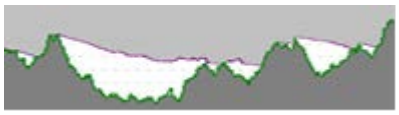

x tribo
Tribology & Damping Solutions

International Workshop and School

New Methods of Numerical Simulation and Measurement in Tribology

Sandanski, Bulgaria,
October 6-12, 2013

Organizer: xTribo GmbH, Germany

Topics

- Contact mechanics of rough surfaces (including adhesion)
- Friction between rigid rough surfaces and elastomers
- Wear and surface technology
- Material modeling
- Reduction methods in materials science
- Related experimental investigations
- Method of Reduction of Dimensionality in contact mechanics and friction

Location

Sandanski is a beautiful town and a recreation center in south-western Bulgaria. Sandanski is located in the Sandanski-Petrich Valley, surrounded by mountains. The town is about 160 km south from Bulgaria's capital Sofia along the major European Route E79. Following the same route at almost the same distance is Thessaloniki, Greece's second largest city.

The workshop will be held in the Interhotel Sandanski, which is located in the center of Sandanski, just a few steps from the picturesque City Park, the main shopping street and close to many cultural and historical sights.

For further information see the webpage of the hotel:
http://interhotelsandanski.bg/index.php?lang=en

Language

The working language of the Workshop is English

Certificates

Certificates of attendance with 3 ECTS credits will be issued on behalf of the Technische Universität Berlin.

Traveling information

The best way to come to Sandanski is to fly either to Sofia or to Thessaloniki and to take a taxi or to rent a car. Transfer from Sofia or from Thessaloniki can be booked on the site: http://www.motoroads.com/. At this cite, you chose "taxi" and then "search and book".

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Preliminary Program

Monday, October 7, 2013

9:00 - 9:20	*Opening: Psakhie S.G.(Russ. Acad. of Sci.), Popov V.L. (TU Berlin), Voll L.(xTribo)*
	Chair: Psakhie S.G.
9:20 – 10:00	Popov V.L. **Method of dimensionality reduction (MDR): foundations and application** *Institute of Mechanics, TU Berlin, Germany*
10:00 – 10:35	Pohrt R. **Contact mechanics of randomly rough surfaces** *Institute of Mechanics, Berlin University of Technology, Germany*
10:35 – 11:10	Nguyen H. **Stick-slip drives: experiment and simulation** *University of Oldenburg, Germany*
11:10 - 11:40	*coffee break*
11:40 – 12:20	Carbone G., **Contact and friction of randomly rough surfaces** *Politecnico di Bari, Italy*
12:20 – 12:55	Dimaki A. **Simulation of elastomer friction in the frame of the method of dimensionality reduction** *Institute of Strength Physics and Materials Science, Russian Academy of Sciences, Tomsk, Russia*
12:55 - 13:05	***Conference Photo***
13:05 - 14:30	*lunch*
14:30 – 18:00	*Discussion / Workshops in small groups*
18:30	*dinner*

Tuesday, October 8, 2013

	Chair: Carbone G.
9:00 – 9:40	Chai Y.S. **Fretting wear in the nuclear power plant** *School of Mechanical Engineering, Yeungnam University, S. Korea*
9:40 – 10:20	Scholle M. **Reduction of order by first integrals: new perspectives for friction modelling** *Heilbronn University, Germany*
10:20 – 10:50	Popov M. **Numerical study of acoustic emission in a rolling contact of rough surfaces** *Institute of Mechanics, Berlin University of Technology, Germany*
10:50 – 11:20	*coffee break*
11:20 – 12:00	Monka P. **Machined surfaces integrity after using of water jet technology** *Technical University of Kosice,Slovak Republic*
12:00 – 12:40	Voll L. **Experimental study and simulation of adhesion of elastomers** *Institute of Mechanics, Berlin University of Technology, Germany*
12:40 - 14:00	lunch
14:00 – 18:00	*Discussion / Workshops in small groups*
18:30	***Conference dinner***

Wednesday, October 9, 2013

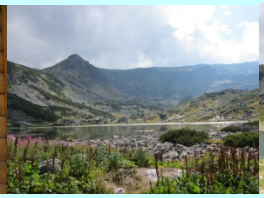
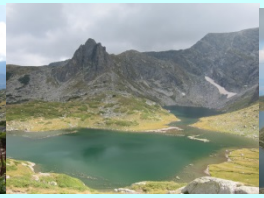
	Chair: Popov V.L.
9:00 – 9:40	Ciavarella M. **The Dynamics of first friction detachment** *Politecnico di Bari, Italy*
9:40 – 10:20	Dmitriev A. **Multi-scale simulation of nano-structured burnishing process** *Institute of Strength Physics and Materials Science, Russian Academy of Sciences, Tomsk, Russia*
10:20 – 10:50	*coffee break*
10:50 – 11:30	Astafurov S. **Investigation of features of mechanical response of materials with multimodal internal structure on the base of computer-aided** *Institute of Strength Physics and Materials Science, Russian Academy of Sciences, Tomsk, Russia*
10:30 – 12:10	Smolin A. **3D modeling of contact problems using MCA method** *Institute of Strength Physics and Material Science, Russian Academy of Sciences Tomsk, Russia*
12:10 - 14:00	lunch
14:00 – 18:00	*Discussion / Workshops in small groups*
18:30	*dinner*

Thursday, October 10, 2013

	Chair: Dmtriev A.
9:00 – 9:40	Zolnikov K. **Dynamic of nanoparticle formation under electric pulse explosion** *Institute of Strength Physics and Materials Science, Russian Academy of Sciences, Tomsk, Russia*
9:40 – 10:20	Kryzhevich D. **Local structural transformations of metal bcc crystallite on atomic level under nanoindentation,** *Institute of Strength Physics and Materials Science, Russian Academy of Sciences, Tomsk, Russia*
10:20 – 11:00	Shilko E. **Theoretical study of the conditions and the mechanism of shear crack acceleration towards the longitudinal wave velocity.** *Institute of Strength Physics and Materials Science, Russian Academy of Sciences, Tomsk, Russia*
11:00 – 11:30	*coffee break*
	Chair: Shilko E
11:30 – 12:10	Kuznetsov V. **Experimental study of tribological properties of surface layers of steels AISI-420, AISI-304 and AISI-5120 after processing by nanostructuring burnishing** *Kurgan State University, Kurgan, Russia*
12:10 – 12:50	Ruzhich V. **Physical modeling of modes of dynamic fracture of asperities in the zones of seismically active fracture zones** *Institute of the Earth Crust, Russian Academy of Sciences, Irkutsk, Russia*
12:50 - 14:30	*lunch*
14:30 – 18:00	*Discussion / Workshops in small groups*

Friday, October 11, 2013

9:00 – 10:20	**Round table**
10:20 – 10:50	*coffee break*
10:50 – 12:00	*Discussion / Workshops in small groups*
12:00 – 12:10	*closing*
	A tour to the Seven Lakes


18:30 *dinner*


Sandanski
SPARTAK C-x
IZTOK C-x
ZORA Quarter
IZGREV C-x
SANDANSKI RAILWAY STATION
KOULATA PETRICH
Bulgaria Square
Sv. Kl. Ohridski Square
Interhotel Sandanski
Sandanska Bistrisa
POPINA LUKA
POLENITSA
SPORTS COMPLEX
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