

# Preface

Renewable Energy, Biotechnology and Nanotechnology are major topics in the scientific cooperation between Germany and Russia. The dynamic shifts in the international scientific community within the last few years demand a strong support of Young Academics. To face these needs Tomsk Polytechnic University (TPU) and East-West-Science Centre (OWWZ) of Kassel University organised a special interdisciplinary conferences for young scientists from both countries. From May 20th till May 22nd TPU invited the German delegation of young scientists to Tomsk (Russia) and hosted the German-Russian Young Scientists Conference «Renewable Energy - Biotechnology – Nanotechnology». To shape the conference, connections and resources of special bilateral networks like the German-Russian Cooperation Network Biotechnology ([www.biotechnology.owwz.de](http://www.biotechnology.owwz.de)), NanoBRIDGE ([www.nanobridge.owwz.de](http://www.nanobridge.owwz.de)) and the German-Russian Network Environmental Research and Technologies ([www.environment.owwz.de](http://www.environment.owwz.de)) were used by the organisers.

The topics of the Young Scientists Conference were selected according to the recommendations of the German-Russian Working Group «Nanotechnology», German-Russian Network «NanoBRIDGE» and the priority programmes of the Federal Ministries of Education and Research in Germany and Russia:

1. Renewable Energy
  - Sustainable system development
  - BioEnergy
  - Decentralised energy supply
2. Biotechnology
  - Biomass conversion
  - Power to gas
  - Environmental remediation
3. Nanotechnology
  - Waste water treatment / filtration
  - Surface coatings
  - Nanotechnologies for applications

On location the event was strongly supported by the members of the Renewable Energy Club of TPU. The Club is led by graduate students with the aim to promote renewable energy and fuels of which hydrogen is a key element to the students' community.

The main objective of the conference was to bring together young and senior scientists from different kind of working fields but interlinked to an environmental background. This unusual constellation enabled different points of view on research problems and therefore generated a fruitful matrix for interdisciplinary networking with a focus on knowledge and skills in specialized areas along with cross-cultural scientific discussion. About 200 participants (speakers, poster presenters and listeners) were registered at the conference.

Welcomed by Mrs. Svenja Ewert, the representative of the German Consul General in Novosibirsk, and Prof. Oleg Khasanov and Fedor Gubarev from TPU the conference started with presentations of Dr. Martin Krispin on support and funding programmes of the German Academic Exchange Service (DAAD) | the German Houses for Research and Innovation Moscow and Nicole Burghardt (OWWZ) on services and networking activities for young scientists at OWWZ. Orientation lectures

on the fields of Renewable Energy, Biotechnology and Nanotechnology concluded the general part of the event. PhD-Students and Post-Docs from Kassel University, Furtwangen University and Fraunhofer Institute for Wind Energy and Energy System Technology (IWES) presented their current research work and discussed with young scientists from Tomsk Polytechnic University and other Russian Universities (Institute of Strength Physics and Materials Science SB RAS, Technical Institute (branch) of the North-Eastern Federal University, Yakutia and others) perspectives of cooperation.

In addition to the regular sessions special tours and visits to laboratories and research facilities of TPU were provided to the participants giving the opportunity for personal and individual talks.

The conference was supported by the Tomsk Polytechnic University, German Federal Ministry of Education and Research and the German Houses for Research and Innovation, Moscow.

TPU, OWWZ and the participants agreed on the success of this first interdisciplinary conference approach and plan to install this kind of conference as an annual event.

# Committees

## Program Committee:

General Chair: Prof. Mikhail A. Sonkin, Vice-Rector for Research and Innovations, Tomsk Polytechnic University (TPU), Russia

Co-Chair: Prof. Alexey N. Pestryakov, Deputy Vice-Rector for Research and Innovations, Tomsk Polytechnic University (TPU), Russia

Gabriele Gorzka – Head of East-West-Science Center (OWWZ), Kassel University, Germany

Nicole Burghardt – Kassel University , Germany

Dirk Kirchner – Fraunhofer Institute for Wind Energy and Energy System Technology, Germany

Liina Nurk – Kassel University, Germany

Alexey Ivanov – Furtwangen University, Germany

Nils Schäfer – Fraunhofer Institute for Wind Energy and Energy System Technology, Germany

Walter Stinner – German Biomass Research Centre (DBFZ), Germany

Timo Ueltzhöffer – Kassel University, Germany

Alexey N. Yakovlev – PhD, Director, Institute of High Technology Physics, Tomsk Polytechnic University

Yuri S. Borovikov – PhD, Director, Institute of Power Engineering, Tomsk Polytechnic University

Oleg L. Khasanov – Dr, Head, Department of Nanomaterials and Nanotechnologies, Director, Nanomaterials and Nanotechnologies Centre, Tomsk Polytechnic University

## Organizing Committee:

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