



World of MEPhI

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ОСНОВНЫЕ СОБЫТИЯ ИСТОРИИ
АТОМНОЙ ПРОМЫШЛЕННОСТИ
(1945-2020)



**«JUST TAKE
THE INITIATIVE»**

**STUDENT MEPhI FROM INDIA TOLD
US ABOUT HIS STUDENT LIFE IN RUSSIA**

NEWS

Mikhail Strikhanov: WE'LL MEET 100th ANNIVERSARY OF THE RUSSIAN NUCLEAR INDUSTRY WITH FUSION TECHNOLOGY



The Russian nuclear industry is celebrating its 75th anniversary on the rise, with very worthy results, and new achievements that are important for the country said President of Russia Vladimir Putin at the meeting with

industry representatives on the eve of the Nuclear Industry Worker Day.

“Nowadays nuclear industry is one of the knowledge-intensive and rapidly developing industries, said Rector of the National Research Nuclear Univer-

sity «MEPhI», Doctor of Physics and Mathematics Mikhail Strikhanov. Russian projects of nuclear power plants find more and more customers around the globe. Conducted by industry research teams the research and developments actively applied

not only in nuclear technologies but also in related industries. Rosatom developments often became a driver for the development of completely new fields of knowledge”.

“The prestige of working in the industry is steadily growing, noted Mikhail Strikhanov. Every year the best applicants in the country choose the profession of a nuclear physicist and our nuclear university. They are interested in cutting-edge areas such as super-computer computing and digitalization of nuclear technologies, new materials, quantum and additive technologies, humanitarian aspects of the development of nuclear energy, and etc. Talented youngsters want to participate in world-

scale research and get into nuclear science and technology”.

“75 years is a period of development and improvement of nuclear power, and this process is not completed. There are still many unsolved problems, but if we look ahead, most likely, then we will meet the 100th anniversary of the nuclear industry with thermonuclear technologies. Rosatom pays great attention to research in this direction. As the flagship university of Rosatom, MEPhI not only solves the most important task of personnel training but also participates in breakthrough scientific research in close cooperation with the leading institutes of Rosatom, «summed up the rector of MEPhI.

MEPhI ENTERS TOP-50 BEST GLOBAL UNIVERSITIES IN PHYSICS

American media company U.S. News & World Report has published the Best Global Universities Ranking 2021. For the first time, National Research Nuclear University entered the top-50 best global universities in Physics. MEPhI has taken 42nd place and have risen in the ranking by nine lines up compared results of last year.

In U.S. News Best Global Universities Ranking-2021, MEPhI took 402-place and entered the top-3 best Russian Universities along with the Lomonosov Moscow State University and MIPT. In total, in the overall ranking of this year, 1499 universities



represented 86 countries.

The study involves universities that are included in the top 250 of the Clarivate Analytics reputation survey or have published at least 1,500 scientific papers over five years (2014-2018). Experts assess universities by 13 indicators measuring the research activities and reputation in the academic community.

MEPhI ENTERS TOP-100 THE PHYSICAL SCIENCES

On October 28, the Times Higher Education rating agency has published the results of the world university subject rankings for 2021. MEPhI has entered the top-100 best world universities in the subject ranking of THE Physical sciences.

It should be noticed that only four Russian universities has entered the top-100: MSU, MEPhI, MIPT and KFU. In addition, MEPhI has entered the subject rankings in Computer science and Engineering & technology.

Over the years of participation in Project 5-100, MEPhI has repeatedly entered the top 100 subject ranking of THE Physical sciences. One of the important components of this



outcome is not only our scientific achievements, but also the high level of internationalization of education and science, which is a result of the transformation from an almost closed, industry-specific university into a global university. Well, at MEPhI, about a quarter of the total number of students and every fifth scientific and pedagogical employee are foreign citizens. This is reflected in the ratings of THE, the rector of MEPhI Mikhail Strikhanov noted.

The representation of Russian universities in THE subject rankings has increased from 39 to 48 compared to last year.

THE subject rating use 13 performance indicators, which are grouped in five areas: teaching (learning environment); research (volume, income and reputation); citations (impact of research); international cooperation (staff, students and research); income from production activities (transfer of knowledge).

STUDENT LIFE

«ALL YOU NEED TO DO IS TO TAKE THE INITIATIVE»: INTERVIEW WITH INTERNATIONAL STUDENT SOUMOJIT MUKHERJEE

International student from India Soumojit Mukherjee told us about his interests, student life and what it is like being Russian ambassador for nuclear education.

