

International conference «Cyber-Physical Systems and Control» started at Polytechnic University

On June 29, the 2nd International Conference on Cyber-Physical Systems and Control (CPS&C'2021) started at Peter the Great St. Petersburg Polytechnic University. Because of the pandemic, participants are connected to the scientific sessions, lectures, and discussions online. In 2021, Polytechnic University is holding the conference together with foreign partners: City, University of London (UK), and Leibniz University Hannover (Germany).

The CPS&C'2021 Conference is part of the Program for the creation and development of the World-Class Research Center (WCRC) «Advanced Digital Technologies», 2020-2025, implemented by Peter the Great St. Petersburg Polytechnic University in accordance with the contract No. 075-15-2020-934 dated 17.11.2020. The organizers of the Conference from the SPbPU are the Higher School of Cyber-Physical Systems and Control (headed by Professor Vyacheslav SHKODYREV), the Science & Technology Department «Mathematical Modeling and Intelligent Control Systems» of the NTI SPbU Competence Center «New Production Technologies», and the World-Class Research Center «Advanced Digital Technologies».

The main thematic areas of the conference, which this summer brought together scientists and researchers from 18 countries, are control theory, systems theory and systems analysis, knowledge bases and knowledge management, industrial Internet of Things, artificial intelligence and machine learning, cognitive systems, smart manufacturing, mechatronics and robotics, human-machine interfaces, transport and logistics, energy and smart grid technologies.

The international conference was opened by Professor Dmitry ARSENIEV, Vice-Rector for International Affairs of SPbPU. This year's conference features particularly broad geography of participants. We are joined by friends and colleagues from 18 countries. We are very pleased to see leading scientists from foreign universities and research centers, partners of Polytech. Colleagues from the Leibniz University Hannover, City, University of London, Technical University of Munich, Tsinghua University, LUT University, and others will present keynote lectures. More than 200 participants represent the Russian leading universities, institutes, and scientific centers of the Russian Academy of Sciences from various parts of our country: from St. Petersburg and Moscow to the Far East, noted the Vice-Rector for International Affairs.



In total, more than 100 scientific papers were submitted to the conference from more than 300 participants. The program presents the results of promising fundamental and applied research, reflected in the titles of specific sessions — «Global Smart Manufacturing», «Neural Networks», «Cybersecurity», «Data-Driven and Proactive Control in CPS», etc. The best papers by the CPS&C'2021 Conference participants will be published in the book of the «Communications in Computer and Information Science» series, Springer, and will be indexed in Scopus.

Professor Ludger OVERMEYER, the co-chair of the CPS&C'2021 Conference International Scientific Programme Committee, greeted the audience on behalf of the Leibniz University Hannover. It is important to note that historically the conference on cyber-physical systems originated from an international scientific seminar that SPbPU held together with LUH. We are expecting a great variety of papers in the coming days. I sincerely wish all participants interesting discussions and new useful contacts. In these challenging times, our conference has become a link between many countries, commented Professor Ludger OVERMEYER.



Vyacheslav SHKODYREV, Director of the Higher School of Cyber-Physical Systems and Control at SPbPU, noted Professor OVERMEYER's unwavering support for both the seminars and the current conference. It is nice to see that the number of conference partners is growing. In 2021, City, University of London, another strategic partner of Polytechnic University, has joined the ranks of CPS&C organizers. We thank our colleagues from City, University of London — Professor Nabil Aouf, Co-Chair of the CPS&C'2021 Conference International Scientific Programme Committee, and Professor Sanowar Khan, Co-Chair of the CPS&C'2021 Conference Local Organising Committee — for their invaluable help and support in organizing this conference.

For his part, Professor Sanowar KHAN, SPbPU Honorary Professor, spoke in his speech about the many successful joint projects with the Polytechnic University. Our relationship with SPbPU has lasted for decades, we have a variety of studies to our credit. I am sure that today's conference will take its rightful place among the joint realized projects. I wish all participants good luck and productive interaction! Professor Sanowar KHAN stated.



The CPS&C'2021 Conference will take place over three days and end on July 1. Eight thematic sessions are waiting for the participants, which will be held online via the Microsoft Teams platform. Special sessions will be organized together with SPbPU partners. The «Global Smart Manufacturing» session will be held together with RWTH Aachen University (Germany), and the «Data-Driven and Proactive Control in CPS» session — with the St. Petersburg Federal Research Center of the Russian Academy of Sciences.

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