

Polytech and Rhine-Westphalian Technical University of Aachen held a seminar on international textile applications

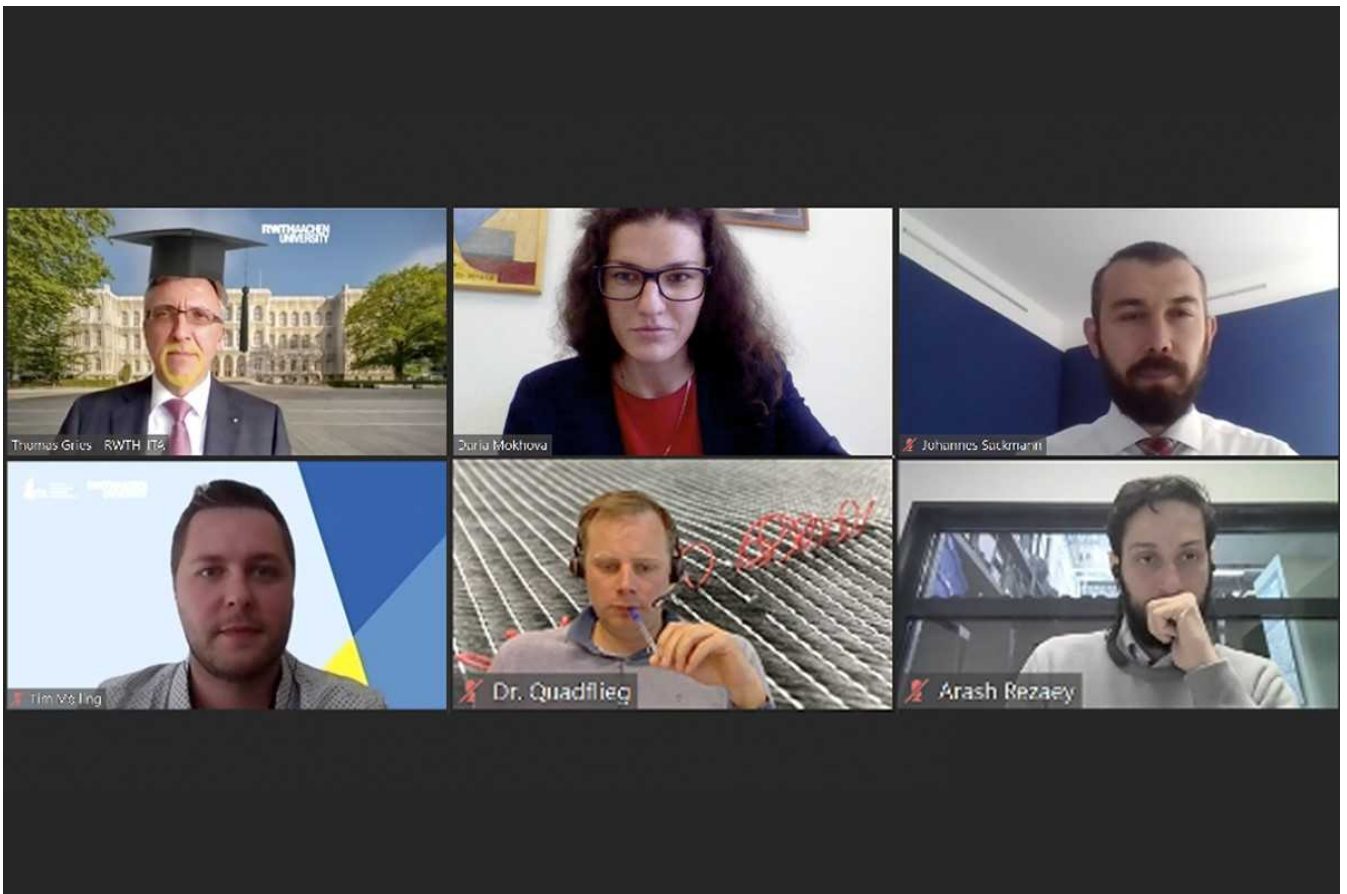
Within the framework of International Polytechnic Week 2021, the Polytechnic University and the RWTH Aachen (Germany) held a joint seminar for scientists on international textile application. The participants presented research results in the area, discussed opportunities for cooperation and implementation of joint projects.

