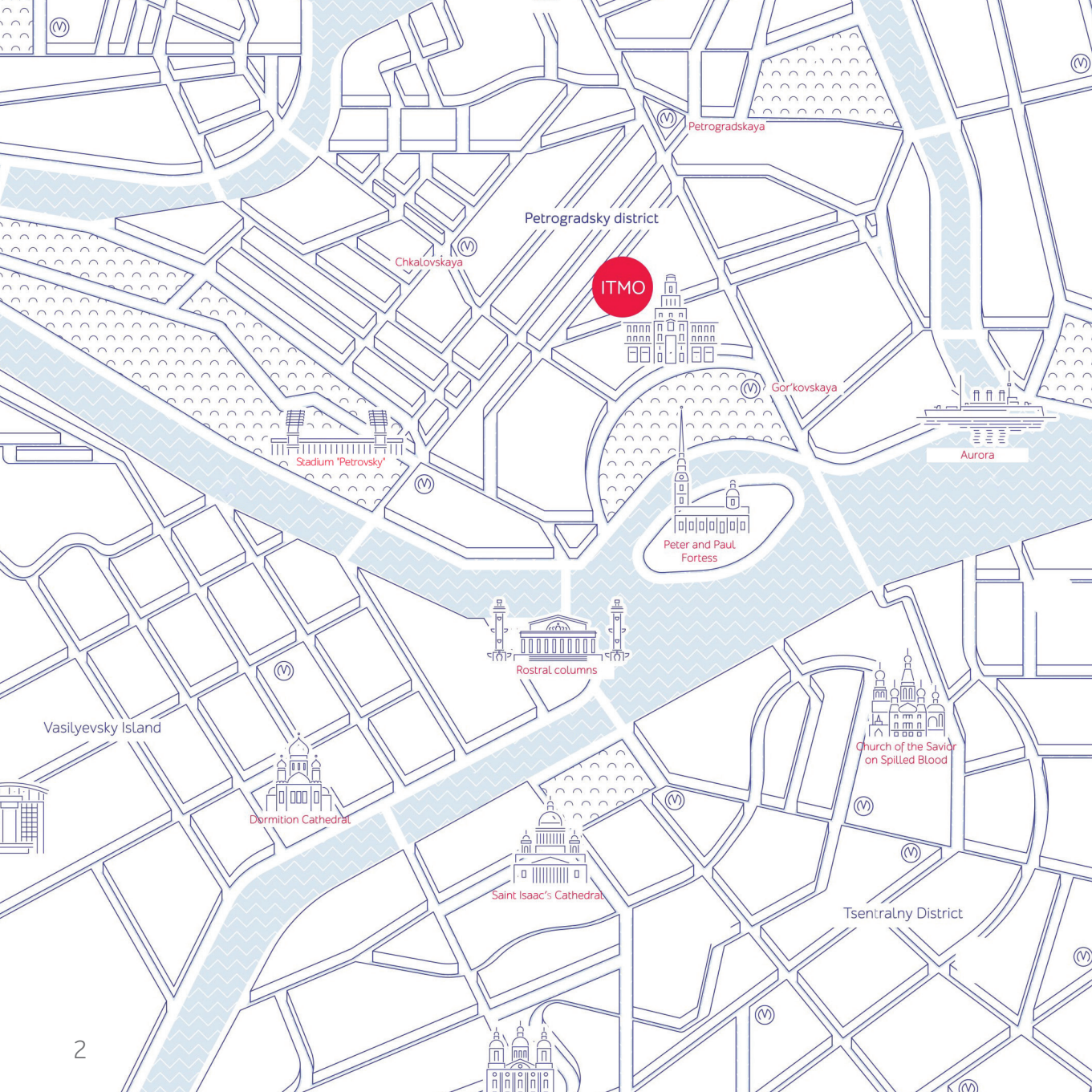




INFORMATION TECHNOLOGIES AND PROGRAMMING DEPARTMENT



Petrogradsky district

ITMO

Petrogradskaya

Chkalovskaya

Stadium "Petrovsky"

Gor'kovskaya

Aurora

Peter and Paul
Fortress

Rostral columns

Vasilyevsky Island

Dormition Cathedral

Saint Isaac's Cathedral

Church of the Savior
on Spilled Blood

Tsentralny District

“THERE’S ONLY CAPITAL IN THE WORLD. THE REST ARE JUST CITIES.”

