

Preface



The Sixth Asian School-Conference on Physics and Technology of Nanostructured Materials (ASCO-Nanomat 2022) has been held under the auspices of the Institute of Automation and Control Processes of the Far Eastern Branch of Russian Academy of Sciences and Far Eastern Federal University, in Vladivostok on April, 25–29, 2022. ASCO-Nanomat 2022 was intended as a forum for senior and young scientists and technologists from Asian and European universities, academic institutes and industrial enterprises where they can present their latest findings and develop new synergies in the field of Physics and Technology of Nanostructured Materials and related subjects.

Vladivostok is a Russian city in the Far Eastern region, geographically close to Asian countries: China, Japan, Korea, India, Taiwan, Australia and others. Therefore, the primary goal of this School-Conference is to stimulate multidisciplinary contacts and cooperation between scientists from Asia and Europe. Russia acts here as a bridge connecting two parts of the world. The second goal is to give young scientists an opportunity to deliver their presentations in an international conference, with awards for the best oral or poster report to motivate them.

The conference was held in hybrid format, both on-site and online. The live sessions were held at the FEFU campus, attended by 56 participants from Vladivostok and 35 from other cities, including foreign students. The rest of the contributors from Russia and from abroad participated in an online format due to coronavirus restrictions. The School-Conference has been deemed a success achieving all of its goal. Due to a large number of reports, the conference was simultaneously held in two halls. Overall, 9 plenary, 17 invited, 59 oral and 125 poster reports have been presented (on-site and online) by the participants, including renowned professors, young scientists and post-graduate students from 13 Asian and European countries, including Russian Federation. The ASCO-Nanomat 2022 is a multidisciplinary school-conference, which has been held for the sixth time, and had six scientific sections:

Physics of nanostructures and interfaces, self-organization processes, two-dimensional materials

Physics of semiconducting nanostructures and heterostructures, including silicide, Group-IV alloy materials, A_3B_5 and A_2B_6 heterostructures: experiment, calculations and technology

Ferromagnetic and ferroelectric materials, including nanomaterials, a spintronics

Nanostructured coverages, nanocomposites, functional hybrid materials: formation, structure and properties

Laser nanofabrication, all-dielectric materials, nanomaterials: fundamentals and applications

Photonic and electronic devices: integrated circuits, solar cells, nanophotonics, biophotonics

Abstracts of all reports were published electronically by Dalnauka publishing house.

At the end of the conference, 8 young scientists (under 35 years old) were awarded prizes for the best oral and poster presentations. After the conference, the on-site participants visited an open-air zoo 60 km from Vladivostok.

The Publishing Committee and International Program Committee have selected 43 unpublished articles, which were recommended for publication in *St. Petersburg Polytechnic University Journal: Physics and Mathematics* as selected Proceedings.

We, the International Program Committee, are very pleased to publish selected articles of ASCO-NANOMAT 2022 for scientists, researchers and students with interest in the physics and technology of nanostructured materials.

We would like to take this opportunity to thank all authors, plenary and invited lecturers, the Organizing Committee and International Program Committee members for their contributions to the conference.

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