



German-Russian Forum Nanotechnology
May, 21–24, 2013, Tomsk, Russia

P R O G R A M M E



[Nano-Centre , Tomsk Polytechnic University](#)

Prof. Dr. Sc. Oleg L. Khasanov
30, Lenin Avenue, Tomsk, 634050, Russia
Tel. +7 3822 427 242
khasanov@tpu.ru

UniKasselTransfer

Ost-West-Wissenschaftszentrum

[East-West-Science Centre, University of Kassel](#)

Dr. Gabriele Gorzka
Gottschalkstr. 22 34127 Kassel
Tel.: 0049 561-8043609

gorzka@uni-kassel.de
[Nanoinitiative Bayern GmbH](#)

Dr.-Ing. Peter Grambow
Oberer Kirschberg 2 D – 97218 Gerbrunn
Tel: 0049 931-3598-6144

peter.grambow@nanoinitiative-bayern.de
[Centre for Nanotechnology GmbH \(CeNTech\)](#)

Dr. Holger Winter
Heisenbergstraße 11 48149 Münster, Germany
Tel: 0049 251 53406200

hw@centech.de

[Inst. of Inorganic Chemistry, Universität Duisburg-Essen](#)

Prof. Mattias Epple
Universitaetsstr. 7 45141 Essen, Germany
Tel: +49 201 18 32 413

Mattias.epple@uni-de.de

<http://pharm1.pharmazie.uni-greifswald.de/Techno/index.htm>

Prof. Dr. Werner Weitschies
Felix-Hausdorff-Straße 3 D-17487 Greifswald, Germany
Tel. +49 3834 86-4813

Werner.weitschies@uni-greifswald.de

[Centre of nanoelectrochemistry, University of Saarland](#)

Prof. Dr. Rolf Hempelmann
Gebäude B2 2 (9.2) D-66123 Saarbrücken
Tel: 0681/302-2473

r.hempelmann@mx.uni-saarland.de

[Center for Nanotechnology GmbH MarCotech oHG](#)

c/o Center for Nanotechnology GmbH (CeNTech)

Prof. Dr. Lothar Heinrich
Heisenbergstr. 11 48149 Münster, Germany
Tel: 0049 251 836 3410

Lothar.Heinrich@marcotech.de

[Klöckner Pentaplast Gmb](#)

Prof. Christian Kohlert
P.O. Box 1165 56401 Montabaur, Germany
Tel: +49 2602 915 357

C.Kohlert@kpfilms.com

[Fraunhofer Inst. für Keramische Technologie, IKTS Hermsdorf](#)

Dr. Uwe Reichel
Michael-Faraday-Str. 1, 07629 Hermsdorf, Germany
Tel: +49 36601 9301-3931

uwe.reichel@ikts.fraunhofer.de

[NETZSCH-Feinmahltechnik GmbH](#)

Mr. Dmitry Kapitonov
119313, Moscow, Leninski prospect, 95 a,
Tel.: 495-782-15-47, Fax: 495-782-15-48

dmitry.kapitonov@netzsch.com

Cluster
Nanotechnologie

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TARGETS

Russian-German Nanotechnology Forum is meant to strengthen the already established contacts of Russian-German scientists, to intensify the scientific and technical cooperation in fundamental and applied nanotechnology, and to identify topics which might lead to joint R&D clusters or project groups. Strategies to integrate young academics of both countries into the process will be discussed.

The topics of the forum were chosen 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.

Language: English

TOPICS

- Nano-, bio-analytics
- Nanostructured sensors, biosensors
- Nanostructures, nanophotonics and optics targeted for diagnostics and therapeutic techniques.
- Nanotechnology for medical and gene technology
- Nanotechnology for modification of materials

SESSIONS

Plenary Session. Trends in Nanotechnology in Russia & Germany

Session 1. Improvements of materials and processes by nanotechnology

Session 2. Nanotechnology in life sciences

Poster Session.

VENUE

Address to Conference venue

Tomsk Polytechnic University

13, Usova str., Tomsk, **TPU International Cultural Centre**

2, Lenina ave., Tomsk, **TPU Building # 15**

tel./fax: +7 (3822) 427242

Web-page: nanobridge2013.tpu.ru

LOCAL ORGANIZER

Nano-Centre of Tomsk Polytechnic University

Prof.Dr. Oleg Khasanov

E-mail: khasanov@tpu.ru

Tel./Fax: +7(3822) 427242

PROGRAMME

Tuesday, May 21, 2013

- 07:00 – 08:00 Arrival, transfer to «Sport-Hotel», accommodation.
13:00 – 14:00 Lunch («Jam» Café)
14:00 – 18:00 Excursion Program
18:00 – 20:00 Get Together (Bashnya Café)