St. Petersburg Poet Georgy Adamovich

It’s our pleasure to invite you to study in Russia’s Northern Capital – St. Petersburg! The City on the Neva is rightfully called the IT center of Russia. It is home to over 2,000 IT companies that employ over 30,000 developers and programmers. It was here that ITMO University’s Information Technologies and Programming Department **was established over 20 years ago** to train expert programmers. Its alumni now are six-time ACM ICPC World Champions.

St. Petersburg is one of the most magnificent cities in the world, along with London, Paris and Rome, just to name a few. Here you can dive into the world of renowned Russian writers and poets, such as Dostoyevsky and Pushkin, as well as visit famous sites, including the Hermitage, Palace Square, St. Isaac’s Cathedral, Peter and Paul’s Fortress, Mariinsky Theater and Peterhof.

The Information Technologies and Programming Department is located in the very heart of St. Petersburg, in a historic building of ITMO University on Kronversky Prospect, steps away from Peter and Paul’s Fortress and the Spit of Vasilyevsky Island.

We’re certain that the unique atmosphere of our city will inspire you to make new discoveries, and ITMO University will help equip you with the knowledge and skills necessary to bring your ideas to life!

Welcome to St. Petersburg!

ITMO University team

ITMO UNIVERSITY

in numbers

FOUNDED IN 1900

35

international research
centers

47

joint educational programs
with the leading international
universities

1020

articles indexed by Web
of Science and Scopus in 2014

125

PhD and Doctor's thesis
defended by Math
and Physics Majors



ADMINISTRATION



Rector

Vladimir Vasilyev,

Professor,

Doctor of Technical Sciences,

Corresponding Member of the Russian
Academy of Sciences,

Head of the Computer Technologies Chair

Dean

Vladimir Parfenov,

Professor,

Doctor of Technical Sciences,

Head of the Information Systems Chair



LECTURERS



Roman Elizarov,

Russia's first programming champion,
DevExperts Vice President, chief judge
of ACM ICPC NEERC



Georgiy Korneev,

Presidential Award for Education
winner, ACM ICPC 2001 Gold Medalist,
judge of the Russian National Contest
in Informatics, PhD



Pavel Mavrin,

ACM ICPC 2004 World Champion,
IOI 2002 Silver Medalist



Andrew Stankevich,

Presidential Award for Education winner,
judge of the Russian National Contest
in Informatics, ACM ICPC 2001 Gold
Medalist, PhD



Maxim Buzdalov,

ACM ICPC 2009 World Champion,
author of over 40 papers indexed
by Scopus, PhD



Konstantin Kokhas,

judge of the Russian National Contest
in Mathematics, IMO Bronze medalist, PhD

COLLABORATION WITH INDUSTRY

The Department collaborates with the leading Russian and foreign software companies.

The University got the highest ranking for IT-experts training by Russoft*.

*Source: cnews.ru

The logo for Yandex, featuring the word "Yandex" in a red and black sans-serif font.The logo for EMC², featuring the letters "EMC" in a blue serif font with a superscript "2" and a registered trademark symbol.The logo for JetBrains, featuring the word "Jet" in orange script and "BRAINS" in blue bold sans-serif, with the tagline "Develop with pleasure!" below.The logo for TRANSAS, featuring a blue stylized wave icon and the word "TRANSAS" in red outlined letters, with the tagline "SETS THE STANDARD" below.The logo for DATAART, featuring the word "DATA" in blue and "ART" in white on a blue background, with a registered trademark symbol.The logo for ORACLE, featuring the word "ORACLE" in a red sans-serif font.

over
20 top employees of these
companies teach at the
department



EMPLOYMENT

Starting in their third year, students work on real-life projects that often become the basis for their Bachelor and Master's thesis. Internships are provided by such companies as Yandex, JetBrains, Transas, Facebook and Google.

