

SPbPU and RWTH University of Aachen Held a Joint Workshop for Scientists

SPbPU and RWTH Aachen University, Germany, held a joint scientific seminar on smart robotics in production - "Smart robotics in Production". The idea to conduct an online workshop for university research workers came up during an [online exploratory conference in April](#), when universities presented areas of development and projects and discussed plans for the development of cooperation. The seminar was attended by scientists from SPbPU and RWTH Aachen University and representatives of international offices staff. The event was supported by the Ministry of Culture and Science of North Rhine-Westphalia and the Economic Development Agency NRW.INVEST. Thanks to the assistance of the representative - Ekaterina KARPUSHENKOVA - the cooperation of the two universities received a new impetus for development.

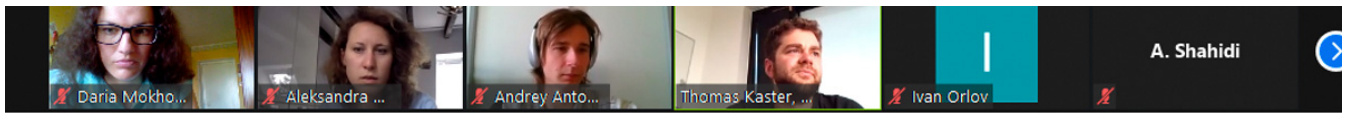


The workshop was opened by Dr. Matthias BROCKMANN, Managing Director in Cluster of Excellence at RWTH Aachen University. In his speech, Mr. BROCKMANN talked about the operational work of the Cluster, about the Internet of Production, which describes the transfer of the Internet of Things to the world of industry, about the digital footprint or "digital shadow" – information that we all leave as a

result of browsing the web, as well as process of systematic learning. *“I really hope that at the end of the pandemic, we will finally be able to organize mutual visits and show our laboratories. Not only our universities have much in common, but our cities as well. Both our cities were founded by the prominent emperors and the history after called them “the Great”. In St. Petersburg it is Peter the Great, and in Aachen - Charles the Great. And we have one more thing in common that we are famous for - rainy weather. However, here you can find advantages. Maybe it was due to frequent rains that such outstanding technical universities were established in Aachen and St. Petersburg, and today we have the opportunity to communicate with each other and cooperate,”* Dr. BROCKMANN underlined.

On behalf of SPbPU the participants were welcomed by the acting Director of the Institute of Computer Science and Technology Pavel DROBINTSEV. He made a review of the activities of the Institute, presented the areas of developments in the field of artificial intelligence and cyberphysical systems, and also spoke about the projects that ICST teams are currently implementing.

After the pitch session, scientists and young scientists of SPbPU and RWTH Aachen University presented their research projects in a wide range of areas and topics. Participants spoke about 3D printing and factories of the future, robots and materials processing, radio frequency positioning methods and many other relevant topics. How to carry out construction works of a station on Mars in terms of production technology? How to cope with global challenges posed by product customization? How to bridge the gap between inherited production systems and future ideas? Researchers discussed these and many other issues during the workshop.



Sensor-and data-based robots for laser material processing

Current development in Robotics

Target:

Development of a flexible, collaborative robot system for laser material processing

Advantage:

Cost of the system
Flexibility of the system
Sizing of the system
Collaborating robot system

Disadvantages:

Accuracy of the robot system
Standard software



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INTERNET OF PRODUCTION | RWTH AACHEN UNIVERSITY

The main idea of the seminar was to identify new areas that Russian and German universities can develop together, involving more and more institutes and laboratories in cooperation. Another important step will be the establishment of direct scientific contacts between young scientists, so that in the future they can prepare joint publications, continue joint research and implement joint projects. At the end of the seminar, representatives of SPbPU and RWTH Aachen University international offices, Daria MOKHOVA and Dr. Dieter JANSSEN, presented possible tools to support joint research and various activities.

"I would like to express my deep gratitude to the international offices staff for the creative approach to establishing partnerships, the effective organization of the seminar and the possibility of cooperation with one of the leading scientific clusters in Germany. The Smart Robotics in Production scientific seminar is a great opportunity to get acquainted and discuss the results of completed developments. We have developed mutual interest and certain ideas during the preliminary negotiations and the seminar, and now I am sure that there will be many joint projects and publications ahead conducted by the graduate students and laboratory staff of our two leading universities. " – shared the Head of the Laboratory "Industrial Systems for Streaming Data Processing" Marina BOLSUNOVSKAYA.

All seminar participants will receive certificates issued by RWTH Aachen University. Based on the results of the meeting, the parties agreed to continue

joint work, identified promising opportunities for implementing joint research projects, as well as preparing publications on the seminar topic. Other types of joint activities for the near future are also indicated: colleagues from RWTH Aachen will take part in the online module of the International Polytechnic Summer School 2020 “Smart Manufacturing and the Digital Future”. Further negotiations have already been planned to discuss filing applications for joint projects.

Prepared by SPbPU International Office

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