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DARE TO BE PART OF SOMETHING BIGGER DARE TO BE A PHYSTECH



DMITRY LIVANOV Rector of MIPT

Coming to study at MIPT is far more than your opportunity to gain a top-notch tertiary education at one of the world-leading universities. This will be your golden ticket into a unique community of the most talented minds interested in science, who are not only eager to study, but also passionate about knowledge that will make them pioneers in a variety of cutting-edge research areas and enable them to be at the forefront of innovative technologies that will makedly shape the world.

In addition to the opportunities to study under most influential researchers, work in advanced and well-equipped laboratories, and enjoy the company of the best students and professors ever, studying at MIPT means living on our beautiful, cozy campus with all the comforts like sports and lots of extracurricular activities.

At MIPT, we are proud of our alumni - a large number of most successful entrepreneurs, tech founders, legendary scientists, Nobel laureates, philanthropists, politicians and even astronauts and famous artists. Yet, no matter what they do and in whatever field they succeed, they remain *phystechs*, as they traditionally call each other as graduates of Phystech – the unofficial name of MIPT.

So, do not just obtain your education, dare to dream big. Dare to be a PHYSTECH!

P. LIVANOU

MIPT AT A GLANCE

Moscow Institute of Physics and Technology (MIPT) known informally as Phystech, is a leading Russian university which trains specialists in theoretical and applied physics, applied mathematics, IT. life sciences and related disciplines

#201-250 in the world 🧶 in Russia

#47 Physical Sciences (🤷 in Russia) #91 Computer Science (in Russia)

🖤 in Russia #50 Physics & Astronomy (2) in Russia) #66 Natural Sciences (2) in Russia) #92 Mathematics (
in Russia)

UNIQUE "PHYSTECH SYSTEM"

The Phystech System was formulated by Nobel laureates Pyotr Kapitsa, Lev Landau, and Nikolay Semenov

MIPT's so-called "Phystech System" is a unique tradition, an educational legacy, aimed at preparing highly gualified specialists, who are in demand worldwide in key fields of science.

Pyotr Kapitsa, Nobel laureate in physics and one of the 'Founding Fathers' of MIPT, outlined the following basic principles in 1946 of the Phystech System:

Leading scientists from key institutions (such as universities, research centers and commercial knowledge-based organization where students do research and write their theses) shall be involved in student education using the high-tech equipment of these institutions.

Training in key institutions implies an individual approach to each student.

Each second-third year student shall be involved in scientific work.

UNIQUE "PHYSTECH SYSTEM": EDUCATION PROCESS

Engagement of researchers to hold seminars and workshops for students and for individual work in a creative environment

Selecting the most talented, brilliant scholars

Individual approach to each student, development of their potential

Focus on specific disciplines without overloading students with secondary general subjects

Advanced fundamental theoretical background coupled with hands-on training

Students' participation in research and scientific work starting from the 2nd or 3rd year in partner organization

Training of students in partner industrial organizations and research institutions using cutting-edge equipment

Upon completion of training, graduates obtain not only theoretical knowledge, but also practical engineering and experimental research skills and are fully ready to work

4th year 1st vear 2st year

Bachelor's

1st vear

2st vear

Master's

Intensive and fundamental courses in Mathematics, Physics, English, and Computer engineering

Specialized elective courses beginning in the second year

Courses and research projects at partner companies (incl. Russian Academy of Science and industrial partners) from the third year on

Most master's courses provided by more than 100 partner companies



WORLD

#281 in the world

UNIVERSITY

RANKINGS





3st year





Pyotr Kapitsa

FAMOUS ALUMNI OF MIPT

It is hard to find countries where there are no MIPT alumni. The strong alumni community is spread all over the world and include top range scientists, businessmen, politicians, people of art, many of whom are awardees of prestigious international prizes. "Phystechs" - the name that alumni use to identify themselves - and MIPT stand proud and supportive to each one of them.



ANDRE GEIM DGAP graduate (1982)

Sir Andre is a Russian, Dutch, and British physicist who became a 2010 Nobel Prize Laureate in Physics.

In 2011 Oueen Elizabeth II issued a decree awarding him with the title of Knight Bachelor for his services to science. He was also appointed Fellow of the Royal Society of London in 2007 and Foreign Member of the US NAS in 2012.





