

## DonNTU Hosts the DPR's IV International Scientific Forum "Innovation Prospects of Donbass: Infrastructural, Social and Economic Development"



On May the 22<sup>nd</sup> the DPR's IV International Scientific Forum "Innovation Prospects of Donbass: Infrastructural, Social and Economic Development" took place at DonNTU which was the main platform of the Forum. This significant event started with the traditional exhibition of scientific and technical developments of young researchers of Donbass. The Head of the Republic Mr. A. Zakharchenko, the Deputy of the Chairperson of the Council of Ministers Mr. A. Timofeev, and other public officers got acquainted with the displays.

The Head of the state greeted the participants and said that the Donetsk Region had always been famous for its inventors and researchers. He also emphasized an active participation of talented youth in the event: "I appreciate the people who went on inventing and promoting science for the good of our Motherland under the war and the blockade. It is the highest level of patriotism! The main goal of any state is to preserve the potential that helps the country develop. Due to your efforts and those of dozens and hundreds of people the potential remained with us. We have innovation technologies. But the most important thing is that we have people who are able to apply them".

The participants and guests of the forum paid their keen interest in the exhibition of development of young researchers. The Deputy Minister of Education Mr. A. Anoprienko commented on participation of students of the Small Academy of Science and the Donetsk Republican Centre for Scientific Creativity in the exhibition: "We see very interesting displays and plan to work with the youth. Genii are to be brought up". Besides, he informed on the wide range of issues related with science, technology and technical creativity of the DPR which were going to be discussed in the course of the Forum. "The Forum is aimed at solving the Republic's social and economic development tasks, and the best means to do it is development of science and technologies", - Mr. Anoprienko said.

Prof. K. Marenich, the Rector of DonNTU, emphasized the topicality of the developments demonstrated by Donetsk National Technical University, Donbass National Academy of Construction and Architecture, Donetsk National University, and

Donetsk National University of Economics and Trade. He said: “There are more than 200 displays at the exhibition. The developments of our students and postgraduates are aimed at meeting industrial need of the Republic. It is very important for the heads of ministries and companies to see them”.

The Donetsk Republican Centre for Scientific Creativity had more than 30 models and works of young people who are trained at different study groups. DonNTU presented a training system of automated design of electric units of stations and substations, a program complex to recognize faces, bioreactor model for getting bio-fuel from micro seaweed «Spiruline», a device to put out fires at excavation and transport machines, and an installation to rescue miners under accidents, the Tesla’s transformer (coil) – the generator of high frequency and potential current. The Artificial Intelligence Institute presented a manipulator model, Donbass National Academy of Construction and Architecture demonstrated polymer composite material based on secondary polyethylene terephthalate and ash-and-slad wastes, Donetsk National University showed hot-wire anemometer “AIST-5” to measure speed and temperatures autonomously, Donetsk National University of Economics and Trade represented a heat pump model “Air-Water”.

Guests from the Russian Federation and the Luganks People’s Republic were among more than one thousand people present at the event. The Director of the Institute of Emergency Surgery Prof. E. Fistal made his presentation “Establishment of the International Cardiologic Centre on the Basis of Donetsk Institute of Emergency Surgery named after V. Gusak”. The Chairperson of the Council of Rectors of the DPR Ms. S. Bespalova offered some initiatives to develop university’s science in the Republic. Prof. V. Mushchanov, the Vice-Rector of Donbass National Academy of Construction and Architecture informed on the program of construction and housing and communal services in the Republic and its scientific support. Prof. A. Anoprienko made his presentation “The Past and the Future of the Innovations in Donbass: Challenges and Prospects”.

The Forum finished on May 25<sup>th</sup>. 20 events in its frameworks took place at DonNTU and other educational establishments and research institutions of the Donetsk People’s Republic.

### ISOF-2018 Conference at DonNTU

On April 21<sup>st</sup> DonNTU welcomed a students’ conference “Lomonosov’s Readings. History and Modern State of Physics” (ISOF-2018). The event was organized by the Department of Physics and the Research Laboratory of Interaction of Hydrogen with Metals and Hydrogen Technologies under the support of the Russian Engineering Academy in memory of the great researcher and physicist A. Ioffe and his followers.



60 participants from DonNTU, the Academy of Civil Defense of the MES of the DPR, Donbass Academy of Construction and Architecture, Belarus National Technical University and Technical Lycee of Donetsk made 86 presentations. The following issues were discussed at the conference:

1. Great scientists of last centuries. A. Ioffe, “the father of Soviet physics” and his followers.
2. “The Hydrogen Club”: hydrogen energy and alternative energy.
3. Achievements of modern physics.
4. Future perspectives.