Wednesday, May 22, 2013

Plenary Session 1: Trends of Nanotechnology in Russia & Germany

TPU International Cultural Centre, Conference-hall

- 08:30 – 09:00 Transfer «Sport-Hotel» - TPU International Cultural Centre
08:30 – 09:00 Registration and information
09:00 **Welcoming words**
Mr. Neithart Hofer-Wissing, the German consul general in Novosibirsk
09:15 **Opening Speech**
Prof.Dr. Aleksey Pestryakov, Vice-Rector of Tomsk Polytechnic University on R&D

Chair: *Prof.Dr. Oleg Khasanov*, Tomsk Polytechnic University
09:30 **NanoBRIDGE: German Russian Network Nanotechnology. Targets, first outcomes and perspectives**
Dr. Peter Grambow, Nanoinitiative Bayern GmbH, Würzburg
09:55 **Nanotechnology in Germany, a short overview**
Dr. Ralph Nonninger, German Association of Nanotechnology
10:20 **Lessons from Nanobiotechnology: Sustainable Synthesis of Novel Catalysts and of Antimicrobial Nanoparticles**
Dr. Michael Bunge, Institute of Applied Microbiology, Justus-Liebig-Universität Giessen
10:45 Break: tea/coffee

Plenary Session 2: Trends of Nanotechnology in Russia & Germany

TPU International Cultural Centre, Conference-hall

- Chair: *Ph.D. Vladimir An*, Tomsk Polytechnic University, Russia
11:00 **Bavarian Cluster Nanotechnology - Building bridges for nanotechnologies, initiating international networks and projects**
Dr. Peter Grambow, Nanoinitiative Bayern GmbH, Würzburg
11:25 **Commercialization of novel technologies for producing the parts from nanostructured ceramics**
Prof.Dr. Oleg Khasanov, Nano-Centre of Tomsk Polytechnic University
11:50 **Ceramic materials with submicron structure based on nanopowders**
Dr. Uwe Reichel, Fraunhofer IKTS, Hermsdorf branch
12:15 **Architectures of colloidal quantum dots for optoelectronic applications**
Dr.habil. Nikolai Gaponik, Physical Chemistry, TU Dresden, Germany
12:40 **Nanoparticles and powder X-ray diffraction**
Dr. Oleg Prymak, University of Duisburg-Essen
13:05 Lunch (TPU International Cultural Centre)

14:15 – 15:00 – Transfer to the INNOVUS exhibition (Sports Center “Garmonia”)

15:00 – 16:30 – Visit to the INNOVUS exhibition “Integration-2013”

16:30 – 17:20 - Transfer to the dinner (“Bashnya” Café)

17:30 – 18:45 - Dinner

18:45 – 19:00 – Transfer to “Business Meeting” (Russian-German House)

Thursday, May 23, 2013

08:30 – 09:00 Transfer «Sport-Hotel» - TPU Nano-Centre, Building No.15

Oral sessions

TPU Nano-Centre, Building No.15

Session 1:

Improvements of materials and processes by nanotechnology

Room:

302

Chair: Dr. Uwe Reichel, Fraunhofer IKTS, Hermsdorf branch

09:00 **Transparent zirconia and MgAl₂O₄ spinel ceramics manufactured by SPS technique using nanopowders**
Prof.Dr. Oleg Khasanov, Nano-Centre of Tomsk Polytechnic University

09:20 **New and highly improved functional materials**
Dr. Alexey Filimonov, St. Petersburg State Polytechnical University

09:40 **Energy-efficient dispersion, disagglomeration and disintegration of products up to nanolevel**
Mr. Dmitry Kapitonov, NETZSCH-Feinmahltechnik GmbH, Moscow

10:00 **Innovative electrodes and processes for micro ECM**
Prof.Dr. Viktor Liubimov, Tula State University

10:20 - Break: tea/coffee & Poster session

Room:

302

Chair: Prof.Dr. Viktor Liubimov, Tula State University

12:00 **Defined dispersion for defined material characteristics with EXAKT Precision Three-Roll Mills**
Ph.D. Igor Nikulov EXAKT Advanced Technologies GmbH, Norderstedt

Session 2:

Nanotechnology in Life Sciences

Room:

301

Chair: Dr. Michael Bunge, Institute of Applied Microbiology, Justus-Liebig-Universität Giessen

09:00 **The Palas® U-SMPS for industry and research**
M.Sc. Juergen Spielvogel, Environmental Monitoring & Nano Instrumentation, Palas GmbH, Karlsruhe

