

CONFERENCE
of educational, scientific and technical
cooperation between Ukraine and Norway

National Mining University

A. The current partnership between NMU and universities and establishments of the Kingdom of Norway.

National Mining University has established the cooperation contacts:

1. Norwegian University of Science and Technology NTNU (Trondheim):

1. Faculty of Engineering Science and Technology; Departments:

1. Civil and Transport Engineering;
2. Engineering Design and Material;
3. Energy and Process Engineering;
4. Geology and Mineral Resources Engineering;
5. Petroleum Engineering and Applied Geophysics;
6. Product Design;
7. Hydraulic and Environmental Engineering;

8. Faculty of Information Technology, Mathematics and Electrical Engineering; Departments:

1. Computer and Information Science;
2. Electric Power Engineering;
3. Electronics and Telecommunications;
4. Engineering Cybernetics;
5. Mathematical Sciences;
6. Telematics (automation).

NTNU administration has submitted a draft agreement on cooperation with NMU, that currently is under consideration, in the field of training and carrying out the scientific investigations.

7. Research Center of STATOIL (Trondheim, Stavanger)

Norwegian side has received proposals for the implementation of joint research in the fields of blasting technologies in mechanical engineering, theoretical and experimental mineralogy and geochemistry, theory and experiment of “cold” fusion of elements, photosynthesis (chemical act of CO₂ destruction), forecast of landslides with consideration of climate change, estimates of stress-strain state of the geological environment etc.

Department of Underground Mining of the NMU has received a proposition from NTNU to involve a teaching professor for 10 months training in the framework of the program “Visiting Professors”.

B. Information materials NMU for the conference program

1. Role of the educational and scientific cooperation in the international relations. Experience of Ukraine and Norway. Trends and priorities of bilateral cooperation in educational, scientific and technical areas.

The main objectives of NMU's international activities are: further integration into the global and European educational and scientific community; university recognition as an equal partner; increasing the international prestige of the university on the basis of the unity of educational, scientific and investment activities of all subdivisions; strengthening the university authority on the international educational market and research development. At the present time, international cooperation is particularly important and becomes an integral part of the National Mining University.

These objectives correspond to the **priority areas of international activities** of the NMU that is defined by the NMU Development Program on the period to 2020 and implemented in the following projects:

1. creation of the network of reliable foreign partners based on mutual interest of cooperation in educational and research activities; further development of contacts with leading universities, research centers, organizations and foundations in Western and Central Europe, China, Japan, the U.S., Canada, Russia and CIS countries.
2. regular involvement in the educational process of the foreign experts; intensification of the academic exchange of students and scholars; expansion of training programs and trainings of graduate students and teaching staff in foreign partner universities and companies including acquisition of the double diploma about higher education and the theses defenses using the principles of double scientific supervising;
3. creation of the virtual laboratories using modern information technologies;
4. implementation of the programs to involve international students for academic training including training programs for engineering and scientific personnel;
5. creation of new and development of existing linguistic and educational and cultural centers with the assistance of the foreign partners and innovative investment structures;
6. carrying out the research projects in cooperation with international partners including with industry support; participation in the international projects for obtaining the grants (educational, scientific, research, collective, individual etc.);
7. promotion the generation of innovative world competitive products, technological equipment, materials, facilities of management and security;

development of mechanisms of scientific marketing and commercialization of research products of the university;

8. participation expansion of the faculties in the international scientific conferences; increasing the number of publications in internationally recognized scientific journals with high impact index;
9. carrying out of the protocol, consular and practical activities including the advertising activities; informing the faculties about international scientific, educational and cultural forums.

NMU membership in the international scientific and educational organizations:

1. Global forum of the universities of resources for sustainable development
2. Eurasian University Association (*EUA*)
3. Magna Charta Universities
4. Network Black Sea University (*BSUN*)
5. European Association of Geoscientists & Engineers (*EAGE*)
6. International University of the resources (*IUR*)
7. International Society for Engineering Education (*IGIP*)
8. European Society for Engineering Education (*SEFI*)
9. International Association for Energy Economics (*IAEE*)
10. International Society for Rock Mechanics (*ISRM*)
11. International Society of Mineral Dressing
12. International Confederation of Marketing
13. World Mining Congress (*WMC*)

There are **6 linguistic and cultural centers** at the university that demonstrate active cooperation with the United States, Germany, Britain, Spain, Poland and Japan. These centers has actively been used for conducting the regional and national conferences, exhibitions, readings, workshops and expansion the international contacts of the University. It has been planned to create the Ukrainian-French and Ukrainian-Chinese centers.

Over the past **10** years there have been studied more than **700** representatives of **29** countries, among which **21** have received a degree on the basis of the Mining University. In 2012, the full courses of training (in total 19 courses for bachelors and masters degrees and preparation Courses) have been past by 238 foreign students including 170 students, 6 graduate students and 62 listener of the Preparation Courses.

