

# CONGRATULATIONS ON THE VICTORY DAY



## World of MEPhI



# IMMORTAL DEEDS OF HEROES

The 9th of May is a holiday that is very close to every citizen of the country. Now it's already 71 years as Russia is living under peaceful sky thanks to the heroism of soldiers and officers who participated in warfare, as well as all those who selflessly fought for the victory in the rear.

On the eve of May 9 MEPhI with the active support of the Council of veterans has held a number of solemn events dedicated to this significant event.

On May 3, 2016 a celebration "Preserving Memory" was held in the Poklonnaya Gora park. There were competitions on military-applied sports; the Museum of the Great Patriotic war held a meeting with veterans; children laid flowers to the monument in the Hall of Fame and the Hall of Sorrow.

On the 4th of May the delegation of MEPhI students, faculty and staff traditionally made a visit in city Naro-Fominsk with laying flowers to the monument to Komsomol members who died in the battle for this city. The monument was erected in October of 1967 on the initiative of the MEPhI students. In 2009 Naro-Fominsk was awarded the honorary title "City of military glory".

On the 5th of May students, cadets of the Military Department and staff of the University laid flowers to the Tomb of the Unknown soldier in the Alexander garden near the Kremlin walls in memory of the fallen in the Great Patriotic war.

After that MEPhI held a meeting dedicated to the 71st anniversary of the Great Victory. Veterans, representatives of

the administration, lecturers, University staff along with students, postgraduates stood in line. It is they, the youth, who will preserve historical memory of the heroes who sacrificed their lives in the struggle against the enemy, and pass it on to future generations.

Time is inexorable, and every year there is less and less of those who personally faced the horrors of war and looked in the eyes of death, who bravely fought for their country and survived in a terrible war. On this day the staff of the University thanked one of the few veterans of the war – MEPhI Professor Aleksandr Sergeevich Lukin, who was awarded the Order of the Red Star, the medal "For military merit" and jubilee medals.

Unfortunately, there are also

fewer so-called "children of war" – generation of people who is the binding thread between those who fought and those who were born already after the war. One of them is thane employee of MEPhI V.V. Isachenko, who shared his memories from the childhood.

On the same day the veterans together with University students planted an alley of cherry and apple trees.

The event was continued with a festive concert, where an Honored artist of the Russian Federation, the leading soloist of the Bolshoi theatre Yuri Nechaev and soloist of the Bolshoi theatre, laureate of international competitions Natalia Levitina performed wartime songs and songs-congratulations devoted to the national holiday of Victory in the Great Patriotic war.

On May 6 the delegation of MEPhI laid wreaths to the monument of Soviet Union Marshal G.K. Zhukov at the metro station "Kashirskaya". By the long tradition students of the Military Training Department with a copy of the Victory banner and the flag of MEPhI lined up around the monument to the Soviet commander in the guard of honour.

In a festive day on the 9th of May in the heart of Moscow – on the Red square – a parade dedicated to the 71st anniversary of the Victory in the Great Patriotic war took place, followed by a Patriotic action "Immortal regiment". These celebrations together with the moscovites and guests of the capital were also attended by students, lecturers and employees of MEPhI.

## RESEARCH IN EUROPEAN SYNCHROTRON RADIATION FACILITY ESRF (GRENOBLE, FRANCE)



From April, 25th to May, 2nd Professors A.P. Menushenkov and I.A. Rudnev together with post-graduate students M.A. Osipov and V.G. Ivanov from the Department №70 "Physics of solid body and nanosystems" have conducted a series of experiments on research of impact of nano-additives which raise critical current of current-conducting composite bands on the basis of high-temperature superconductors on peculiarities of local structure of epitaxial high-temperature superconducting films with the help of the method of x-ray absorption spectroscopy in the European Synchrotron Radiation Facility ESRF (Grenoble, France).

The experiments have been conducted as a part of HC-2421 project (supervisor – A.P. Menushenkov), won in the contest of the ESRF Expert Committee.

New data about the mechanism of influence of additives on critical parameters of high-temperature superconducting bands have been gathered and will be published in articles of top-rated physics journals.

## SCIENTIFIC RESULTS AT INTERNATIONAL SCIENTIFIC CONFERENCE IN LIMASSOL (CYPRUS)



A 5th year student Anna Belozubova has shown the results of her research at an international conference «18th Mediterranean Electro-technical Conference, MELECON», which took place in Limassol, Cyprus.

The article considers introduction of casual delays before sending IP packets for limiting of network convert channels' capacity in time.

