratory "Mathematical methods of complex physical systems researchers"	Igor Popov D.Sc. Tech., Prof.
International laboratory "Applied Fluid and Gas Dynamics"»	Alexander Baranenko D.Sc. Tech., Prof.
International laboratory "Nonlocalized plasma in nanotechnology and medicine"	Alexander Tchirtsov PhD. Phys.-Math.Sci., Prof.
"Smart" materials, nanomaterials and nanotechnology	
International laboratory "New materials and nanofilms for microsensors, microwave and power electronics component base"	Pavel Bulat PhD. Phys.-Math.Sci.
International laboratory "Nonlinear optical molecular crystals and microlasers"	Igor Denisyuk D.Sc. Tech., Senior researcher
International laboratory "Advanced Photonic Materials and Technologies"	Nikolay Nikonorov D.Sc. Tech., Prof.
International laboratory "Advanced LED materials and devices"	Aleksey Romanov D.Sc. Tech., Prof.
International laboratory «Physics of Carbon Optical and Electrical Nanostructures» (part of « International Research and Education Centre for Physics of Nanostructures »)	Anatoly Fedorov D.Sc. Tech., Prof.
The International Research Centre for Nanophotonics and Metamaterials	Pavel Belov D.Sc. Tech., Lead researcher

Name	Head
Bioinformatics and healthcare science	
International laboratory "Artificial Sensory Systems"	Andrey Legin PhD Chemical Sci., Senior researcher
Laboratory on direct energy conversion and nano-engineering of thermoelectric structures	Lev Bulat D.Sc. Tech., Prof.
International Research Laboratory "Multimodal biometric and speech systems"	Yuri Matveev D.Sc. Tech., Prof.
International laboratory "Computer technologies"	Vladimir Perfyonov D.Sc. Tech., Prof.
International laboratory of structural bioinformatics	Yuri Porozov PhD Math.Sci., Associate prof.
International scientific and research institute of Bioengineering	Maya Uspenskaya D.Sc. Tech., Prof.

Research Centers

Name	Code	Year founded	Founders	Director
Fundamental problems of reliability and precision in machinery and instruments	50218	1935	Faydor Litvin D.Sc. Tech., Prof.	Viktor Musolimov D.Sc. Tech., Prof.
Thermophysics in instrumentation and technology	10414	1938	Gennady Dulnov D.Sc. Tech., Prof. Georgy Kondratiev D.Sc. Tech., Prof.	Alexander Sharkov D.Sc. Tech., Prof. Gennady Lukianov D.Sc. Tech., Prof.
Opto-electronic instrumentation	51107	1938	Mikhail Miroshnikov RAS corresponding member Konstantin Solodilov D.Sc. Tech., Prof. Semion Tzukerman D.Sc. Tech., Prof. Leonid Porfiriev D.Sc. Tech., Prof.	Valery Korotaev D.Sc. Tech., Prof. Igor Koniakhin D.Sc. Tech., Prof.
Theoretical and Applied optical engineering	10405	1939	Mikhail Rusinov D.Sc. Tech., Prof. Vladimir Tchirulevsky D.Sc. Tech., Prof.	Viktor Zverev D.Sc. Tech., Prof. alexander Shekhonin D.Sc. Tech., Prof.
Organization of computer systems and networks	51315	1952	Sergey Izenbeck D.Sc. Tech., Prof. Sergey Mayorov D.Sc. Tech., Prof. Gennady Novikov D.Sc. Tech., Prof.	Taufik Aliev D.Sc. Tech., Prof. Aleksey Platunov D.Sc. Tech., Prof.
Technology and physics of cryogenics	50403	1953	Semion Budnevich D.Sc. Tech., Prof.	Evgeny Borzenko, D.Sc. Tech., Prof.