The participants were greeted by the Rector of DonNTU Prof. K. Marenich. Those present got acquainted with poster papers. The one with five experimental facilities made by the conference participants was of special interest: everything was moving, burning, glimpsing there and there was a flash of lightning...

The conference participants and guests found out about the latest achievements in modern physics and history of development of this important and interesting science. The reports and presentations were included into the proceedings of the conference and can be found at the site of the Department of Physics and in the e-archive of the Library of DonNTU.

#### **. The Issues of Innovation Development of Donbass are Discussed at DonNTU**



The meeting of the breakup group “Topical Issues of Innovation Development of the Economics of Donbass” was held at the IV International Scientific and Practical Conference “Innovation Prospects of Donbass” organized in the frameworks of the IV International Scientific Forum

of the DPR. It was focused on practice of implementation and control of innovations in different branches of industry of the DPR- from resource conservation to space exploration.

The breakup group was headed by Prof. Y. Khomenko. The honoured guest of the conference, the 71<sup>st</sup> astronaut of the USSR, the Hero of the Soviet Union, a public figure of the RF Mr. A. Artsebarski, greeted the participants. They made presentations and speeches, and participated in discussions and arguments. Those present had an opportunity to make contacts with the representatives of professional communities from different countries as the conference was a topical business-meeting of the professionals and the platform to exchange experience and opinions.



## Development of Collaboration with UB of USTU

In April Mr. I. Lizan and Mr. A. Novikov, the staff members of the Department of Minerals Concentration visited Usinski Branch of Ukhta State Technical University (UB of USTU) to sign a collaboration agreement among DonNTU, UB of USTU, and the Company “Lukoil-Komi”.



They got the additional information necessary to specify tasks to be fulfilled by DonNTU, UB of USTU, and the Company Lukoil- Komi, and to make presentations at the Company “Lukoil- Komi” and the Company “Northern Oil”. Mr. I. Lizan and A. Novikov got acquainted with the state of the problem mine workings and prepared presentations for three proposed research. Two of them were approved and recommended for doing at the meeting with the representatives of the Company “Lukoil-Komi”. They also made their presentation on well wash liquid purification for the representatives of the Company “Northern Oil”.

Besides, the agreements between DonNTU and the companies were signed.

## DonNTU’s Collaboration with Russian Universities



The collaboration between DonNTU, Ulyanovsk State Technical University (UISTU) and Russian Economic University named after G. Plekhanov (Moscow) in educational and research activity including curricula information exchange, academics’ professional development, conference organization, publication of joint papers with

students, postgraduates and academics of the Department of Programming Engineering of DonNTU has been actively developing lately. Its Head, Prof. O. Fedyayev, took part at scientific and practical conferences at the universities in May.

UISTU hosted the jubilee V International Scientific and Practical Conference “E-Training at Continuous Education”. More than 120 representatives of educational and research institutions, companies and banks of the RF, Belarus, Kazakhstan, Kirgizia and the DPR participated in it. They made their presentations in e-learning at universities, corporate training based on modern distance and intellectual technologies, application of e-tools at high and vocational schools.

The project “Modern Digital Educational Area” was of great interest as the current digital educational technologies are introduced into universities.

Prof. O. Fedyayev also discussed some issues on distance learning of Master’s students of DonNTU at UISTU and getting a degree of the Russian university, and participation of UISTU at the work of the Organizing Committee of the II International

Scientific Conference “Programming Engineering: Methods and Technologies of Development of Data Processing Systems” at DonNTU in 2018.

The XXI Russian Scientific Conference “Engineering of Companies and Knowledge Control” hosted by the Academic and Research Centre “Cybernetics” of Russian Economic University named after G. Plekhanov was also interesting and fruitful. Many famous Russian scientists working in the field of artificial intellect participated in it. It was aimed at analyzing and developing approaches, methods and means to raise the efficiency of company digital transformation based on modern intellectual technologies and risk and business process control, service oriented architectures and knowledge control.

Prof. O. Fedyayev made his presentation “Search of Compromise in Students’ Employment with the Help of Multi-Agent Technologies” prepared with his student S. Medgaus.

The round table meetings “Digital Economics”, “Data Economics”, “Highly Automated Economics”, a youth breakup group and a contest of students’ research work were organized in the frameworks of the conference.

Prof. O. Fedyayev also took part in the meeting of the academic and methodological board “Applied Informatics” where characteristics of development of main professional educational programs with taking into account professional standards were discussed.