over

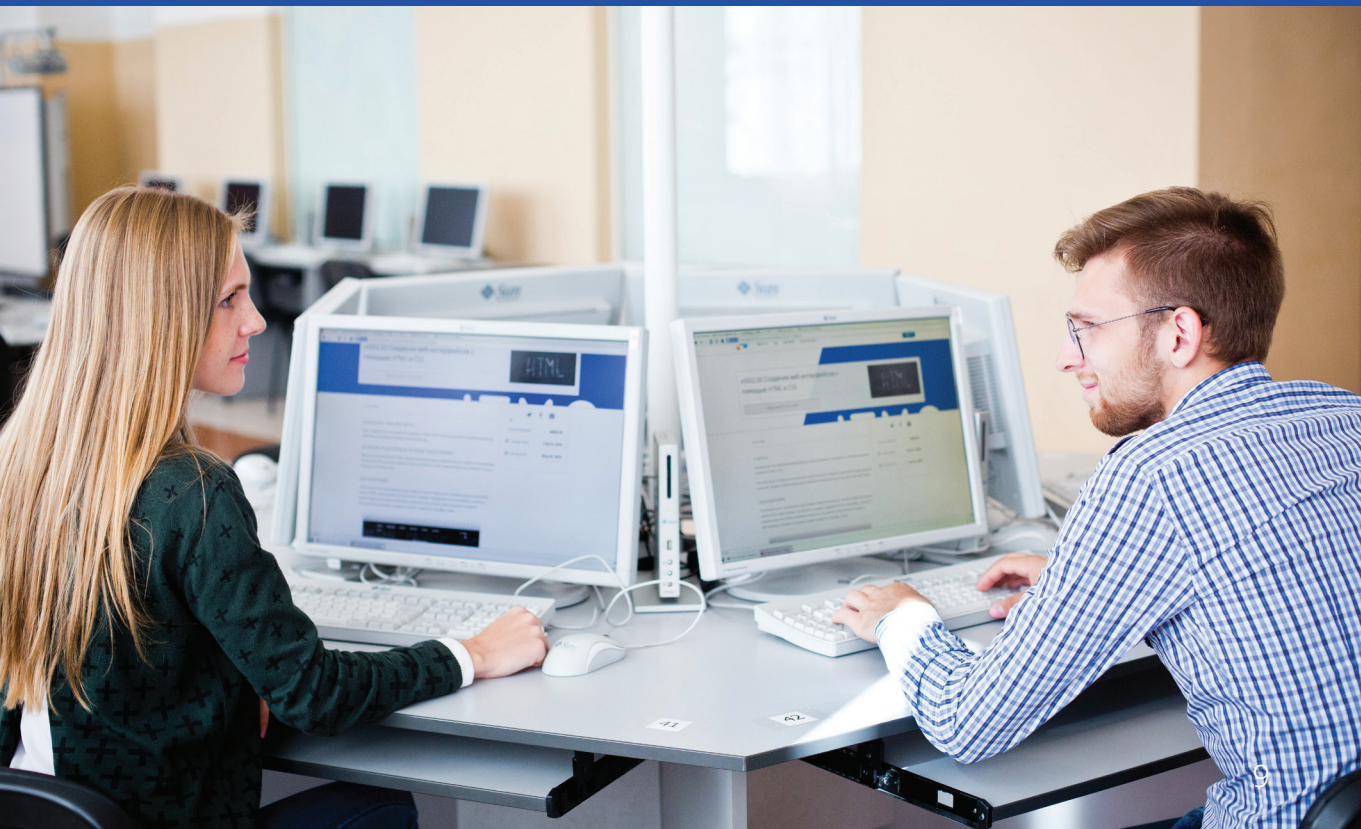
40

IT-companies founded
by the Dept's alumni

over

2000

employees
in total





Professor Anatoly Shalyto (co-chair of the international research center “Computer Technologies”) and Ph.D. Vladimir Ulyantsev

Heads of the international research centers are the leading researchers in their field working at the leading research universities around the world: USA, Germany, China, France, the Netherlands, Singapore, Finland, Switzerland, and Sweden.

In 2014, the researchers of the Department published over 150 articles in foreign peer-reviewed journals and presented at 56 international conferences.