“Usually they just call me Soum. It is comfortable for everyone. I am currently studying in the fourth year in the Institute of Financial Technology and Economic Security. My specialization- Financial Monitoring.

I always wanted to study engineering, but I was always interested in economics. My specialization is usually closed for foreign students. For the first time ever an Olympiad was held to apply for this course. As soon as I saw this, I applied for the Olympiad and submitted my documents through Russian Center of Science and Culture. After 2 months, I finally got my acceptance letter.

I have been here in Russia for about 5 years now. Initially, I studied in Obninsk in the preparatory faculty. The entire education process was in Russian language. The teachers were really nice, most of them knew English, French or German. The groups were very small, about 5-6 students. We were almost like a family; worked together and ate together.

When I first arrived here, I did not know any Russian. Obninsk is a very small town, where almost no one knows English. I remember when I first went to buy a SIM card, the shopkeeper knew only a few words in English, and I had to explain to him for over 2 hours that I required a big internet pack because I needed to call home. Another problem I faced- opening a bank account, because for the 1st month I only had about a hundred dollars, which at that time was around 5 thousand rubles. We lived in such a dormitory where there were many international students and they were always very eager to help. I remember when I went to the supermarket for the first time to buy something to eat, I wanted to buy butter but I did not know what it was called in Russian. I accidentally ended up buy-



ing not butter but chocolate paste and hence, had dessert for lunch.

When I first arrived in Moscow, I participated in the Orientation day. There I met my curators and classmates. That day, I met my friend Egor, he was the only one who spoke in English with me. And since then we have been very good friends.

My first lecture was of macroeconomics and it was a horror show. The teacher did not follow any books or notes. I needed to write everything but he dictated very fast. Hence, while my friends had already written 2-3 pages, I was still on the 1st line. It was good to see that my groupmates gave me their notes after the class.

In the beginning of the semester, I created a plan. I knew that everyone else was starting from zero. So that meant that I was starting from -20, and therefore I needed to firstly reach 0 and then work my way forward. The plan for the 1st semester was to just survive. In our first law class, we had a basic knowledge test of Russian law. Many got 28 out 30, some even 30 out 30. I got 1 out 30. This was obviously very funny. Initially, I was scared. You go to lectures and do not understand anything, you go to seminars and still don't understand anything. I started to worry. One time there was a discussion in economics class and I had a eureka moment, I finally understood what the teacher

was talking about. When I answered his question, he was really very happy and from there on I knew the game was on.

Another interesting thing, that I did not know, was how the marks system works in Russian. Here if you get 90-100 it is an A for 'excellent' but if you get B, C, D it's all the same for 'good'. We had an exam of mathematical analysis. Studying this subject was hard even in English. During the exam, I did not do very well with the theory but I solved all the practical questions. The teacher gave me 30 marks and told me that for the exam I had 75 mark thanks to the results of the semester. He told me I got a D, and I thought that a D is a very bad result. So I told the teacher very proudly that I would rewrite the exam at a later date. In my group only 5 students passed the exam, so when everybody was asking me why I did not take 75 and took a 4 happily, my pride turned into stupidity because at that time I thought that a D is a 2 or a 3 out of 5.

About the ambassador program, there was a post on the mephi website about recruiting Russian ambassadors for nuclear education. On the interview day, I entered the interview room, and I saw that everybody was way older than I was. So someone told me that the main requirements were that a student should be studying in a master's program

and should be from the institute of nuclear physics. Oddly enough, I was neither. This was during the 1st semester of the second year and by that time I had already published 3 scientific articles. The interviewer from Rosatom asked me, what would be my topic for the final thesis, at that time I still had more than 4 years to think about this question, so I had no prepared answer. I just told her about the Ndrangheta, how they work and how to stop them. The interviewer said that the topic was really interesting and they would be happy to take me. Another requirement was a good knowledge of English. At that time, I knew English, Hindi, Urdu, a little bit Arabic, Spanish, French and Bengali. I am from India so I already use Hindi and Urdu when I speak with my family and friends. We study in school in English and Bengali is my mother tongue. In our school, we had an exchange program, where you go and live 14 days in another country with a family and next year the student comes to live with you. I went to Spain through this program for free. I loved their language; I studied it not through books but by speaking and writing to my friend. I also had French in school for 4 years; furthermore, my mother studied in France and teaches French in Delhi University.