09:20 **Hybrid nanoparticles for treatment of arterial atherosclerosis and dyslipidemia**
Prof.Dr. Shamil Akhmedov, R&D Institute of RI Cardiology, SB Russian Academy of Medicine Science, Tomsk

09:40 **Large scale coating of cardiovascular stents**
M.Sc. Monika Wentzlaff, University of Greifswald

10:00 **Nanoemulsions medicines based on extracts of biologically active substances**
Ph.D. Ekaterina Shubenkova, Omsk State Technical University

Rooms # 201; 210 # 203

Room:

301

Chair: Prof.Dr. Lothar Heinrich, Marcotech oHG, Muenster

12:00 **Synthesis of surface-modified amorphous metal nanoparticles via spontaneous reaction with arenediazonium tosylates**
Ph.D. Pavel Postnikov, Tomsk Polytechnic University

12:20	Computer-aided Design of X-ray Microtomographic Scanners <i>Prof.Dr. Vladimir Syriamkin,</i> Tomsk State University	12:20	Bimetallic Nanostructured Catalysts for Aromatic Nitrocompounds Hydrogenation <i>Dr. Nickolai Yeremenko,</i> Laboratory of Inorganic Nanomaterials, Institute of Coal Chemistry and Material Science, SB RAS, Kemerovo
12:40	Plasmodynamic synthesis of dispersed boron carbide powder in electrodischarged plasma jet <i>M.Sc. Ilyas Rakhmatullin,</i> Tomsk Polytechnic University	12:40	Palladium Catalysts on Oxide Matrices for Nitrobenzene Hydrogenation <i>Dr. Nickolai Yeremenko,</i> Laboratory of Inorganic Nanomaterials, Institute of Coal Chemistry and Material Science, SB RAS, Kemerovo
13:00	The Influence of Zn₃(PO₄)₂:Mn – Luminophore Synthesis Conditions on their Surface and Luminescent Features <i>Prof. Tamara Minakova,</i> Tomsk State University	13:00	The physicochemical properties of silicate- or silver-containing hydroxyapatite coatings on medical implant surfaces <i>Ph.D. Roman Surmenev,</i> Tomsk Polytechnic University
13:20	Lunch		
<i>Chair:</i>	<i>Dr. Irina Kurzina,</i> Tomsk Polytechnic University, Tomsk State University	<i>Chair:</i>	<i>Ph.D. Pavel Postnikov,</i> Tomsk Polytechnic University
Room:	# 302	Room:	# 301
14:40	SiC and B₄C ceramics produced by SPS method with addition of nanopowders <i>Eng. Alexey Khasanov,</i> Ph.D. Student, Tomsk Polytechnic University	14:40	Physical base of the metallic gradient surface layers formation under ion implantation <i>Dr. Irina Kurzina,</i> Tomsk State University
15:00	Analysis of structure and phase composition of steel 45 subjected to electro-explosive copper alloying and following electron beam treatment <i>Ph.D. Semen Filimonov,</i> Tomsk Polytechnic University	15:00	Psoralen photosensitizers as a potential PUVA therapy agent <i>Ph.D. Natalia Bryantseva,</i> Tomsk State University
15:20	Copper and molybdenum sulfides produced by SHS <i>M.Sc. Farabi Bozheyev,</i> Ph.D. Student, Tomsk Polytechnic University	15:20	Dispersion and aggregation of nanoparticles in the environment <i>Ph.D. Anna Godymchuk,</i> Dept. of Nanomaterials and Nanotechnologies, Tomsk Polytechnic University