RESEARCH

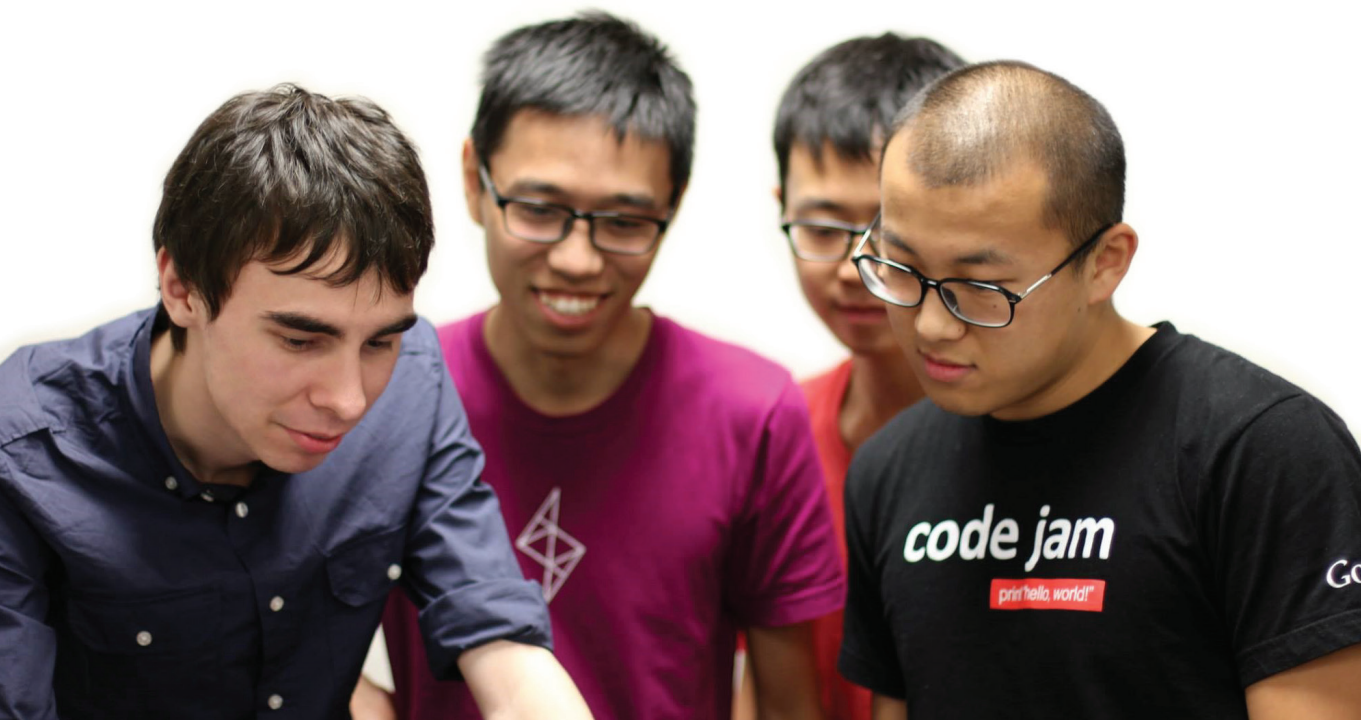
Topics

- Software Engineering
- Bioinformatics
- Artificial Intelligence
- Automation Theory
- Programming Algorithms and their Visualization
- Machine Learning
- Computer Simulation

International Research Centers

- Supercomputer Technologies
- Computer Technologies
- Speech Analysis and Technologies
- Intelligent Technologies for Socio-Cyber-Physical Systems





Niyaz Nigmatullin, a two-time world champion in programming, is helping train the UCLA team in Los Angeles.

The Department offers Double Degree Master's and PhD programs that allow students to obtain two degrees from two universities at the same time.

The Department's instructors are often invited to lecture at the leading universities in the US, China, France, Switzerland, Finland and other countries.