## TEAM OF MEPhI WINS COMPETITION ON COMPUTER SAFETY OCTF IN SHANGHAI



On April, 23-24, a Russian team of programmers LC&BC which includes two graduates of MEPhI Department of 2014 Maxim Moroz and Andrey Lovyannikov (who is a post-graduate student now) has taken the first place in a final competition on computer safety OCTF in Shanghai.

They have scored the highest amount of points following the results of a 33-hour long programmer competition. All in all, there were twelve teams from America, Europe and Asia – the best among 900 world team participants of the elimination round

# FUEL OF THE NEW CENTURY

## MEPhI SCIENTISTS CREATE NITRIDE NUCLEAR "FUEL"

A postgraduate student of the Laboratory No. 346 Maria Yurlova has won a scholarship of the President of Russia for young scientists for the years 2016-2018. The project title is "Development of technology for fabrication of mixed uranium-plutonium nitride fuel by electric pulse consolidation".

As deputy supervisor of the Research laboratory Grigoriev Evgeniy said, one of perspective kinds of fuel is nitride nuclear "fuel" which will contain plutonium, as well as americium nitrides and other actinides. Nowadays there is a problem in production of this fuel. Making tablets of necessary density from initial powder is rather labour- and energy-consuming. Quick wear of press tooling and furnace equipment takes place under such process.

A new method of high-voltage of electropulse consolidation of nitride fuel has been worked out in MEPhI.



Researcher of processes of high-voltage ceramic materials' sintering, a post-graduate student Yurlova Mariya

Electropulse method is based on electropower impact on powder material of powerful short-term (less than 1 msec) high-voltage electropulse and at the same time mechanical pressure. Material in the influence zone is warmed up to very high temperatures up to plasma condition. Pressure in the influence zone forms required properties of received products.

"Nowadays technology of high-voltage consolidation of powder materials has proved itself in production of hard-alloy and diamond-bearing instruments, making of hard alloys on the basis of tungsten, production of high-efficiency magnetic materials, porous materials, having high open porosity and large surface area", said E. Grigoriev.

# STUDENTS FROM RUSSIA AND THE UNITED STATES FOR NUCLEAR NONPROLIFERATION



On May 12, Moscow has hosted the youth forum, which for three days became a platform for exchange of views on issues of contemporary international nuclear industry for students from Russia (MEPhI) and the USA (Stanford University, University of California (Berkeley) and the Middlebury Institute of International Studies in Monterey).

The opening of the student forum was attended by Professor Siegfried Hecker, who is Honorary Director of the Los Alamos National Laboratory, an internationally recognized expert in the field of nuclear non-proliferation and nuclear safety and the study of plutonium and who also acted as an expert of the forum, and the rector of MEPhI M. N. Strikhanov

Each participating party has submitted a small delegation of about 10 people who study both technical and humanitarian sciences and are interested in discussing issues of nuclear non-proliferation in the modern world. Initially, the students listened to the overview lectures of experts, followed by the group

work. There were two of them: one on the well-defined nuclear nonproliferation issues, the second – on problems of nuclear terrorism. The task of the groups was to identify projects on which they will work over the next few months at a distance as a part of a distributed research team. Thus, the event was the starting point for a long-term work of students from the two countries, which should be completed by the conference at Stanford, where each group will pres-

ent their final product and participants will discuss the strengths and weaknesses of completed projects.

The idea of holding such a forum was offered by Professor Hecker, who for many years cooperates with the leading Russian Nuclear University and its scientists. The cooperation has become more active, when two years ago the expert became a member of the International Advisory Board of MEPhI. In July 2013 Professor Hecker organized a conference to

discuss issues of cooperation between the US and Russia in the nuclear field. The rector M.N. Strikhanov suggested to invite there young experts for whom it is useful to attend such events and have the ability to obtain answers to any questions in the field of international nuclear safety from international experts. "It was the first time when I had the idea that a MEPhI is a place with many students and a lot of interest in the subject. And it would be very interesting to com-

bine students from Russia and from the United States, not only in the framework of the established relations, but also to try to hold such meetings on the level of young generations. So this year I turned to Mikhail Nikolayevich with the idea of holding such a forum, and he endorsed it," said Siegfried Hecker.

Commenting on students' work, Professor from the Stanford University noted that most U.S. students were focused on international relations and political issues, while MEPhI, following its name, was represented mainly by professionals with engineering background. "From my point of view this is good because we managed to combine humanitarian and technical sciences. Too often they are on its own: the policy does not take into account technical aspects and technical staff thinks they can decide what they want. But this is not always like that, because the politics is very complicated. So it is very good groups that combine these two approaches," Professor Hecker shared his impression, noting the exceptional level of all the guys.