Plenary Session 5: Partnering and project team building

15:40 – 17:00 TPU Nano-Centre, Building No.15, Room 302,

Chair: *Dr. Peter Grambow,* Nanoinitiative Bayern GmbH, Würzburg

Free discussion. Resume

16:40 – 19:00 **Free time**

19:00 – 21:30 **Dinner.**

Venue: TPU International Cultural Centre

21:30 **Transfer to Sport-Hotel**

Friday, May 24, 2013

06:30 **Transfer «Sport-Hotel» - Airport**

POSTER SESSION: Thursday, May 23, 10:20 – 12:00**Room: 203, TPU Building No.15**

<i>Poster №</i>	<i>Title</i>	<i>First Author</i>	<i>Affiliation</i>
P-1.	Photoelectrochemical etching of p-InP	<i>Mr. Yana Suchikova</i>	Berdiansk State Pedagogical University
P-2.	Perspectives of using nanopowders as flame retardant additives	<i>Prof. Olga Nazarenko</i>	Professor, Tomsk Polytechnic University
P-3.	The effect of the gas composition at the electrical explosion of wires on the nanopowders properties	<i>Prof. Olga Nazarenko</i>	Tomsk Polytechnic University
P-4.	Reducing the value of transient contact resistance due to deposition of copper coatings on aluminum samples by plasmodynamic method	<i>Prof. Sivkov Alexandr Mrs. Kolganova Julia</i>	Tomsk Polytechnic University
P-5.	On possibility of obtaining ultradispersed structures in C-N system by using coaxial magnetoplasma accelerator	<i>Mr. Ivan Shanenkov</i>	Tomsk Polytechnic University
P-6.	Direct plasmodynamic synthesis of nanosized phases in system Ti-Si-N	<i>Mr. Andrey Evdokimov</i>	Tomsk Polytechnic University
P-7.	Research of the nature of B ₄ C ceramics surface distraction under different loads	<i>Prof. Vasiliy Struts</i>	Tomsk Polytechnic University
P-8.	Pattern of the B ₄ C ceramic surface deformation at local loading	<i>Dr. Zulfa Bikbaeva</i>	Tomsk Polytechnic University
P-9.	Influence of the ultradispersed fraction of a boron carbide powder on strength properties of the ceramics produced by SPS method	<i>Dr. Valentina Polisadova</i>	Tomsk Polytechnic University
P-10.	Production of Precursors for Ceramics Materials on the Base of Aluminium Nanopowders in Mixture with Some Simple Substances	<i>Dr. Yuliya Amelkovich</i>	Tomsk Polytechnic University
P-11.	Microcharacterization of magnetic flux sources used for cell manipulation	<i>Ms. Svetlana Ponomareva</i>	Tomsk Polytechnic University
P-12.	Spark plasma sintering of Li _{1.3} Al _{0.3} Ti _{1.7} (PO ₄) ₃ solid Li-ion conductive ceramics	<i>Mr. Daniel Yazykov</i>	Tomsk Polytechnic University

<i>Poster №</i>	<i>Title</i>	<i>First Author</i>	<i>Affiliation</i>
P-13.	Electrochemical Method of LDH-Derived Copper-Aluminium Nano-Oxide System Production	<i>Mrs. Natalya Usoltseva</i>	Tomsk Polytechnic University
P-14.	Aggregation ability of metal nanoparticles in electrolytes solutions	<i>Mrs. Ainagul Komutova</i> <i>Mrs. Ainagul Komutova</i>	Tomsk Polytechnic University
P-15.	Comparison of biological effects of various nanoparticles in bacteria	<i>Dr. Alexander Gusev</i>	Tambov State University named after G.R. Derzhavin
P-16.	Properties of WS ₂ films obtained by magnetron sputtering of nanostructured target	<i>Mr. Yury Irtegov</i>	Tomsk Polytechnic University
P-17.	Preparation and study semiconductors coupled-oxide photocatalysts for hydrogen production under visible light	<i>Ms. Elena Fakrutdinova</i>	Tomsk State University
P-18.	Synthesis Of Aluminum Oxide And Zirconium Dioxide By The Spray Drying Method	<i>Mr. Alfa Edison Ilela</i>	Tomsk Polytechnic University
P-19.	Development of techniques to protect against ultrafine aerosols	<i>Mr. Evgeny Kolesnikov</i>	National University of Science and Technology «MISIS»
P-20.	Physicochemical degradation of nanoparticles in physiological solutions	<i>Ms. Elena Yunda,</i>	Tomsk Polytechnic University
P-21.	Investigation of the characteristics of displacement Isolines in the cylindrical green compact	<i>Mr. Prakorb Chartpuk</i>	Tomsk Polytechnic University
P-22.	Deformation distribution of the powder green compacts due to changing the number of slider parts in collector die of spiral type	<i>Mr. Prakorb Chartpuk</i>	Tomsk Polytechnic University
P-23.	The phase composition and defect substructure of zirconia-based nanopowders, modified by powerful ultrasonic action	<i>Mr. Oleg Tolkachev</i>	Tomsk Polytechnic University
P-24.	Modeling of structures of Al ₂ O ₃ crystalline complexes	<i>Mr. Alexander Kovantsev</i>	Tomsk Polytechnic University
P-25.	AFM study of WS ₂ thin films prepared by magnetron sputtering	<i>Mrs. Olga Kim</i>	Tomsk Polytechnic University
P-26.	Novel nano- and macroporous sorbents for purification of human body's biological fluids	<i>Dr. Nazira Chopabayeva</i>	K.I.Satpayev Kazakh National Technical University
P-27.	Synthesis of Metal Nanoparticles on the Surface of Melt-blown Polypropelene Nonwoven	<i>Dr. Galina Lysak</i>	Tomsk State University