KONSTANTIN "KOSTYA" NOVOSELOV

and Foreign Member of the US

NAS

MIKHAIL LUKIN

DPQE graduate (1993)

Mikhail is a Russian and American

scientist in the field of theoretical

and experimental physics, professor

of physics at Harvard University. He

is included in the list of the most

cited scientists in the world and his

h-index is 125.

Informatics (1995) DPQE graduate (1997) Serguei is a businessman and

a venture capitalist. He is Sir Konstantin is a Russian and the chairman of the board of the British physicist. He became a 2010 Parallels company, and at the Nobel Prize Laureate in Physics same time he is the founder and and was appointed Fellow of the CEO of Acronis. Royal Society of London in 2007

SERGUEI BELOUSSOV

RATMIR TIMASHEV

MIPT graduate (1990)

Ratmir is a Russian businessman,

the founder of Aelita Software, the

founder and president of Veeam

Software, co-founder of the ABRT

Venture Fund and was one of

top-30 leading Russian IT-busines-

smen ranked by Forbes.



ALEKSANDR KALERI Doctoral degree (1983) Aleksandr is a Russian cosmonaut, who made 5 flights lasting a total of 769 days.





ALEKSANDR SEREBROV Doctoral degree (1970)

Aleksandr is a Soviet cosmonaut. A hero of the USSR. He had been a record holder (up to 1997) for totaling more than 56 hours of flying time on board the Mir station and for the number of extra-vehicular activities (10 times).



FR. MESROP ARAMIAN

NIKOLAY STORONSKY

MIPT Master's degree graduate

Nikolay is a prominent business-

man, CEO, and the founder of

Revolut, which is UK's most

valuable fintech startup.

Fr. Mesrop is an Adviser to the President of the Republic of Armenia on Education, the founder and editor-in-chief of Vem spiritual and cultural radio station and co-founder (together with Phystech graduates of different years D. Yan, A., and D. Pakhchanvans) of the Avb educational foundation



ELDAR AKHMETGALIEV

DCAM graduate

US Silicon Valley,

ARAM PAKHCHANYAN DMCP graduate (1985)

Aram is a Vice President of the ABBYY Group of Companies and co-founder of Ayb Educational Foundation and Ayb School where he holds a position as a director. Aram was twice included in the rating of "Top-100 Russian Managers" by AMR and "Kommer-







STANISLAV PROTASOV

Stanislav is a co-founder and senior vice president of software design and development at Acronis. He holds a Doctoral degree in physics and mathematics as well as 71 international patents. Stanislav is a co-author of container technology and one of the top CIOs by Kommersant.



MOHAMMAD MEHDI TEHRANCHI

MIPT Doctoral degree graduate

Mohammad is a modern Iranian theoretical physicist, academician, scientist professor emeritus of the Shahid Beheshti University, advisor to the head of the Center for Strategic Research of the Scientific and Technological Research Expediency Council and President of the Azad Islamic University.

DAVID YANG DGAP graduate (1989)

of the board of directors of the ABBYY group of companies. He holds Doctoral degree in Physics and Mathematics.

Eldar is the founder of a MOCAP David is the founder and member Analytics startup, which is now one of the best in the world in data processing based on machine learning. He currently works in the



IS RESERVED FOR YOU!

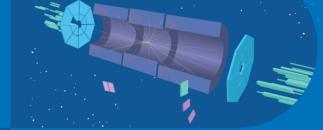






PHYSTECH SCHOOLS

LANDAU PHYSTECH SCHOOL OF PHYSICS AND RESEARCH



•••• PHYSTECH SCHOOL OF RADIO ENGINEERING AND COMPUTER SCIENCE





PHYSTECH SCHOOL OF APPLIED MATHEMATICS AND COMPUTER SCIENCE



PHYSTECH SCHOOL • OF ELECTRONICS, PHOTONICS AND MOLECULAR PHYSICS





PHYSTECH SCHOOL OF AEROSPACE TECHNOLOGY



DEGREE PROGRAMS IN ENGLISH

Bachelor Programs



Biomedical Engineering



Master Programs

Advanced Combinatorics

Contemporary Combinatorics

Modern State of Artificial Intelligence

Integrated Structural **Biology and Genetics**

Neural Networks & Neural Computers

Advanced 2D Materials



0

Beam-Plasma Systems & Technologies

Cyber Security

Applied Bioinformatics

Medical Biotechnology

Aerodynamics 8



8

Doctoral Programs

Over 150 themes are available for studying PhD in English. Check the booklet and find a perfect research supervisor for you!