# MAY BE NOT A SCIENTIST BUT DEFINITELY SUCCESSFUL ONE! MOSCOW HOSTS CONFERENCE OF MEPHI ALUMNI



First and foremost, MEPHI is renowned for its graduates and their achievements. On April 28, the Hyundai MotorStudio Center has hosted the first conference in the style of "TED talks", where graduates of different years shared their success story. Students received a guiding line and understanding of what they need to do today to become successful after graduation. In turn graduates acquired understanding of how the younger generation lives, what values they have and who will replace them in the near future.

The event was organized by the Association of young MEPHI graduates, which was created to form an efficient and comfortable platform of interaction between alumni and students, to initiate new contacts among graduates and demonstrate opportunities for current students.

Graduates of the Cybernetics faculty A.V. Toskin, A.V. Arshavsky and Y.V. Pukha, who were present that day at the event, shared stories of their life.

**Toskin Alexey Vladimirovich** graduated the Faculty of Cybernetics, specialty "Applied mathematics" in 1989. Becoming the CEO of the company T-Systems in 2011 Alexey Toskin is responsible for implementing long-term development strategy of the company in the CIS market.

**About student years:** It was wonderful time: trips, construction crew, tests, exams. Gadgets and social networks didn't distract from studies. The University set the high level both for us and for what we will deal with in life. It was hard 1990th when we needed to decide what to do in future. I definitely decided that I would work within the specialty, and later I have never regretted it.

**About MEPHI:** University taught me to make decisions and take responsibility for them, set systematic and logical thinking, taught to work with information and to identify priorities. MEPHI differs by its faculty, where everyone gives personal and professional example.

**Arshavsky Andzhej Vitalevich** graduated the Cybernetics faculty in 2000. Since 2014 he is the Director of solutions development in Big Data "Sberbank Technology".

**After graduation:** After graduation I was sent for a year in CERN. Then I received an offer to go back

and develop programs for systems of unmanned running of passenger and freight trains. At that time I made difficult, but, now I know, right decision to return to my country. In my opinion Russia has the most interesting people.

**About MEPHI:** We were taught basic sciences, mathematics, physics, automatics. The main thing was not the knowledge that I could apply, but namely the theoretical basis. I learned how to think systematically and to understand how the world works. Once fulfilling a difficult task, all the others don't seem so difficult. I am grateful to the University for this.

**Pukha Yury Valerevich** graduated the faculty of Cybernetics, specialty "Applied mathematics" in 1996. Since 2010 Yury Pukha is a Partner, Technology, Communications, Entertainment & Media Sector Leader at PwC Russia.

**About the job:** I always wanted to be engaged in applied research. Work in consulting is attractive because it constantly faced you with different projects, new challenges. Besides, I can't sit in one place for more than six months: I start to get bored.

**Tips and advice to students:** already in University I realized that whatever man has done, man can do. You can do everything yourself, and do not be afraid to try. In this regard MEPHI provides students with a high level of technical education that will definitely come in handy.

The main key to success – knowledge and perseverance, and once again it was confirmed by the people who have achieved great goals in life.

After the speeches of the alumni Director of the Programm on Competitiveness Enhancement MEPHI Maria Ganchenkova thanked the speakers and noted that that conference promised to be regular, which would link graduates and students.





# VIVA QUEEN!

## MEPHI SUMS UP RESULTS OF BEAUTY CONTEST

On May 14, the Digital October center has hosted the long-awaited final of the brightest event of this spring – a contest “MISS ME-PHI-2016”. Seven the most beautiful students of our University competed for the title of University’s Queen. For six long months, the girls worked on a program, participated in photo shoots and made videos to perform well at the competition, striking not only by their beauty but also erudition.

On the last day participants presented their creative numbers, answered difficult questions of the jury and were dressed in evening dresses. For the audi-

ence (more than 300 people) there was prepared a fascinating show, during which they participated in prize drawing from the contest partners, listened to wonderful music greetings from friends of the event.

The jury composed of University graduates and representatives of partner companies had a difficult choice: all the girls were equally worthy to put on the crown. After a long and difficult meeting the results were announced: charming Antonina Goryacheva has become Miss MEPhi-2016. It is important to note that Antonina is also the youngest participant of the contest! The student of

the 1st year of study of the Cybernetics and Information Security faculty is 18.

“Initially I didn’t plan to participate in the contest, but my classmates persuaded me”, the winner of the competition shared her impressions. “I thought I would just have fun and exciting time. And what is the result? I won, although it was not my goal”.

“The main thing is not to be afraid, to be yourself, not feel shy and do not take things seriously. In any case – it is a good experience, new friends and unforgettable emotions”, Miss MEPhi-2016 shared her recipe for success with future contestants.