INTERNATIONAL COLLABORATION

Our main international academic partners are

- ETH Zurich (Switzerland)
- University of Amsterdam (the Netherlands)
- Washington University in St. Louis (USA)
- Nanyang Technological University (Singapore)
- Aalto University (Finland)

ETH zürich



UNIVERSITY OF AMSTERDAM

A! Aalto University

 Washington
University in St. Louis



NANYANG
TECHNOLOGICAL
UNIVERSITY

ITMO UNIVERSITY PROFESSORS EMERITI



Niklaus Wirth (2005),

Turing Award laureate, creator of programming languages Pascal, Modula, Modula-2, Oberon



Bertrand Meyer (2006),

creator of the programming language Eiffel



John Hopcroft (2009),

Turing Award laureate, famous scientist specializing in theory of computation and data structures



Robert Kahn (2012),

Turing Award laureate, one of the founders of the Internet



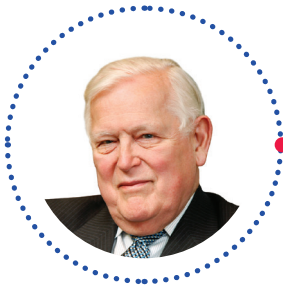
Bjarne Stroustrup (2013),
creator of the programming language C++



Tony Hoare (2013),
Turing Award laureate, one of the founders of discrete mathematics, author of Quicksort algorithm and Hoare Logic, widely used for software verification



Andrew Stankevich (2015),
coach of the ITMO University team, six-time ACM ICPC winners



Rudolf Kalman (2015),
Kyoto Award laureate, inventor of the Kalman filter

ITMO UNIVERSITY TEAM – ACM ICPC PROGRAMMING WORLD CHAMPIONS

2004



Victory at the world
championship in 2004.

2004



President of Russia Vladimir Putin
with champions in 2004.

2009



Victory at the world championship in 2009.

2008



Victory at the world championship in 2008.

2009



President of Russia Dmitry Medvedev
with champions in 2009.

2012



Victory at the world
championship in 2012.

2013

2015



Victory at the world
championship in 2013.



Victory at the world
championship in 2015.

ACM ICPC INTERNATIONAL COLLEGIATE PROGRAMMING CONTEST

ITMO University team are 11-time gold medalists and six-time World Champions in programming.



The President of Russia **Vladimir Putin** said at St. Petersburg Economic Forum on June 19, 2015: **"Our young people are winning the most prestigious international competitions. Here's the most recent example: ITMO University students have proven once more that they're unequalled. This year the University team again became absolute winners, leaving behind the world's top programming schools. The team of ITMO University is the world's only six-time winner of the international competition in competitive programming. I'd like to congratulate them once again!"**

Opening an educational center for gifted children “Sirius” on September 1, 2015, **President Putin** said: **“Many examples set by your peers show the opportunities that Russia opens for educated, determined and gifted people. For example, the student team of the ITMO University has been confidently winning world programming championships for several years in a row. With that, the stars of the university stay after graduation in Russia and go to work for Russian high-tech companies, launch their own startups and teach at their alma mater.”**



Gennady Korotkevich, student of the Computer Technologies Chair, won all the most prestigious individual international programming competitions in 2014, including **Facebook Hacker Cup**, **Google Code Jam**, **Russian Code Cup**, **Yandex.Algorithm**, **TopCoder Open**.

During the eight months of 2015, Gennady won four top competitions: **Facebook Hacker Cup**, **Yandex.Algorithm**, **VK Cup (together with Niyaz Nigmatullin)**, **Google Code Jam**.

INDIVIDUAL PROGRAMMING COMPETITIONS

Facebook Hacker Cup 2014

- **1 place** – Gennady Korotkevich
- **4 place** – Niyaz Nigmatullin
- **6 place** – Andrew Stankevich

Yandex.Algorithm 2014

- **1 place** – Gennady Korotkevich
- **8 place** – Mikhail Kever

Google Code Jam 2014

- **1 place** – Gennady Korotkevich
- **2 place** – Evgenii Kapun

TopCoder Open 2014

- **1 place** – Gennady Korotkevich
- **12 place** – Boris Minayev

VK Cup 2015

- **1 place** – Gennady Korotkevich, Niyaz Nigmatullin
- **2 place** – Adam Bardashevich, Boris Minaev
- **3 place** – Ivan Belonogov, Ilya Zban

Yandex.Algorithm 2015

- **1 place** – Gennady Korotkevich
- **3 place** – Evgenii Kapun



Two-time World Champions in Programming
Gennady Korotkevich and Niyaz Nigmatullin –
winners of VK Cup 2015.

