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**NEW TEMPUS PROJECTS AT DONNTU**



European Commission  
**TEMPUS**

DonNTU has two more grants of the leading European project TEMPUS!

The project 30270-TEMPUS-1-2012-1-UK- TEMPUS-JPCR, «Green Computing & Communications» is being coordinated by the University of Newcastle. The Radio Engineering Faculty of DonNTU (the Dean is Prof. Stepanenko, the executive person is V. Paslyon) is among 8 partner universities.

The project 530785-TEMPUS-1-2012-1-PL-TEMPUS-JPCR «Curricula Development for New Specialization: Master of Engineering in Microsystems Design» is being coordinated by the Technical University of Lodz. DonNTU is represented by the Computer Science and Technologies Faculty (the Dean is Prof. Anoprienko). The executive person is Prof. Skobtsov. It is his second grant. Now he is working at the

project of the ERASMUS MUNDUS program. Congratulation to the grant winners!

**COLLABORATION WITH MAGDEBURG UNIVERSITY NAMED AFTER OTTO-VON-GUERICKE**

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Prof. O. Tolochko who is the Head of the Department of EAII visited Otto-von- Guericke University of Magdeburg in June. It was her scientific and pedagogic study course.

She also supervised the postgraduate student D. Bazhutin who was doing his bi-national postgraduate course and research in Germany. Prof. Palis represents a German supervising party. They coordinated the theme and plan of the Candidate's dissertation of D. Bazhutin and developed the plan of the experiment on physical models of bridge and pillar cranes during the visit.

They also did the research on extension and transverse elastic vibrations of the bridge during the movement of the bridge and the cart and the pillar crane and the arm during the load travel. They synthesized the system of control of the speed that is able to damp the vibrations. The obtained results will be presented at different international conferences.

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The Assistant Professor of the Department of ES A. Fyodorov has visited Otto-von-Guericke University of Magdeburg. He was working at his dissertation and doing research within the frameworks of the collaboration agreement. The topic of the dissertation is closely related to the program of international collaboration in modern intellectual systems of energy supply and saving with the usage of renewable power sources («Smart Grid») and intellectual protection in the networks.

He is a participant of the project of bi-national postgraduate course within the frameworks of the DAAD program. During the visit A. Fyodorov was confirmed as a postgraduate student of Otto-von-Guericke University of Magdeburg.

The participants of the project do research in the two countries under the supervision of the university professors and scientists. A. Fyodorov's German supervisor is K. Dietrich with whom he has discussed the results and developed the plan of further development of the model.

He also got the information on the current work and publications related to the research of the operation modes and electric equipment protection in the networks of the «Smart Grid». He spent the majority of his time improving the network model.

His report got a positive mark.

## THE FRENCH VECTOR OF COLLABORATION

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8 second and third year students of the French Engineering Faculty visited Tunisia on April 26<sup>th</sup> –May 6<sup>th</sup>. The study course was organized in the frameworks of the international collaboration of DonNTU and High Engineering School Medzhes-al-Bab and was supervised by the academics V. Kovalenko and G. Kapanadze.

Our delegation was received by the the Scool's Rector Dr. Med Rauf Makhdzub and the Vice-Rector Khassen Kharrubi.

The students visited laboratories, learnt the training structure and attended lectures in thermodynamics, environment management, industrial management delivered in French.

Our delegation also visited the Technical University

of Qayrawān and learnt about different levels of training. The students did some research at the university's laboratories equipped by the latest machinery, tools and stands necessary to do the research. They also learnt about academic and research projects the university's students take part in, visited the classical and electron libraries. All the publications there are modern and the access to them is free.

Our students and those of the Technical University of Qayrawān reported on the industrial practice in electric engineering systems.

The issues of education, professional training and further collaboration of the universities of Ukraine and Tunisia were discussed during the 'round table' meeting at which both students and academics took an active part.

The Vice-Rectors of the University Dr. Ali Gannem and Iliyas Mrabet and our delegation discussed further inter-cultural and professional collaboration between the universities.

The High Engineering Shipbuilding School is in Qilībiyah on the Mediterranean coast. Despite the fact that there is no such a speciality at DonNTU our students were interested in the visit. They met both the students and administration of the School.