Name	Code	Year founded	Founders	Director
Thermophysical instrumentation and thermal engineering	10414	1954	Anatoly Tkachev D.Sc. Tech., Prof. Evgeny Platunov D.Sc. Tech., Prof.	Oleg Tsvetkov D.Sc. Tech., Prof. igor Baranov D.Sc. Tech., Prof.
Innovative strategies and tools of management and economic development	80005	1957	Petr Lovikov PhD.Sc.Tech, associate Prof. Ivan Belaev Dr.Sci.Economy., Prof.	Igor Minko Dr.Sci.Economy., Prof. Viktor Vasilenok Dr.Sci.Economy., Prof.
Nonlinear and adaptive management for uncertainty	51301	1960	Ivan Paltov D.Sc. Tech., Prof. Ilya Miroshnik D.Sc. Tech., Prof.	Vladimir Nikiforov D.Sc. Tech., Prof. Aleksei Bobtsov D.Sc. Tech., Prof.
Measuring technology and computed tomography	51101	1960	Vladislav Ivanov D.Sc. Tech., Prof.	Maria Marusina D.Sc. Tech., Prof. Valery Sizikov D.Sc. Tech., Prof.
Interaction of optical radiation with matter. Photophysics of Nanoscale Systems	10405	1961	Aleksei Bonch-Bruevich RAS corresponding member	Tigran Vartanian D.Sc. Tech., Prof. Vasily Khromov D.Sc. Tech., Senior researcher
Technology, organization and automation of manufacturing	50222	1963	Sergey Mitrofanov D.Sc. Tech., Prof. Yuri Shnaider D.Sc. Tech., Prof. Vladimir Petrov Dr.Sci.Economy., Prof.	Dmitry Kulikov D.Sc. Tech., Prof. Vyacheslav Valetov D.Sc. Tech., Prof.

Name	Code	Year founded	Founders	Director
Fundamentals of laser micro- and nanotechnology	52703	1965	Aleksei Bonch-Bruevich RAS corresponding member Vadim Veiko D.Sc. Tech., Prof. Mikhail Libenson D.Sc. Tech., Prof.	Vadim Veiko D.Sc. Tech., Prof.
Electromechanical systems and their management	51305	1966	Tatiana Glazenko D.Sc. Tech., Prof. Yuri Sabinin D.Sc. Tech., Prof.	Valentin Tomasov PhD.Sc.Tech, Associate prof.
Biotechnology and resource engineering systems	30004	1970	Nikolay Golovkib D.Sc. Tech., Prof. Mikhail Kniaginichev Dr.Sc.Chemical, Prof. Georgy Chizhov D.Sc. Tech., Prof.	Valentina Kolodyaznaya D.Sc. Tech., Prof.
Automation of design, technology of elements and units of computer systems	51315	1975	Sergey Mayorov D.Sc. Tech., Prof. Godar Petukhov PhD.Sc.Tech, Prof.	Yuri Gatchin D.Sc. Tech., Prof. Anatoly Korabeinikov D.Sc. Tech., Prof.
Physics-chemical and reactive properties of multicomponent techno-functional systems	20004	1980	Igor Orkhov D.Sc. Tech., Prof. Leonid Timofeevsky D.Sc. Tech., Prof.	Alexander Baranenko D.Sc. Tech., Prof. Vadim Kirillov D.Sc. Tech., Associate prof.
Laser Optics	52703	1985	Arthur Mack Dr. Phys.-Math.Sci., Prof. Nikolai Rozanov RAS corresponding member	Arthur Mack Dr. Phys.-Math.Sci., Prof. Nikolai Rozanov RAS corresponding member