ITMO University's champions along with their colleagues from ETH Zurich have held several programming camps for high school students in Davos, Switzerland (2010 - 2013). The Swiss side have also hosted students from St. Petersburg.

Training by ITMO University's champions turned out to be so effective that the teams of several universities made it into the finals of the programming contest for the first time

ETH Zurich

Zurich, Switzerland, 12th place in QS rankings. Programming schools were held here in 2010 – 2015. ETH team was in the finals in 2011 and 2015. ITMO University's World Champion F. Tsarev became the coach of team ETH Zurich for the contest's final in 2011 in Orlando, USA.

UCLA

University of California, Los Angeles, 37th place in QS rankings – 2015.



In 2013, the pre-contest tutoring took place in China at Peking University (57th place in QS) and Tongji University in Shanghai (393th place in QS).

Before the finals that took place at ITMO University, our champions tutored the participating teams from the following universities

- German University in Cairo
- Wroclaw University
- ETH Zurich
- Latvia University
- University of Bucharest
- Universidade de Sao Paolo
- Pontificia Universidad Catolica del Peru
- University California Los Angeles
- University of Central Florida
- University of New South Wales

Peking University teams have trained at ITMO University twice

- in 2014 – four teams, two visits
- in 2015 – four teams





After training with our champions, the teams from Peking University placed high in the programming contest finals two years in a row

- 2014 – 3rd place
- 2015 – 5th place

In 2015, ITMO University held a month-long session on machine learning and programming with 20 students from Instituto Tecnológico de Monterrey (238th place in QS). In 2011, the University held the Eurasian Programming School in Tashkent, Uzbekistan. Training sessions are planned at universities of France and Brazil.

Top coaches

- Two-time Programming Champion N. Nigmatullin, head coach of the Tatarstan high school team
- World Champion P. Mavrin, member of the International Contest in Informatics (IOI) Scientific Committee

World Champions Programming School is officially launched at ITMO University (wcps.ifmo.ru).

GRADUATES

- **Artem Astafurov,**
Vice-president of DataArt,
1300 employees
- **Mikhail Babushkin,
Stanislav Stolyar,
Roman Elizarov,
Artem Kozyrev,**
Co-founders of DevExperts,
over 600 employees
- **Pavel Belov,**
Head of ITMO University's Chair
of Nanophotonics and Metamaterials,
President's Award for Young Scientists
laureate, DSc
- **Andrey Breslav,**
Kotlin language author
- **Dmitri Gorilovsky,**
Author of the patent for dual-display
YotaPhone
- **Vitaliy Kleban,**
Author of the wireless network Lace
for IoT
- **Alexey Sergushichev,**
Contributor to Immunity and Molecular
Cell journals
- **Andrew Stankevich,**
Top programming coach, PhD
- **Oleg Stepanov,**
JetBrains CEO, 500 employees, PhD
- **Fedor Tsarev,**
Head of the St. Petersburg office of World
Quant, PhD
- **Nikita Shamgunov,**
co-founder of MemSQL, PhD
- **Danil Shopyrin,**
Founder of VisualSVN, PhD
- **Aleksandr Shtuchkin,
Evgenii Yuzhakov,
Timofey Borodin,**
developers of the world's first
communicator WiMax Yota



"Breakthrough " Awards 2009: President of Russia Dmitry Medvedev, E. Yuzhakov, F. Tsarev, A. Shtuchkin.



Government of the Russian Federation Awards in Education in 2008: M. Kazakov, G. Korneev.



SEARCHING FOR TALENT

Contests held by the department

- **ORSPC** – Open Russian School Programming Contest
- **IOIP** – Individual Olympiad in Informatics and Programming
- **NEERC** – quarter and semi-finals of the Northeastern European Regional Contest of ACM ICPC
- Open School Contest “Information Technologies”
- Open Mathematical School Contest
- Regional stage of the Russian National Contest in Informatics
- Russian Code Cup (in collaboration with Mail.Ru Group)



In 2013 ITMO University became the first university in Russia to host ACM ICPC World Finals.