DOCTORAL PROGRAMS IN ENGLISH

Physical sciences Computer science Mathematics Life sciences Engineering & technology







Online Master programs

Also there are two online English-taught Master programs "Contemporary Combinatorics" and "Modern State of Artificial Intelligence" available.

For more information please check out the following QR-codes:



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Modern State of Artificial Intelligence











WE ARE ON THE WEB!

MIPT on COUrserd

One of the MIPT priorities is to create a flexible educational system meeting the needs of the employers and graduates. As one of the leading Russian universities in the area of technology, we remain confident that using an up-to-date internet-based distance learning system, hold an enormous promise for disseminating quality higher education.

There are 75 MIPT courses at Coursera about eight different specializations: computer science, business, physical science and engineering, data science, math and logic, language learning, personal development, social sciences, and information technologies. Several of them are available in English. **71,847** of all the **1,063,118** learners have already completed the education and received certificates. The most popular course is «Math and Python for the Analysis» with **76,723** followers. All MIPT courses are available for free for all MIPT students and alumnus.





MIPT has several accounts at Stepik*, such as MIPT DITED, MIPT Deep Learning School and MIPT Phystech. Courses are available in Russian, MIPT DITED coursers are oriented on competitive programming and artificial intelligence. There are three courses: «Ouick start at the Competitive Programming», «C/C++ Basics for the Competitive Programming» and «Quick start at the Artificial Intelligence». All of these courses launched in 2020 and have already reached 21,771 followers. Phystech School of Applied Mathematics and Informatics uses Stepik as an educational platform for the «Deep Learning School» program students. 9 courses have been launched since 2019. There are more than 17,700 account followers in total. MIPT Phystech is the oldest account with only one course «Introduction to Molecular Biology and Biomedicine» launched in 2017. The course has more than 31.000 learners and 264 feedbacks with the average rate 4.8 out of 5.

Stepik is a Russian cloud-based platform that is designed to create and distribute interactive educational content as well as provide various types of automatically graded assignments with real-time feedback. Platform is suitable for a multitude of e-learning activities, from private on-campus classes to massive open online courses (MOOCs).

Utilizing Distance Learning Technology for admission tests





As the number of online courses and degree programs greatly expanded during the past decade, so did the number of exams administered online. We are dedicated to investing in the latest technologies as educational system needs to evolve. MIPT was the first in line that started developing its own online **proctoring system**. That is how Exams.mipt.ru was created. It was first applied during our 2019/20 admission campaign in order to give an opportunity for international applicants to take real exams from their home.

Since then, we have put a lot of effort to enhance our technology by making it scalable and more accessible for users from remote locations with low bandwidth internet connection. This technology became even more significant due to the COVID-19 spreading. Thus exams.mipt was not only hosted 2020/21 MIPT admission campaign and internal student exams but also due to its credibility was a partner in organizing pre-professional exams for Moscow schoolchildren among with Moscow Department of Education and Science.





In addition, MIPT hosted exams for Russian government scholarship program of **the Rossotrudnichestvo** that operates under the jurisdiction of the Ministry of Foreign Affairs of the Russian Federation. Throughout this time, there were more than 200 real exams being held using our system with up to 250 participants simultaneously and more than 2000 real students and applicants in total who participated in one or more of our exams. Now we are working on increasing the capacity and building a state-of-the-art artificial intelligence and behavior monitoring implementation to help us provide the best service possible.