Name	Code	Year founded	Founders	Director
Physics and Technology of Optical Communication	51107	1986	Alexpander Porokhov RAS member, Nobel Prize winner Evgeny Danilov RAS member	Igor Meshkovsky D.Sc. Tech., Prof.
Integrated navigation and traffic control systems	51103	1991	Vladimir Peshekhonov RAS member	Vladimir Peshekhonov RAS member
Computer technology in professional education	130008	1992	Sergey Stafeev D.Sc. Tech., Prof. Lubov Lysitsina D.Sc. Tech., Prof.	Sergey Stafeev D.Sc. Tech., Prof. Lubov Lysitsina D.Sc. Tech., Prof.
Nanomaterials and nanotechnologies for photonics	20004	1995	Gury Petrovsky RAS member	Nikolai Nikonorov D.Sc. Tech., Prof.
Logic and Methodology of Science	90007	1996	Boris Fyodorov Dr.Sc.Philosophy, Prof. Zurab Dzaziashvilli Dr.Sci.Philosophy, Prof. Tatiana Novolodskaya PhD.Sci.Philosophy., Associate prof.	Al-Ani Mahid Makhdi Dr.Sc.Philosophy, Prof. Aleksei Miloslavov PhD.Sci.Philosophy., Associate prof.
Protection and information security in information technology and telecommunication systems	51319	1998	Vladimir Lipaev D.Sc. Tech., Prof.	Igor Zikratov D.Sc. Tech., Prof. Oleg Nemolochnov D.Sc. Tech., Prof.
Mathematical methods for nanosystems research	10405	1998	Igor Popov D.Sc. Tech., Prof.	Igor Popov D.Sc. Tech., Prof.
Programming technology, evolutionary computation and genome assembly	51311	2000	Anatoly Shalyto D.Sc. Tech., Prof.	Anatoly Shalyto D.Sc. Tech., Prof.

Name	Code	Year founded	Founders	Director
Research and development of metamaterials	51107	1986	Pavel Belov D.Sc. Tech., Prof. Konstantin Simovsky Dr. Phys.-Math.Sci., Prof.	Pavel Belov D.Sc. Tech., Prof. Konstantin Simovsky Dr. Phys.-Math.Sci., Prof.
Optical hybrid nanostructured materials and self-assembled structures	10405	2001	Igor Denisiuk D.Sc. Tech., Prof.	Igor Denisiuk D.Sc. Tech., Prof.
Femtosecond optics and femtotechnology	10405	2002	Sergey Kozlov D.Sc. Tech., Prof. Victor Bespalov Dr. Phys.-Math.Sci., Prof.	Sergey Kozlov D.Sc. Tech., Prof. Victor Bespalov Dr. Phys.-Math.Sci., Prof.
Optics of quantum nanocrystals	10405	2005	Anatoly Fyodorov D.Sc. Tech., Prof. Alexander Baranov D.Sc. Tech., Prof.	Anatoly Fyodorov D.Sc. Tech., Prof. Alexander Baranov D.Sc. Tech., Prof.
Computer modeling of complex systems	51318	2006	Vladimir Vasiliev RAS corresponding member Alexander Bukhanovsky D.Sc. Tech., Prof.	Vladimir Vasiliev RAS corresponding member Alexander Bukhanovsky D.Sc. Tech., Prof.
Modernization of the innovation environment for the development of Russian economy	80005	2008	Elena Bogdanova Dr.Sci.Economy., Prof. Ivan Tchepurnoy D.Sc. Tech., Prof.	Elena Bogdanova Dr.Sci.Economy., Prof. Ivan Tchepurnoy D.Sc. Tech., Prof.
Intellectual systems in economics and computer science for business	80005	2008	Sergey Smirnov Dr.Sci.Economy. Prof. Nikolay Toivonen PhD. Phys.-Math.Sci., associate prof.	Sergey Smirnov Dr.Sci.Economy. Prof. Nikolay Toivonen PhD. Phys.-Math.Sci., associate prof.

International Research Centers

Code	Name
01.01.03	Mathematical physics
01.02.01	Theoretical mechanics
01.02.04	Mechanics of deformable solids
01.04.02	Theoretical physics
01.04.05	Optics
01.04.14	Thermophysics and thermology
02.00.04	Physical chemistry
03.01.04	Biological chemistry
05.02.18	Theory of machines and mechanisms
05.04.03	Machinery and processes of refrigerating and cryogenic equipment, air conditioning and life support systems
05.09.12	Power electronics
05.11.01	Measuring Instruments and methods (by measurement types)
05.11.03	Navigation instruments
05.11.07	Optical and electro-optical instruments and complexes
05.11.13	Instruments and methods of environmental, substance, material and product control
05.11.14	Instrumentation
05.13.01	System analysis, information management and processing (in technical systems)
05.13.05	Hardware of computers and control systems
05.13.06	Technical processes and production automation and control
05.13.11	Software for computer systems, complexes networks
05.13.12	Automated systems of engineering (by industry)
05.13.15	Computer systems, complexes networks