As an ambassador, I get the opportunity to go to various events of Rosatom, for example, AtomSkills. Almost all student ambassadors don't speak in Russian. They are master degree students, they study in English. In one of our events in Saint Petersburg, we had people not only from the scientific fields but also from human resources, the atomic sector, physics and nuclear reactors. I had a presentation is about how nuclear industry is developing in India. I asked a question on what they knew about India. People answered: «Tea, movies, prime minister, spices and dance». We spoke only about this for 20 minutes. I was there for 2 days and very often people approached us to know and discuss more.

Most of the time in MEPHI is about research. It does not

matter which faculty or institute, there is always an opportunity to learn something and create new. You can always find professors who are very glad to discuss various topics, help you write research works and publish them.

In the 1st year, I did not know how to do all this. We used to go to conferences as an audience. We saw how other people in big auditoriums wore expensive suits and presented their research works. I told Egor that «it doesn't matter how we do this but we need to do this!».

In the 2nd year, we were notified about an international conference organized by our institute. We needed to write a research paper. Usually in the junior years, students go to the teachers to ask for recommendations on topics to write, but we decided to choose our own- Money laundering in off-shores through Latvia, Estonia and Lithuania. We had to collect information from hundreds of different sources and it took us almost 2 months. We also participated in a conference in Financial University where we won the 3rd prize. In the next conference we won the 1st prize, from there on we started participating in various conferences, winning various prizes and writing on different topics.

Where I am today, I am very thankful to my group mates. They are always ready to help with notes, answers and other materials. I do not think there is ever any time to relax. Something is happening all the time. In the summer, I worked as a freelancer. I researched about products before their launch into the market.

Currently I run the English club, and I am a member of the Dormitory Council. In the 1st year, I was just a participant and in the 2nd year the students who ran this club finished studying and I took over their place. We organize meetings in the reading room of the dormitory where we improve our English together.

My advice: all you need to do is to take the initiative, and then people will always come forward to help you. In MEPHI, there is no limit to what you can do”.

REGIONS

RESOURCE CENTER OF VITI MEPhI GIVES PRACTICAL SKILLS

The resource center of MEPhI is engaged in training students arriving in Volgodonsk for practice. Traditionally, students attend full-time classes at university and enterprises of the nuclear cluster. In October, the first group of 5th-year students of program «Nuclear Power Plants: Design, Operation and Engineering» passed the internship. They are citizens of Turkey and Bangladesh. Classes were held remotely.

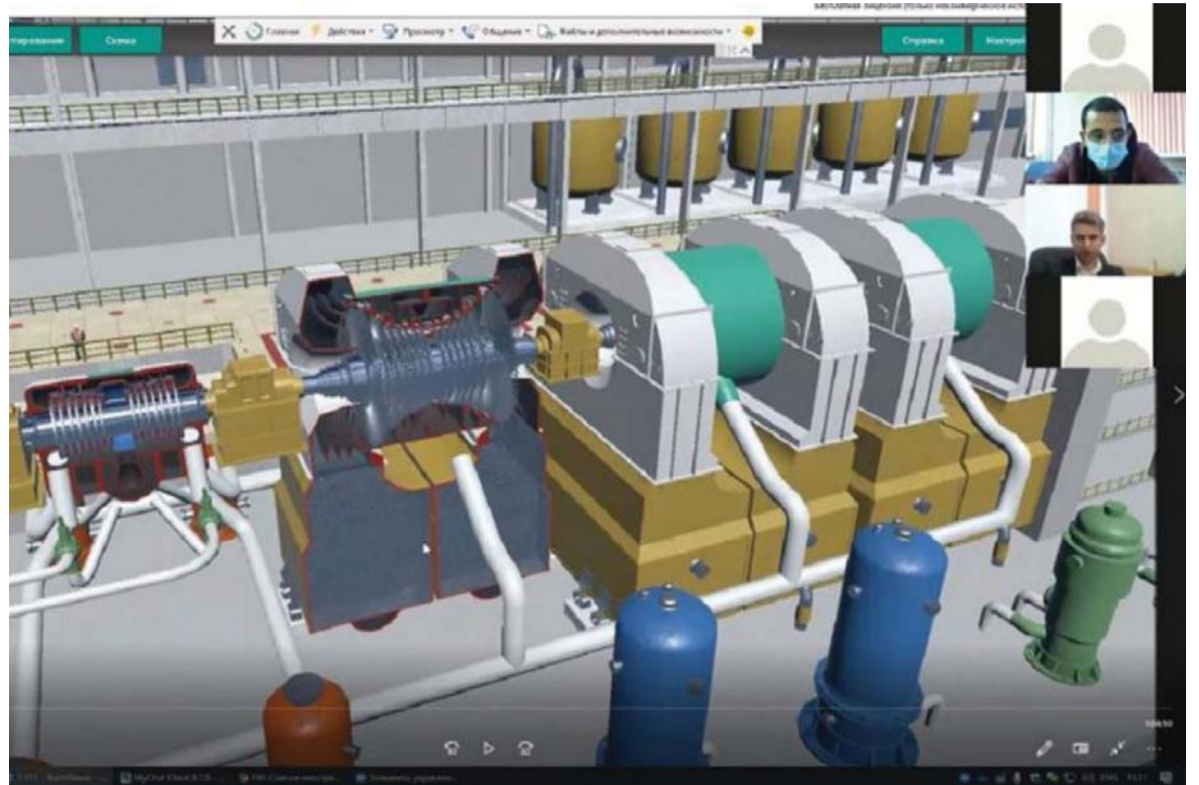
The branch of Atommash in Volgodonsk prepared a number of video lessons with comments from leading specialists. The materials were broadcast in thematic sessions hosted on the Moodle platform. Then the students completed the assignments.