The words “Petersburg Programmer” became an international brand thanks to a significant contribution by our Department’s staff. Our programmers are differentiated by a high level of theoretical training, creative approach and ability to find solutions to complex, unconventional problems.

Graduate students Vladimir Ulyantsev and Daniil Chivilikhin – recipients of the awards by the President of the Russian Federation and the Government of the Russian Federation.



MAJORS

Chair of Computer Technologies

- Applied Mathematics and Informatics

Chair of Information Systems

- Information Systems and Technologies
- Applied Informatics
- Business Informatics

Chair of High Performance Computing (Master's)

- Applied Mathematics and Informatics

Chair of Speech Information Systems (Master's)

- Applied Mathematics and Informatics

ACCOMODATIONS

ITMO University Campus

- Historic downtown of St. Petersburg
- 7-minute walk from “Petrogradskaya” metro station
- 20-minute walk to ITMO University
- **Dorms:**
 - Corridor type, 3 people per room;
 - Apartment type, 2-3 per room.
- **On campus:**
 - canteen, cafe;
 - cinema;
 - table tennis, gym;
 - dance hall;
 - sports clubs;
 - study rooms.



CHAIR OF COMPUTER TECHNOLOGIES

Chair of Computer Technologies focuses on advanced level courses. Most of the practical disciplines are taught by the leading experts of software developing companies. Advanced courses are often taught by the best professors from St. Petersburg universities.

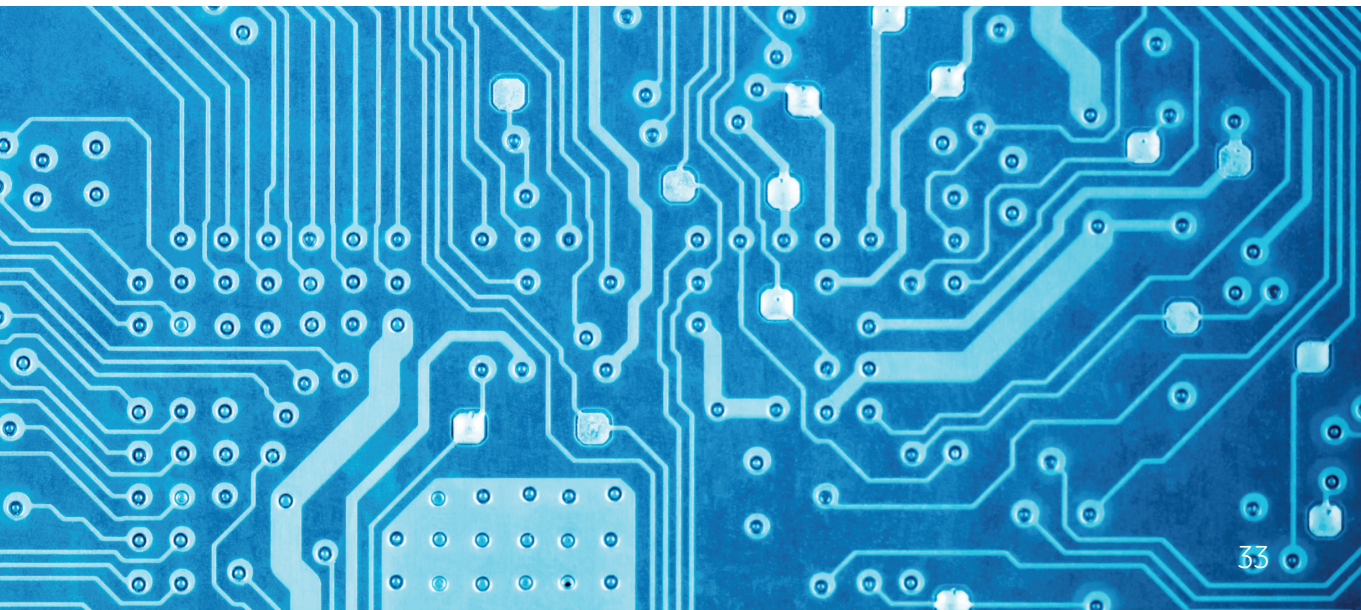
The University regularly hosts guest lectures, workshops and master classes by renowned scientists and successful entrepreneurs.

