

Polytechnics in China: international conference and competition of innovative projects

The Suining International Lithium Battery Industry Conference 2025 was held in the Chinese city of Suining. The event was attended by more than 400 representatives of leading universities, scientific organizations, industry and investors from China, Russia, Germany, India, Australia and other countries. The Polytechnic was represented by Professor Sergey Kondratiev, Professor Wang Qingsheng and the NEMTRI team.



At the thematic session on the prospects of quasi-solid-state batteries, Wang Qingsheng, Honorary Professor of the Polytechnic University, Director of the Basic Department of St. Petersburg State University in China, made a presentation. He is actively developing cooperation between Polytech and the Russian-Chinese Engineering Institute of Materials and New Energy Sources NEMTRI. It is worth noting that the conference was attended by graduates and postgraduates of the Polytechnic University, who today continue their scientific activities at the basic department of the university in China under the supervision of Professor Wang Qingsheng. Their participation proved the continuity of scientific schools and the successful development of joint educational initiatives.



The long-standing scientific friendship between Russia and China serves as a solid foundation for the implementation of joint projects. Today, SPbPU and its Chinese partners actively cooperate in the field of research and industrial implementation of new energy storage and conversion technologies.

It should also be noted that the team of graduates and postgraduates of the Polytechnic University took the second place in the final of the international competition of innovative projects Hangzhou International Entrepreneurship Contest (Brain-inspired Intelligence Track). More than 130 foreign teams took part in the competition, of which only 20 reached the final. The Polytech team presented a project for a new generation bionic prosthetic hand.

The project is led by Professor Wang Qingsheng. It was launched a year ago jointly with the Scientific Research Center «Additive Technologies and Materials in Intelligent Biomedical Systems» of the Russian-Chinese Engineering Institute (ETRI) in Hangzhou with the support of the rector of the Polytechnic Andrei Rudskoi.



In a relatively short time, the team has developed its own bionic finger movement mechanism, a control system based on PMSM motors, an electronic platform, and an algorithm for processing commands from EMG sensors using neural network personalization methods. Engineers are currently preparing a second prototype, and next year they plan to present the first pre-production sample.

The success of the team was the result not only of engineering work, but also of international cooperation. Graduates and postgraduates of Polytechnic University working in China are actively developing ties between Russian and Chinese researchers.



The bionic prosthesis project is only part of the broader work of the center. Research is underway in Hangzhou and Changxing in the fields of additive technologies, biomedical systems, new energy sources and functional materials. The center's laboratories are open for internships, joint dissertations and international projects, and participation in them has already allowed many Polytechnic students to start a scientific career abroad.

Дата публикации: 2025.10.07

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