PRIORITY RESEARCH FIELDS

Exploratory research to create new technologies

2D materials 2D materials for microelectronics. power industry, and special

engineering

Quantum technology Universal and specialized quantum computers, quantum cryptography

Biophysics Mechanisms of aging, genetic engineering, optogenetics, biomedical cell products

V. Volkov D Svintsov K Novoselov

O. Astafiev

A. Lebedev M. Lukin G. Büldt I. Gushchin V. Cherezov

Space technology

Development of applied technologies

Artificial intelligence

Conversational AI, machine learning, robotics, expert systems, cybersecurity, technical vision

billion rubles

Grashpom

(2018-2021)

Arctic technology

Communication, autonomous power systems, extreme medicine, navigation, mining





Head of the Multimedia Systems and Technologies Laboratory

billion rubles

(2018-2021)

6

фМБА

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billion rubles

(2018-2021)

PKC С РКК Энергия» SAMSUNG

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Space communication, avionics,

radio telescope networks

MIPT PARTNERS

Being the leading Russian university in the sphere of science and technology, MIPT has the wide range of partners among world top-ranked universities, research centers and top-leading scientific institutes.

Global collaborations with highly recognized institutions develop and facilitate academic mobility. scientific projects and international research grants. MIPT is the active and irreplaceable member of main research and academic collaborations and mega-science experiments. Every year MIPT students and staff contribute much in solving global problems, innovating for the future.

Fundamental knowledge and integration in science let our young scientists and students to unleash their potential in different prestigious centers like Google, Vivo Participacoes S.A., CERN, DEZY, ETH, EPFL, Facebook,



MIPT is the prestigious decent and attractive place in Russia for building the future professional career in the sphere of science and technology starting from different programs of academic mobility. Students have the wide range of opportunities:

- Internships in modern and highly equipped laboratories on campus and abroad
- Double degree and joint networking programs with the leading partner universities
- Cotutelle programs for Doctoral degree students



INDUSTRIAL PARTNERS

School of Radio Engineering Landau Phystech School . U of Physics and Research and Computer Science бла noc 🚞 Rostelecom uccian Railway 🚾 миландр 🛛 🕋 ROSSETI Phystech School Phystech School of Applied of Aerospace Technology **Mathematics and Computer** Science THREAL SBERBANK Yandex @mail.ru TSNIIMASH SUKHO GAZPROM Acronis ENERGIA 🛉 🚺 PKC TsAGI ENERGIA School of Electronics. **School of Biological** and Medical Physics **Photonics and Molecular** Physics **G**CHEMRAR Skoltech (D mkran sitronics ⊖Shvabe

SUCCESSFUL STARTUPS BY MIPT ALUMNI



ABBYY

David Yang

Acronis

Serguei Beloussov

methods for diagnosis and treatment of complex cancer cases using original molecular genetic methods and machine learning algorithms. Likewise, the startup attracted about 3 800 000 dollars of investment.



ABBYY is a leading global developer of

solutions in the field of intelligent

information processing and linguistics.

The company was founded in 1989 in

offices in 13 countries around the world. ABBYY Group's head offices are located

in Russia (Moscow). D North America

(Milpitas, California) and D Europe

(Munich, Germany). ABBYY's regional

offices include Australia, Great Britain,

Hungary, France, Spain, Ukraine, Taiwan,

Japan, Hong Kong, and Cyprus. ABBYY has over 1,300 employees, most of them

Russian biomedical company specializing in the development of personalized



A Russian retail supermarket chain and its own brand of products marketed as "healthy food products". In May 2020, the first VkusVill store opened in Amsterdam, becoming the first branch 36 of the chain abroad. The network's turnover in 2020 is 15.000.000 dollars.



An international company that offers Revolut a service that helps you exchange one currency for another without bank fees.

Nikolay Storonsky

ВкусВилл

Con 1

biomed proup

Serguei Musienko



15 million customers from 35 countries, who make 100 million transactions per month. Revolut is among the most expensive fintech startups in Europe: last year, the value of Revolut was estimated at \$5.5 billion





linguists.

solutions that are designed for individuals. small and medium-sized businesses. Acronis is trusted by more than 5 million users and more than 500,000 businesses in 150 countries, including 79 of the 100 Fortune 1000 companies list.

An international company that uses modern technologies, genetic testing, manage health effectively. The company's goal is to develop the concept of personalized medicine in Russia.