There is the reservoir called Sidi Salem on the north of Tunisia built by Ukrainian engineers during the Soviet Union period. People in Tunisia know the history of the USSR and speak well of the country. Our delegation was impressed by the greatness of the engineering idea of our countrymen and handed in the flag of Ukraine to the manager of the reservoir.

The delegation visited Tunisia (the capital), Medzes-Al-Bab, Dzandaba, Beja, Teztour, Nabeul, Sousse, Hammamet, Qayrawān and Qilībiyah and Tozeur. The latter is the motherland of date palms having magnificent oases.

Tozeur is the Sahara's gate and the word 'water' here has a special meaning and is even pronounced with respect. The city has the "special" sky and stars. The astronomy observatory has been built and is operating here on the initiative of the graduate of the High Engineering School of Medzel-Al-Bab Mr. Said Malik.



International conferences and city festivities take place here and research and observation of the sky are carried out.

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5 Master's students and the Assistant Professor of the Department of the French Language N. Kamozina have visited the University of Cergy Pontoise (France) within the frameworks of collaboration between the university and DonNTU. They participated in the seminar The French Language and Culture.



The seminar consisted of two parts: classroom work under the supervision of a teacher (see the photo) and sightseeing.

There was a final test during the last class. The host university issued certificates. The teacher was an employee of the University based Centre of the French Language that teaches foreign citizens.

The supervisor of the seminar was Dr. Patrick Enaff and it was a preliminary preparation for the students' research on robotics at the laboratories of the University of Cergy Pontoise.

### **SCIENTIFIC STUDY COURSE IN FRANCE IN THE FRAMEWORKS OF THE L.KIRKLAND PROGRAM**

The Assistant Professor of the Department of Personnel Management and labour Economy E. Shelest visited the Economic University of Poznan (Poland) on September 16<sup>th</sup> 2011-July 10<sup>th</sup> 2012. It was organized within the frameworks of the scholarship program of L. Kirkland and included research and making scientific and professional contacts and learning of practice of Poland in the field of democratic changes in the life of the society.

She attended lectures on 12 disciplines in Polish. The results of her theoretical and empiric research were published in the scientific work "Risks in Enterprise Human Resource Management" that was made under the supervision of Prof. Dr. Hab. A. Andrzejczak.

E. Shelest also delivered a lecture on corporative universities to the third year students of the Economic University and then she answered their questions not only on the topic of her lecture but also about Ukraine, Donetsk and DonNTU.

She took part in two conferences in February and March 2012 that took place in Poland and established links with public organizations of Poznan, the Youth Centre of Professional Consultancy in particular. Due to her actions the chance to initiate Polish-Ukrainian projects on improvement of the quality of service of the Career Centres of universities became a reality.

The joint with the students' scientific organization «Studenckie Kolo Naukowe Doradcow Zwodowych I Personalnych Kreator Kariery» of the University named after Adam Mickiewicz project called Four Steps to the Entrepreneurship was implemented. Its goal is to inform future professional consultants about the most important aspects of modern enterprises management.

### **COLLABORATION WITH THE UNIVERSITY OF ZIELONA GORA**



The collaboration with the University of Zielona Góra (Poland) on modern information technologies is going on.

The Professor of the Department of Computer Engineering A. Barkalov had his study course in Poland from April 24<sup>th</sup> till June 22<sup>nd</sup>. It covered research and teaching at the Department of Computer Engineering and Electronics of the University of Zielona Góra.

Prof. Barkalov delivered lectures on computer system architecture and built-in systems for Master's students and was a member of the Commission of Defense of Dissertations of Master's Students.



He also finished writing a monograph on the central processor designed which is planned to be published at the University of Zielona Góra. Besides, he participated in the work of the Board on Defense of Candidate's Dissertations on information science and power engineering.

He made 8 presentations for different scientific and technical conferences in which the scientists of both universities took part. 7 joint papers were sent to the editorial boards of international journals.

In 2012 the monograph A.Barkalov, I.Titarenko, V.Opanasenko. Organization and Design of Central Processing Unit of the Classical Principles. – Donetsk: UNITECH, 2012.-332 pp. was published. It was the joint work with the workers of the University of Zielona Góra and the Institute of Cybernetics named after V. Glushkov of the Academy of Science of Ukraine.

