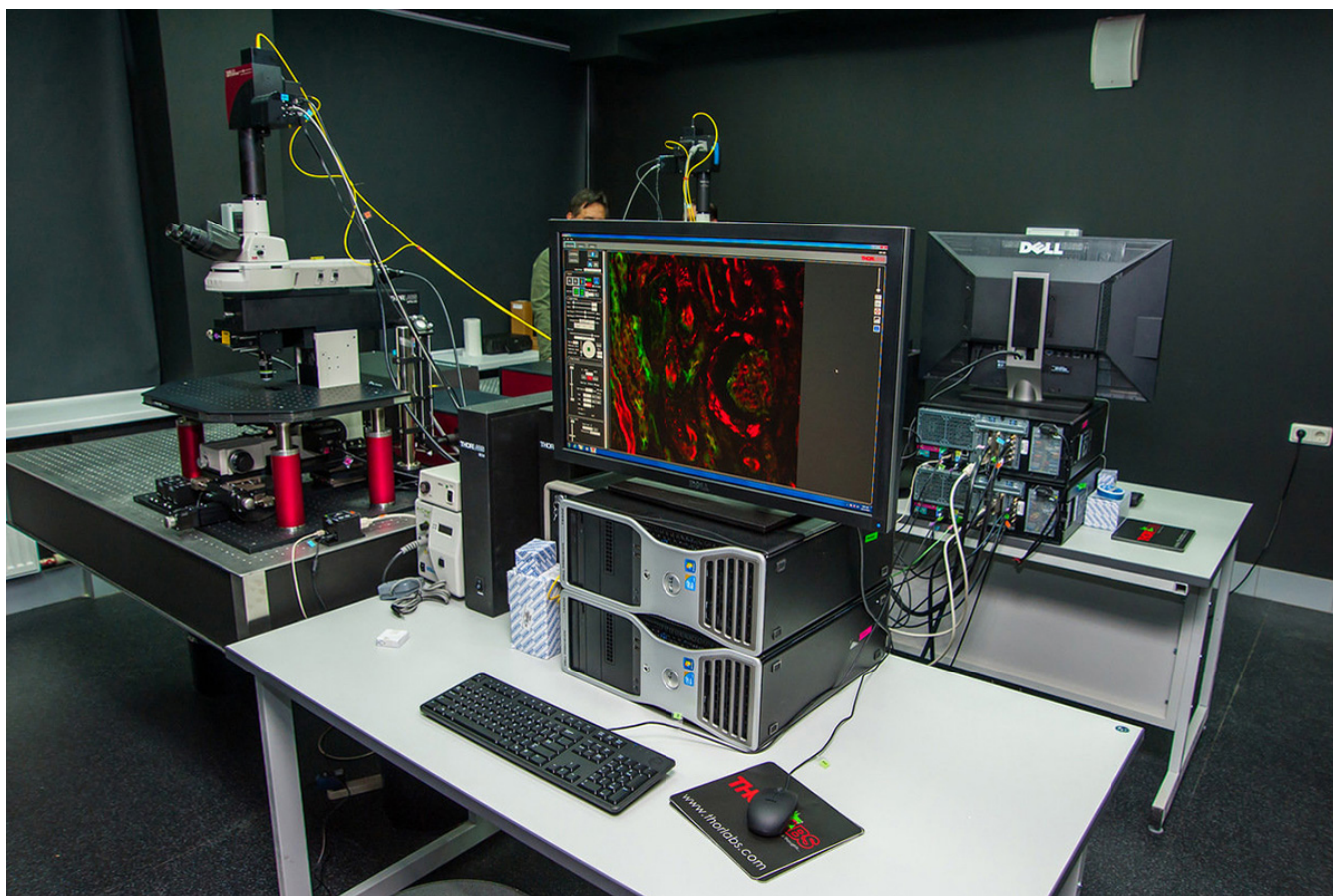


SPbPU and the Ministry of Mecklenburg-Vorpommern to develop cooperation in the field of medicine

Active cooperation between SPbPU and the Ministry of the Federal Land of Mecklenburg-Vorpommern (Germany) continues to develop. This time, with the support of the Ministry, scientists from the Polytechnic University and the Institute for Implant Technology and Biomaterials (Rostock-Warnemünde, Germany) took part in a joint seminar on medical technology. The event was held online. Traditionally, the Head of the St. Petersburg External Economic Office in Germany Dmitry UCHITEL was the chairman of the meeting and the moderator.



