

Preface

V International Science and Engineering Conference for young scientists, postgraduate and undergraduate students “High Technology: Research and Applications” (HTRA) was held at Tomsk Polytechnic University on December 5-7, 2016. The conference takes place annually from 2012.

The conference is aimed at strengthening the cooperation of Russian young scientists and students with colleagues from abroad in research and development of cutting-edge technologies. The conference presented research works in the fields of new materials and coatings for various application, projects in advanced organic chemistry and biotechnologies, and structural materials for mechanical engineering. The conference was attended by more than 300 young scientists, postgraduate and undergraduate students from Russia, near and far abroad.

The conference participants had the opportunity to get new knowledge, exchange experience and ideas, establish business communication, and discuss joint projects and perspectives of future collaboration both in Russia and abroad.

A particular attention the organisers have paid to the attraction of youth from near and far abroad to integrate Russian young scientists into international scientific society. The intensification of such communication will attract international students to master's and postgraduate programmes of Tomsk Polytechnic University. The priority direction of the conference is the organization of interaction with research and educational centres of Eurasian and Asian economic unions, specifically in performing collaborative research works and training of highly qualified professionals.

The conference included six sections:

1. Technology of new-generation materials and nanomaterials.
2. Optical technologies.
3. Organic chemistry and biotechnology.
4. Rational use of mineral and water resources.
5. Problems of reliability in mechanical engineering and machine engineering technologies.
6. Simulation of physicochemical processes in modern technologies.

The present issue includes the best papers based on the materials of the conference selected by the section chairs.

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