ON A FEE BASIS

Check the tuition fee eng.mipt.ru/programs

⊠ Contact us interadmission@phystech.edu



STUDY FOR FREE

Russian Federation Government Scholarship (education-in-russia.com)

- Register on the website education-in-russia.com
- Contact us interadmission@phystech.edu
- Collect the required documents and submit your application
- · Contact the representative of Rossotrudnichestvo or the Embassy of Russia in your country
- Pass a competitive selection in your country

Olympiads

- Phystech.International en.phystech.international
- Open Doors od.globaluni.ru
- Technocup technocup.mail.ru
- «PHYSTECH» olymp.mipt.ru

WHERE SHOULD I APPLY FOR THE SCHOLARSHIP?



MIPT CAMPUS

Space for creativity of students and staff

Library open

Health Care

for students

pool. stadium

and buildings

Comfortable dorms

Mental health support

Sports center, swimming

24/7

Security

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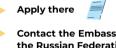
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On this stage you can contact us and we will assist you



Is there a representative ves office of Rossotrudnichestvo in your country? no



ontact the Embassy of e Russian Federation	IMEAST
e Russian Federation	<u> </u>



Take a virtual campus tour!

мфти



7 minutes to train station

5 minutes to park

20 minutes × 2 to airport

40 10 minutes to Phystech metro station in 2022

Campus area	Academic & laboratory buildings area	Dormitories area	Indoor sports facilities
96	21 📄 106K	15 🗼 110K	3 🔿 6K
hectares	buildings Sq. meters	dormitories Sa meters	huildings Sa meters



INTERNATIONAL OLYMPIADS

Educational Olympiads are the staple of MIPT. For many applicants who are still at school, participation in these shall increase their chances of being admitted to MIPT without entrance exams. As up-and-coming students continue to participate in Olympiads enhancing prestige and recognition of the university and ensuring greater opportunities for their own education and career. The most talented pupils and students are grouped together with like-minded individuals under the guidance of world leading advisors and professors from MIPT to attend international Olympiads around the world.

The continued support for such initiations makes MIPT a rallying point for participants in educational Olympiads and the heart of the Educational Olympic Movement in Russia.

The top 4 Olympiads

For admission to MIPT, where foreign citizens can participate in the scholarship distribution granting 100% tuition fee discount, organized by the Russian Government:



Phystech.International - An international Educational Olympiad for Grade 9-12 students designed to provide opportunity for schoolchildren from any part of the world to obtain admission to MIPT.

Undergraduate 🛛 En 😹 / Zh 🌌 / Ru 🚃 Mathematics, Physics and Biology



Undergraduate Ru - Informatics



OpenDoors – An online international Educational Olympiad for those who apply for Master's and Doctoral (PhD) programs.



PhysTech - Traditional Educational Olympiad, which MIPT has been holding for Russian-speaking schoolchildren for more than 30 years.



Undergraduate Ru Mathematics, Physics and Biology

TechnoCup - An Educational Olympiad for Russian-speaking schoolchildren who are keen on programming.



INTERNATIONAL OLYMPIADS

Apart from the MIPT Olympiads for international students, pupils can annually participate in International Olympiads, which is very honorable and serve as the first step towards international scientific recognition.

Some of the most prestigious are the so-called "International Science Olympiads". This group of international competitions are an annual competition for the most talented members of national teams, providing an opportunity for them to show their best.

Winners and prize winners of International Science Olympiads get an opportunity to choose and enter one the best universities in the world of their choice.

The number of foreign citizens among the MIPT students who became winners and prize-winners of international Educational Olympiads:

IOI

2 winners

International Informatics Olympiad (IOI)

1 winner

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European Physics Olympiad (EuPhO)



Asian Physics Olympiad (APhO)



1 winner

54th INTERNATIONAL MENDELEEV CHEMISTRY OLYMPIAD

International Mendeleev Chemistry Olympiad (IMChO)

International Olympiad on Astronomy and Astrophysics (IOAA)



International Mathematical Olympiad (IMO)



International Physics Olympiad (IPhO)









The International Zhautykov Olympiad (IZHO)





MOSCOW INSTITUTE OF PHYSICS AND TECHNOLOGY

INTERNATIONAL DEPARTMENT

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FOR APPLICATIONS:

interadmission@phystech.edu

https://eng.mipt.ru/

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- MIPTphystech
- 🖻 mipt.ru
- Moscow_Phystech