Ralf SVOBODA, Head of the Department for Technological Cooperation of the Ministry of Economics, Labor and Health of Mecklenburg-Vorpommern welcomed the audience. As in the [previous speech at the mechanical engineering workshop](#), Ralf Svoboda emphasized that medical technology, biotechnology, mechanical engineering and renewable energy are key areas for Mecklenburg-Vorpommern in the innovative development strategy of the region 2021-2027. The key tasks of the Department for Technological Cooperation are to support research and projects in these areas, which include innovative diagnostic techniques and products, medical technology, bioinformatics, biotechnology and biologically active substances, as

well as preventive and personalized medicine.

The seminar began with presentations made by the Institute for Implant Technology and Biomaterials (IIB e.V.) in Rostock, which carries out production of innovative products such as implants and develops concepts for quality assurance of implants.

The Director of the Institute, Professor Klaus-Peter SCHMITZ became the first speaker. His presentation was devoted to the development, testing and registration of implants for cardiology and cardiac surgery. Professor SCHMITZ also spoke about a large-scale project dedicated to innovations in implants, which is being implemented jointly with the University of Rostock and other research centers and medical companies. The Managing Director of the Institute Andrea BOCK presented to the participants the prospects and facilities of the Competence Center for Medical Technology in the Federal Land of Mecklenburg-Vorpommern.

The presentation delivered by the Head of the Transfer and Technology Department, Dr. Stefan SIEWERT was aimed at an overview of research in the field of stenting technology development - the requirements for semi-finished products and implants made of them. Dr. Siewert spoke about the development of stents for the treatment of glaucoma, stents for the auditory tube, aortic and venous valve prostheses and other projects.

The head of the Research and Development Department Dr. Michael STIEHM presented the interim results of a study on the development and registration of transcatheter heart valve prostheses, as well as the technology for their testing. And, finally, the head of the biomedicine team, Dr. Valeria KHAIMOVA, made a presentation on "Evaluation of the biocompatibility of biomaterials and implants for obtaining a marketing authorization".

SPbPU Vice-Rector for International Affairs Professor Dmitry ARSENIIEV has delivered a welcoming speech on behalf of the Russian colleagues. *"It is very important that the common points of contact, which we identified together with our colleagues from Germany, were given opportunities for growth and enhancement. The experience of the Polytechnic University shows that research and implementation of projects in international working groups have enormous potential. We hope that these seminars will result in the formation of specific working teams, which, by joining existing competencies, knowledge and resources, will be able to obtain breakthrough results within new projects in the near future, "* Dmitry Arseniev underlined.

The presentations of the Russian scientists began with a report by the Director of the Institute of Biomedical Systems and Biotechnology, Professor Andrey VASIN. He presented the activities and development prospects of the Institute. Professor Vladimir YUDIN made a presentation on polymer nanocomposites for tissue engineering and transplantation. Yulia NASHCHEKINA, PhD in Biomedical Sciences, spoke about synthetic and natural hydrogels for bioprinting of organs and tissues. The graduate student Ekaterina MAEVSKAYA made a presentation on the topic of composite fibers based on chitosan and chitin nanofibrils with a hemostatic effect.

Alexander TIMIN, PhD in Chemistry, spoke about the development of multilayer polymer structures for the diagnosis and therapy of malignant neoplasms.

The participants of the seminar from Germany paid great attention to the reports made by the scientists of the Polytechnic University and highly appreciated the range of research fields. In particular, colleagues from the Institute for Implant Technology and Biomaterials have shown considerable interest in 3D bioprinting technology - “smart” materials for cardiovascular implants, 3D printing of vessel models, vascular scaffolds, artificial vessels for in vitro testing of materials and stents, etc.

As well, scientists from Russia and Germany discussed the possibility of students and young researchers exchange. Professor Klaus-Peter SCHMITZ made a proposal to organize a seminar in Rostock as soon as the epidemiological situation in the world allows to meet in person, and invited SPbPU employees to participate. He also noted that *“joint research should be focused on manufacturing and should be carried out in close cooperation with companies, because in the end, the practical implementation of research results and the delivery of finished equipment and materials to the clinic are important”*.

Finalizing with the seminar, the parties agreed to start planning a meeting in Rostock, and while the borders are not open, hold a series of online working meetings to discuss individual developments and potential projects in specific areas - bioinformatics, conductive biocompatible materials, etc.

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