## COLLABORATION WITH KAZAKHSTAN



The head of the Department of Artificial Intellect Systems Prof. V. Shelepov visited Astana (Kazakhstan) on the invitation of the Euro-Asian National University named after

L. Gumilyov on June 16<sup>th</sup>-28<sup>th</sup>.

Prof. V. Shelepov delivered lectures on speech recognition for the students of the summer school on information science, consulted doctorate students on Kazakh speech recognition, participated in the conference Dissemination of Computers and Computer Technologies in the Society where he was the chairperson of a breakup group on the artificial intellect.

## PRACTICE AND OUTLOOKS OF THE DEVELOPMENT OF THE PARTNERSHIP IN HIGHER EDUCATION

The XIII international scientific and technical seminar Practice and Outlooks of the Development of Partnership in Higher Education has taken place in Taganrog (Russia). The organizers of the event were Taganrog Technological Institute of the Southern Federal University, Donetsk National Technical University and The Russian-Ukrainian University.

It is an annual seminar which is based on long term collaboration between Taganrog Technological Institute of the Southern Federal University and Donetsk National Technical University, the collaboration agreements between the universities and some departments. The leading scientists, doctoral, postgraduate and Master's students from Russia, Ukraine, and Azerbaijan took part in it. Our university was represented by the academics of the departments of Manufacturing Engineering, Physics, Quality Assurance and the German Language.

There were the plenary and 4 breakup group meetings at which 20 presentations were made. They were topical and expressed pedagogic, scientific and industrial experience.

The seminar participants exchanged teaching experience and scientific, technical and academic information, defined promising ways of collaboration in the field of education and started developing of joint educational and scientific programs.

The joint Russian-Ukrainian collaboration assists in development of academic mobility of teachers and students and establishment of new business contacts among Russian and Ukrainian scientists.



## THE ANNUAL STUDENTS' PRACTICE IN THE CZECH REPUBLIC

6 students of DonNTU had their academic training in June. It was arranged in the frameworks of the collaboration agreement between DonNTU and Ostrava Technical University (OTU) (the Czech Republic). Prof. O. Moroz supervised the work.

The students learnt the history and the faculties of OUT. They were received by the deans of the faculties.

The program was very intensive and included excursions to many companies of Moravian-Silesian region of the Czech Republic. The students visited Trinec Metallurgical Plant, the plant of electronics Befra,



the plant of mining facilities Ferrit, the EMP plant producing electric engines and pumps, the company on uranium mining DIAMO, the research institute of labour protection VVUU-Radvanice, the company producing energy supply systems and automation means for the mining industry GanzenElectric, the brewery Radegast, coal mining holding OKD.

The students also had their social program. They went sightseeing in Ostrava, visited mining museums of Ostrava and Harrachov and the Tatra Museum in Koprivnice.

There also was the first ever excursion to Vienna (Austria) and its Technical University.

There also was the first ever excursion to

### **SOLAR BATTERY CAR PRESENTATION**

The solar battery car SolarWorld GT was demonstrated in Donetsk in July as a part of its world tour.

The official meeting of the GEF with the Consul of Germany in Donetsk Mr. Koh and the solar mobile team took place at the DonNtu's youth club on July 3-d (see the photo).

The crew consisted of the students of the High Technical School of Bochum. They started the project Around the World in Australian Darwin in December 2011.

This one is the fourth solar mobile of the students' project.

Its hull is made of glass-fibre plastic. Despite its length of 4 meters it weighs only 350 kg with its power system. The fuel consumption is 200 g per 100 km due to the improved aerodynamics.

The solar mobile is equipped with the traction motor and the lithium-ion accumulator. The maximal speed is 120 km/h. It can run 1200 km without an extra accumulator charging. The charging is done with the



help of photo-electrical panels with the area of 3 square meters and the power of 825 W.

The crew is accompanied by the van of the technical support service. 30 students will take part in this world tour. They will be changed along the travel line.

The electric vehicle crossed the south continent and arrived to the USA by ship in early February and started its way in California. By the end of March it had been in Florida (the Atlantic coast of the country).

Now the crew is travelling across Eastern Europe. Africa and Asia are in their plans according to which the solar mobile will be back to Australia in December 2012, a year after the start.

But before it the crew has to cover 30 thousand km more to round the Earth. All the distance will be covered on solar batteries without the usage any other type of energy sources.

The Newsletter is prepared by the International Office of DonNTU.

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