The RoNPP training subdivision also participated in the educational process.

In real time, the instructors conducted a number of interactive sessions using presentations.

Teachers from VITI MEPhI conducted a number of classes as part of the internship program. Head of VITI MEPhI, deputy of the Legislative Assembly of the Rostov Region V.A. Rudenko and chief specialist of the educational and methodological department Yu.A. Evdoshkina told the students about the safety culture. Each lesson ended with test. Students also used the Kahoot service.

The Department of Automation and Electronics conducted a number of classes using 3-D virtual educational complexes. Deputy Head of the Department



A.E. Dembitsky and head of the Resource Center V.G. Beketov immersed students in the thematic blocks: «Study of the main systems of the NPP power unit (NPP power unit)» and «Study of

the main systems of the NPP power unit (VVER-1000 reactor)».

Students passed the final exam by completing test tasks on the Central portal for Internet testing in the

field of education. All students got certificates of successful internship completion, as well as access to all materials, so that they could always refresh their knowledge when they need.



STUDENT OF YEAR STUDIES AT SarFTI MEPhI

The results of the regional stage of the Russian national award «Student of the Year - 2020» have been summed up. Student of SarFTI MEPhI Alexander Burkatsky won 3rd place in the nomination «Intellect of the Year».

A unique competitive and educational project is considered the most prestigious student award in Russia. Organizers are All-Russian public organization «Russian Union of Youth» and ANO «Russia — a country of opportunities».

The event helps to identify students of universities with special achievements in the field of science, creativity, sports, jour-

nalism, youth policy, student leadership, social activities and volunteering.

Alexander Burkatsky is a 2nd year student of the Master's program at the Physics and Technology Faculty of SarFTI MEPhI. He is a member of the student scientific laboratory «Physics of High Energy Densities», an active participant of scientific conferences and youth forums, the winner of Olympiads and competitions at all-Russian level.

The final of the award «Student of the Year - 2020» will be held online from November 20 to 25 this year.

NTI MEPhI STUDENTS - WINNERS OF CITY FESTIVAL-COMPETITION «ATOM GAME»

The results of the city festival-competition of board games «ATOM GAME» were summed up in Novouralsk. The event was dedicated to the 75th anniversary of the nuclear industry.

Participants developed drafts of board games addressed to using nuclear energy. During creating the game, students gain knowledge on this topic and develop skills in game design.

The students of the Novouralsk Technological Institute of MEPhI — Mikhail Skoreyev and Oleg Osintsev — took part in the event. They de-

veloped the draft of the AESopoly board game and won first place in their age group.

“In a short time, we have to process a lot of information. We need to understand a technology for creating games and cope with the difficulties that inevitably arise in the work process. Far from being easy topic made us recall lectures on physics and study the technical features of the operation of NPP.

As a result, the draft and the game were made on time, and we gain the skills and knowledge for further work”, Mikhail Skoreev noted.