Among the students of the Chair are many winners of Russian and international contests in Mathematics, Informatics and Programming.

The Chair's alumni are sought after by Russian and foreign companies. Undergraduate and graduate students of the Chair who participate in research receive special scholarship and win grants.

BACHELOR DEGREE CURRICULUM:

- Computer Architecture
- Mathematical Analysis
- Assembler
- Linear Algebra and Geometry
- Java
- Discrete Mathematics
- Mobile Development
- Computational Geometry
- Machine Learning
- Mathematical Logic
- Operating Systems
- Differential Equations
- Probability Theory
- Algorithms and Data Structures
- Game Theory
- Mathematical Physics
- Computer Networks
- Parallel Programming
- Data-type Theory
- Functional Programming
- C++
- Formal Language Theory



CHAIR OF INFORMATION SYSTEMS

Chair of Information Systems offers two majors: "Information Systems and Technology" and "Business Informatics".

"Information Systems and Technology" program trains specialists in design, development and implementation of information systems and networks, IT infrastructure management (hardware and software systems, storage and data processing systems, enterprise systems) for industry, telecommunications, science and education.

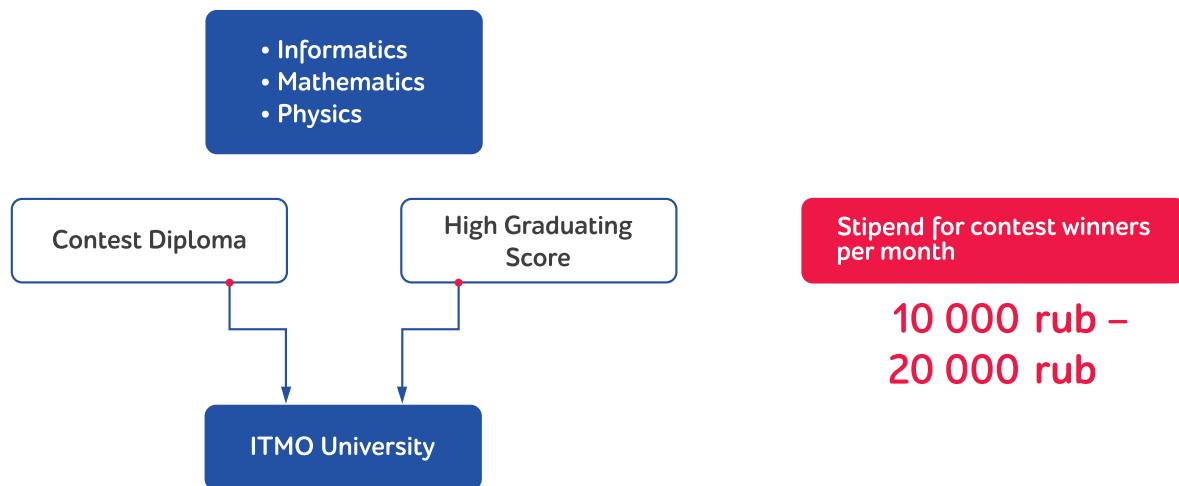
Students in the "Business Informatics" major will be able to start their career in analysis, development, implementation and support of enterprise systems. Up until recently such systems were only used by large companies in oil, energy, metallurgy and banking industries. In the coming years, these systems will be used by small and medium-sized businesses, which will keep the specialists in modern IT as well as business processes and management in high demand.

BACHELOR DEGREE CURRICULUM

- Operating Systems
- Telecommunication Systems and Technologies
- Database Design
- Information Systems Management
- Web-programming
- Information Security and Data Protection
- Intelligent Systems and Technology
- Data Storage
- Information Systems Architecture
- Complex Automation of Enterprises
- Design of Information Systems
- Analysis and Modeling of Enterprises and Business Processes
- Operations Research and Optimization Techniques
- E-business

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ENROLL IN ITMO UNIVERSITY!



Contacts

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Dmitri Zubok

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+7 (812) 941-76-25

ITMO University: www.ifmo.ru

Admissions: abit.ifmo.ru

Contests at CT Chair: neerc.ifmo.ru/school

Contests at IS Chair: olymp.ifmo.ru