

Preface

The IV International Conference for young scientists “High Technology: Research and Applications 2015” (HTRA 2015) was held at Tomsk Polytechnic University, Tomsk. Russia on April 21-24, 2015. The goal of the conference was the development of cooperation between young researchers in the field of engineering sciences and high technology application.

A number of research projects developed by students and postgraduates were presented at the conference. These are topical projects on the development of novel materials and coatings for multiple applications, modelling of applied problems and IT applications, technology for the production and use of nanomaterials, the achievements of modern optics and laser technology, discharge and plasma technologies, etc. More than 350 young and experienced researchers from Russia and abroad participated in the conference. Conference focused on modern technology and the advances in science and technology based on an interdisciplinary approach to problem solving.

More than 350 papers were submitted to the conference which covered the topics such as:

- 1 - Electric Discharge and Beam-Plasma Technologies
- 2 - Advanced materials and nanotechnology
- 3 - Optical technology
- 4 - Chemical engineering
- 5 - Reliability in mechanical engineering and mechanical engineering technology
- 6 - Simulation of physical and chemical processes in modern technology
- 7 - Modern information technology

The Conference gave the opportunity for all participants to exchange the last ideas and experience, to establish business contacts and to meet a further partner for joint project, to discuss perspectives and ways of cooperation.

The Organizing Committee of HTRA 2015

Dr. Nikita Martyushev, TPU

Anna Bogdan, TPU

Committees

Program Committee:

General Chair: Prof. Psakhie S.G., Director of Institute of Strength Physics and Materials Science, SB RAN, Russia

Co-Chair: Lisitsyn V.M.. – Prof., Dr., Tomsk Polytechnic University, Russia

Panin V.E. – Prof., academician, Tomsk Polytechnic University, Russia

Kovalchuk B.M. – Prof., academician, Institute of High Current Electronics, SB RAN, Russia

Yakovlev A.N. – Director of Institute of High Technology Physics, Tomsk Polytechnic University, Russia

Kupchishin A.I. – Prof., academician, International Higher Education Academy of Sciences, Kazakhstan

Ki-Whan Chi – Prof., University of Ulsan, South Korea

Peter Metz – Prof., Dresden University of Technology, Germany

Yan Sha – Dr., Institute of Heavy Ion Physics, Peking University, China

Uglov V.V. – Prof., Belarusian State University, Belarus

Sveshnikov V.K. – Prof., Russian Academy of Electrotechnical Sciences, Russia

Gorkunov E.S. – Prof., academician, director of Institute of Engineering Science, UB RAN

Gordienko A.I. – Prof., academician, director of Physical-technical Institute, NAS, Belarus

Popov Valentin – Prof. Dr., Technical University of Berlin, Germany

Organizing Committee:

Organizing Chair: Martyushev N.V., As.Prof. Dr., Tomsk Polytechnic University, Russia

Conference Chair: Bogdan A.M., Expert at Institute of High Technology Physics, Tomsk Polytechnic University, Russia

Remnev G.E. – Prof., Dr., Tomsk Polytechnic University, Russia

Pogrebenkov V.M. – Prof., Dr., Tomsk Polytechnic University, Russia

Efremenkov A.B. – Director of Yurga Institute of Technology, TPU Affiliate, Russia

Filimonov V.D. – Prof., Dr., Tomsk Polytechnic University, Russia

Khasanov O.L. – Prof., Dr., Tomsk Polytechnic University, Russia

Knyazeva A.G. – Prof., Dr., Tomsk Polytechnic University, Russia

Kostikov K.S. – Deputy director of Institute of High Technology Physics, Tomsk Polytechnic University, Russia

Lyamina G.V. – Ph.D., Tomsk Polytechnic University, Russia

Trusova M.E. – Ph.D., Tomsk Polytechnic University, Russia

Sorokova S.N. – Ph.D., Tomsk Polytechnic University, Russia

Tolkacheva K.P. - Ph.D., Tomsk Polytechnic University, Russia

Kranokutskaya E.A. – Prof., Dr., Tomsk Polytechnic University, Russia