The most popular areas of education are: computer science, telecommunications, geology, management, where there are enrolled about 50% of the foreign students.

2. Cooperation within the master's programs. Programs from obtaining of the dual / joint diploma

Implementation of the joint master programs with foreign universities creates the conditions for the mutual exchange of teaching experience and professional knowledge that allows creating the high-level professionals.

National Mining University has experience in international cooperation in the field of education. **Currently there have been carrying out three Tempus projects:**

1. Two-level training program in e-commerce for needs of the information society in Russia, Ukraine and Israel;
2. Integrated system of the university management: the EU experience adapted for the CIS countries;
3. Development of the qualifications frameworks in computer science and management.

Co-partners of these projects are universities of Germany, Holland, Israel, Poland, Lithuania and Russia.

There is an active **cooperation** in education and science, academic exchanges, **joint degree programs of the MBA** with Franklin University of Columbus (USA).

At the Brandenburg Technical University (BTU) of Cottbus (Germany), a **joint project "International education course. Environmental and Resource Management"** has successfully been implemented for 15 years.

Ongoing **joint educational project "International exchange of knowledge as part of innovative development"** has been implemented with participation of the famous European mining universities (Germany, Poland, Austria, Russia and Ukraine). Since October 2012 within the established International University of Resources (IUR) a joint master's program "Innovations and technology development of mineral resources" has been carrying out. It includes sequential trainings for students at the Montan-University (Austria), Technical University "Freiberg Mining Academy" (Germany) and the National Mining University (Ukraine). It is established that students will receive three graduate diplomas of three countries: Germany, Austria and Ukraine.

In cooperation with mining universities of Russia, Kazakhstan and Ukraine the project "Mining Universities of the CIS countries" has been implemented which provide trainings according to new joint master program using scientific achievements and teaching experience.

The project covers the extensive use of information technology including conducting the classes via the Internet, access to the information resources of the partner universities, academic exchanges and trainings etc.

It is appointed the implementation of **programs** with universities in Germany, Poland, Russia and Kazakhstan for **receiving the double diplomas**.

The National Mining University is one of the leading state higher technical educational institutions of Ukraine. It pays much attention to the international cooperation and exchange of experiences with academic partners. High-quality technical equipment allows the University to implement a program for attracting the foreign scientists to the educational process at the NMU through videoconferences (web conferences) and joint research. Information resources and developed corporate network connected with the Ukrainian Research and Academic Network "URAN", GEANT3 and the Internet speeds of 840 Mbit/s create an united powerful integrated environment for solving the important educational and scientific-technical problems of large computational complexity. It allows creating the possibility of effective international cooperation in these areas with universities of Norway.

3. Harmonization of higher education. Differences as a factor of interactions

Higher education as a social component of society cannot be a purely national or sectoral part of industry. It is closely associated with a secondary education, employers, achievements in world science and technology and in social processes. Its harmonization on national and international levels always leads to the positive result. The impulse towards such harmonization is analysis of the difference in educational systems and co-operation with foreign partner universities.

National Mining University takes into consideration this important for the development of higher education issue and is ready for starting the **cooperation with Norwegian universities**. For the beginning of cooperation the 20 years of experience can be used, based of practical implementation of joint study programs for bachelors, masters and doctors (PhD), that will lead to the mutual benefits for partner universities in Germany, Poland, Russia and other countries.

4. Education and Society. Innovative Approach to the Development of Cooperation

National Mining University together with University West (Trollhättan, Sweden) in 2010-2012 completed a **joint project "Student Democracy: a comparative approach."**

The project included the student exchanges, educational course on the topic of student democracy, exchange of relevant information on the systems of student self-government in Ukraine and Sweden.

Experience of Swedish student democracy was used at the NMU that lead to radical changes in the organization of student self-government.

NMU in cooperation with the University West (Trollhättan) has submitting an application form for a joint project on "Development and organization of teaching course" Democracy and Civil Society", where **faculties from Norwegian universities** could also take an active part.

1. Cooperation in the framework of the joint research and technical projects. Cooperation in the field of new technologies and development. Partnership between business and science is investing in the future.

National Mining University has experience working with large businesses, in particular: "Arcelor Mittal", "System Capital Management" and "West" (Ukraine), "Uralkalii" (Russia), "SodaWerk Strassfurt", "DANFOSS BAUER", "HELDELE", "FESTO", "Saar Montan" (Germany), National Nuclear Corporation (China), Navoi Mining and Metallurgical Works (Uzbekistan), Production Association "Vostokredmet" (Tajikistan). Projects performed with support of the business have been linked with GIS and explosive technologies, in the area of automation, electric, geomechanics, geophysics, geology, mining etc.