Researchers from SPbPU and RWTH Aachen and international offices representatives of both universities joined the online seminar. The honorary guest of the event was a representative of the Ministry of Culture and Science of North Rhine-Westphalia and the Economic Development Agency NRW. Ekaterina KARPUSHENKOVA. Due to her active contribution the cooperation between the Polytechnic University and RWTH Aachen more than a year ago started a new active phase.

The international seminar was opened by Professor Thomas GRIES, Director of the Institute for Textile Technology (ITA) of RWTH Aachen. He spoke about the work of the Institute and presented projects that could be implemented together. From Leonhard Euler to the present day, science connects people across the borders between Russia and Germany. The two metropolises of knowledge in St. Petersburg and Aachen have an outstanding reputation for science, technology and innovation. It is our duty to use this potential together, Professor GRIES underlined.



The seminar was held in the format of a pitch-session. Researchers from both universities presented their projects and studies related to the topic of textile production, composites and their application in various fields. Professor of SPbPU Higher School of Physics and Materials Technology Oleg TOLOCHKO spoke about fiber metal laminate composite based on a thermoplastic polymer and the prospects for the use of thermoplastic polymers. Aleksey BOYKOV, Senior Engineer of the Laboratory «Industrial Systems for Streaming Data Processing» of SPbPU NTI Center, presented a joint project of SPbPU, NRU HSE and Ivanovo State Polytechnic University «Development of methods and software and hardware for detection of tissue defects using artificial intelligence technologies». The project is aimed at automating quality control at garment and light industry enterprises. The hardware and software solution is created using the methods of technical vision and machine learning, and will be able to detect defects at all stages of production — the production of harsh canvas, painted canvas, finished products, etc.



Andrei DMITRIEV, Commercial Director of «Composite Group» LLC, shared his experience and prospects for the implementation of polymer composite materials at transport infrastructure facilities and presented the projects implemented by the company in cooperation with SPbPU Higher School of Industrial, Civil and Road Construction. Representative of T&T Carbon Start-Up Olga CHUPRINOVA presented the startup, which produces antistatic polypropylene-based antistatic filaments modified with nanotubes.

Dr. Frederick CLOPPENBURG from the Institute for Textile Technology (ITA) RWTH Aachen made a presentation on industrial artificial intelligence for the in-line control of complex and dynamic processes. The representative of the research group for fabrics production of ITA RWTH Aachen Arash REZAEY spoke about checking patterned surfaces on a weaving machine and automatically detecting defects in textiles with a complex pattern structure in real time. Tim MÖLLING from ITA RWTH Aachen's, Tubular Composite Reinforcement research group presented fiber-based solutions for the hydrogen economy, as well as hydrogen storage and distribution composites and tubular composites. Kira HEINS, a representative of the research group for construction composites, ITA RWTH Aachen, presented the results of joint work with Oleg STOLYAROV, Associate Professor of SPbPU Higher School of Hydraulic and Power Engineering in the field of smart building structures — digitized geosynthetic materials.

At the end of the seminar, SPbPU international cooperation coordinator Daria

Mokhova made a presentation on cooperation opportunities between the two universities and presented relevant tools for supporting joint research and various activities.

Hosting thematic practice-oriented workshops provides us with an excellent opportunity to establish partnerships, explore each other's research and identify potential for joint projects. I hope that the seminar on international textile applications will become the basis for developing successful collaborations and new research by scientists from SPbPU and RWTH Aachen. We plan to continue negotiations and meet again in the near future in order to discuss in detail proposals for the implementation of joint projects, Daria MOKHOVA

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