Code	Name
05.13.17	Foundations of information science
05.13.18	Mathematical modeling, numerical methods and program systems
05.16.01	Methods and systems of data protection, information security
05.13.19	Physical metallurgy и thermal treatment of metals and alloys
05.17.06	Polymer and composite materials technology and treatment
05.18.04	Technology of meat, dairy and fish products and refrigeration
05.18.07	Food biotechnology and biologically active substances
05.18.12	Food production methods and machinery
05.23.03	Heating, ventilation, air conditioning, gas supply and lighting
05.27.03	Quantum electronics
07.00.02	National history
07.00.03	General history
08.00.05	Economics and national economy management
08.00.13	Mathematical and instrumental methods in economics
09.00.07	Logic
09.00.13	Philosophical anthropology, Philosophy of Culture
12.00.01	Theory and history of state and law; history of state and law studies
12.00.02	Constitutional and municipal law
12.00.03	Civil law; business law; family law; private international law
12.00.14	Administrative law; administrative procedure
23.00.02	Political institutions, processes and technologies
25.00.35	Geomatics
25.00.36	Eco-geology

Doctorate degree programs

Code	Name
01.04.05	Optics
01.04.14	Thermophysics and thermology
05.04.03	Machinery and processes of refrigerating and cryogenic equipment, air conditioning and life support systems
05.11.01	Instruments and measuring methods (by measurement types)
05.11.07	Optical and electro-optical instruments and complexes
05.11.14	Instrumentation
05.13.01	System analysis, information management and processing (in technical systems)
05.13.11	Software for computer systems, complexes networks
05.13.12	Automated systems of engineering (by industry)
05.13.18	Mathematical modeling, numerical methods and program systems
05.13.19	Methods and systems of data protection, information security
05.18.04	Technology of meat, dairy and fish products and refrigeration
05.18.07	Food biotechnology and biologically active substances
05.18.12	Food production methods and machinery
05.27.03	Quantum electronics

List of dissertation councils (DC)

DC code	Program code and name		DC Chairman
D 212.227.01	**05.11.07**	Optical and electro-optical instruments and complexes	Viktor Prokovenko D.Sc. Tech., Prof.
	05.27.03	Quantum electronics	
D 212.227.02	**01.04.05**	Optics	Sergey Kozlov D.Sc. Tech., Prof.
	05.11.01	Measuring Instruments and methods (thermal and optical quantities)	
D 212.227.03	**05.13.01**	System analysis, information management and processing (in technical systems)	Vladimir Nikiforov D.Sc. Tech., Prof.
	05.13.05	Hardware of computers and control systems	
D 212.227.04	**05.02.18**	Theory of machines and mechanisms	Victor Zverev D.Sc. Tech., Prof.
	05.11.01	Measuring Instruments and methods (mechanical quantities)	
	05.11.14	Instrumentation	
D 212.227.05	**05.13.12**	Automated systems of engineering	Oleg Nemolochnov D.Sc. Tech., Prof.
	05.13.19	Methods and systems of data protection, information security	
D 212.227.06	**05.13.06**	Technological process and production automation and control	Vladimir Vasiliev D.Sc. Tech., Prof.
	05.13.11	Software for computer systems, complexes networks	
	05.13.18	Mathematical modeling, numerical methods and program systems	
D 212.227.07	**08.00.05**	Economics and national economy management (innovation and investment management)	Elena Bogdanova Dr.Sci.Economy., Prof.
D 212.227.08	**01.04.14**	Technology of meat, dairy and fish products and refrigeration	Alexander Baranenko D.Sc. Tech., Prof.
	05.04.03	Machinery and processes of refrigerating and cryogenic equipment, air conditioning and life support systems	
D 212.227.09	**05.18.04**	Technology of meat, dairy and fish products and refrigeration	Valery Pelenko D.Sc. Tech., Prof.
	05.18.07	Food biotechnology and biologically active substances	
	05.18.12	Food production machinery and processes	

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NewTone magazine ..... newtone.ifmo.ru

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Notes

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