<u>Polytech and Montanuniversitaet Leoben work for a concrete</u> result

SPbPU actively interacts with leading universities in Austria. Thus, scientific cooperation between professors and researchers from Montanuniversitaet Leoben (University of Leoben)(hereinafter - MU Leoben) and the Polytechnic University has been going on for more than 10 years. A special impetus to this interaction was given by the partnership agreement, which university leaders signed in 2013. Today, universities are actively cooperating in the field of mechanical engineering, in the framework of which studies were carried out on the fatigue of aluminummagnesium alloys and steels, welding technologies and technologies for machining a weld.



Recently, with a view to expanding cooperation and implementing the provisions of the Montana Partnership Agreement, Vladimir POLYANSKIY, professor at the Polytechnic University, visited Leoben University. During the visit, negotiations were held with the rector of the Austrian university Univ.-Prof. Dr. Wilfried EICHLSEDER and the head of the Chair of the Mechanical Engineering, Univ.-Prof. Dr. Florian GRÜN, as a short-term prospect, suggested participating in joint projects of national foundations of basic research. Joint publications, experiments

and research are a prerequisite for participation, and there is such a common scientific background. Austrian and Russian colleagues discussed the possibility of conducting proactive search research with the support of the mobility of graduate students and students.



The key scientific topic of the negotiations was the topic of ultra multi-cycle fatigue, unusually popular in modern mechanics. The Austrian side prepared and submitted samples to SPbPU to study the spatial-energy distribution of hydrogen arising from tests on ultra-high fatigue. Based on the results of research in the laboratories of the Polytechnic and the Montanuniversitaet Leoben, it is planned to prepare joint publications in scientific journals. Joint research in the field of generalized Cosserat media is also outlined. At SPbPU they are held at the Institute of Applied Mathematics and Mechanics under the supervision of Corresponding Member of the Russian Academy of Sciences, Professor Anton KRIVTSOV.



Despite the tenfold difference in size, Montanuniversitaet Leoben is in many ways similar to the Polytech. Universities train specialists in similar areas of training and have a powerful experimental base. The Austrian partner SPbPU actively cooperates with industry. It is important to note that the results of many tests become the basis of software applications that are developed in parallel and used in industry. Today, MU Leoben is a recognized fatigue test center in Europe.

SPbPU professors have repeatedly participated in international conferences held by Montanuniverstitaet Leoben, and on a mutual initiative conducted a number of joint studies. Over the past 10 years, more than 15 publications on the topic of joint cooperation have been prepared.

"At the Montanuniversitaet, we always receive a warm welcome. Our cooperation is developing. Now we have identified new areas of research, planned to work on joint publications and participation in joint research projects," commented Professor SPbPU Vladimir POLYANSKIY.

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