### **DonSTU’s Student is a Participant of the XXII International Scientific Conference of Young Researchers AYSS-2018**



The Federate Institute of Nuclear Research (Dubna town) hosted the XXII International Scientific Conference of Young Researchers AYSS -2018. It was aimed at the main project of the Laboratory of High-Energy Physics – the collider NICA.

More than 100 young researchers from 15 world countries took part in the event. DonNTU was represented by the Master’s student Anna Voitash.

Anna made her presentation Investigation of Sorbent Based on Expanded Graphite and spoke on the results of her research in treatment of water polluted by oil products, heavy metal and organic pollutants.

The hosts organized excursions to the companies producing superconducting magnets for a particle accelerator and to the nuclotron and the platform where the collider NICA was being built.

## **VI International Scientific and Practical Conference “Industrial Safety and Underground Construction Ventilation in the XXI Century” at DonNTU B**

DonNTU has hosted the VI International Scientific and Practical Conference “Industrial Safety and Underground Construction Ventilation in the XXI Century”. DonNTU, Tula State University, Donbass State Technical University (Alchevsk), the Institute of Professional Development for the Staff of the Fuel and Energy Complex of the Ministry of Energy of the RF (Ramenskoye) were its organizers. Representatives of universities and companies of the DPR and the LPR took part in it.

The Vice-Rector of DonNTU Prof. Y. Bulgakov and the Dean of the Mining Faculty Prof. S. Borshchevski as well as some foreign colleagues greeted the Conference participants.

Presentations on improvement of the methods of control, evaluation and rate setting of dangerous and harmful manufacturing factors, raise of efficiency of control and labour protection systems at companies, forecast of parameters of industrial environment state and the role of a human factor in the system “man-technical system-production system”, principles and ways of industrial fire safety at plants etc were made at the breakup groups meetings.

The round table meeting summed up the work of the conference and marked further ways of collaboration.



## **Future Engineers-Metallurgists Show their Research Results at the International Scientific and Practical Conference of Young Researchers and Students “Metallurgy of the XXI Century as it is Seen by Young People” in Donetsk**

The Physical and Metallurgical Faculty (FMF) of DonNTU hosted the IV International Scientific and Practical Conference of Young Researchers and Students “Metallurgy of the XXI Century as it is Seen by Young People” on May 23 – 24<sup>th</sup>. The Conference was organized in the frameworks of the IV International Scientific Forum “Innovation Prospects of Donbass: Infrastructural Social and Economic Development” held at DonNTU and other educational establishments of the DPR.

The FMF was founded in 1924 and is one of the oldest faculties of the university. It trained more than 10 000 specialists, citizens of 15 foreign countries being among them. Today more than 1000 bachelor’s and master’s students are studying there.

This year the youngest representatives of the metallurgical branch of the Republic-graduates of DonNTU- demonstrated the results of their research. They talked about their own vision of modern metallurgical and casting technologies, material science, metal forming, physical metallurgy, and metal heat treatment. They also presented their research in energy saving technologies, technical thermal physics, ecology and the environment protection.





There were 6 breakup groups at the Conference: “Ferrous Material Metallurgy”, “Ferrous and Non-Ferrous Material Casting”, “Metal Forming”, Applied Material Science, Metal Thermal Treatment and Physical Metallurgy”, “Heat and Power Engineering”, “Ecology and the Environment Protection in Metallurgy”.

Dr. V Kachura, the Deputy Dean of the FMF, said that there had been 129 presentations at the conference, 50 of them being made by foreign participants from Moscow Polytechnic University, Moscow State Technical University named after N. Bauman, Lipetsk State Technical University, Siberian State Industrial Institute (Novokuznetsk), St. Petersburg Polytechnic University named after Peter the Great, Stariy Oskol Technological Institute named after Ugarov, Nizhni Novgorod State Technical University named after R. Alexeev, Karaganda State Industrial University (Temirtau), South-Kazakhstan State University named after M. Auezov. Representatives of Belarus National Technical University (Minsk) presented the results of 19 researches.

Researchers from Lugansk National Technical University named after V. Dal and Donbass Technical University (Alchevsk) also shared the results of their work.

The FMF collaborates with industrial companies of our Republic and metallurgical plants from Russia, Belarus and Moldova. It makes research according to their orders and involves students to the work. That is why the results of the current research will be published in the Conference proceedings (<http://ea.donntu.org/handle/123456789/33113>) and will be the basis for further practical developments in modern metallurgy, engineering material science and heat and power engineering in the DPR and abroad. But first of all they will help develop a scientific and technological potential of Donbass.

The Newsletter is prepared by the International Office of DonNTU.

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