

2. Announcement and Program



German-Russian Workshop **Contact Mechanics and Friction**

Berlin University of Technology

05. - 08. October 2009

Location

The Workshop will take place at the TU Berlin, building MS, room MS 107, Einsteinufer 5, D-10587 Berlin (see attached campus plan of the Berlin Technical University).

Conference fee: participants from the industry: **150,- €** participants from universities and speaker: **75,- €** members of TU Berlin: free

Registration

Please fill in the enclosed registration form and send it to the address below not later than **September 30, 2009**.

Organization & contact

Prof. Dr. Valentin Popov
TU Berlin
Institute of Mechanics
Sekt. C8-4
Str. des 17. Juni 135
D-10623 Berlin, Germany

Tel: +49 (30) 314 21 480
Fax.: +49 (30) 314 72 575
E-mail: v.popov@tu-berlin.de
<http://mechanik.tu-berlin.de/popov>

Program

05. October

15:00 - 16:00	Registration <i>Chair: Popov V.L.</i>
16:00 - 17:00	<u>Knothe K.</u> History of engineering contact mechanics <i>TU Berlin, Germany</i>
17:00 - 17:10	coffee break
17.10 – 18.00	Round Table

06. October

8:00 - 8:40	Registration
8:40 - 8:50	opening: <i>Popov V.L.</i>
	<i>Chair: Ostermeyer G.-P.</i>
8:50 - 9:30	<u>Meyer E.</u> Mechanisms of atomic friction and wear <i>University of Basel, Switzerland</i>
9:30 - 10:10	<u>Urbakh M.</u> Modeling friction: from the nano- to macro-scales <i>Tel Aviv University, Israel</i>

10:10 - 10:50 Sturm H.
Modulated lateral force microscopy: An AFM tool for analysis and modification of polymer surfaces
Federal institute for materials research and testing, Berlin, Germany

10:50 - 11:00 *coffee break*

Chair: Meyer E.
11:00 - 11:40 Ostermeyer G.-P.
Self organization and self synchronization in frictional contact
Technical University Braunschweig, Germany

11:40 - 12:20 Wallaschek J.
Friction induced vibrations
Hanover University, Germany

12:30 - 14:30 *Reception in Room H 2036 in the main building of TU Berlin*

Chair: Wallaschek J.
14:30 – 15:10 Persson B.N.J.
Contact mechanics and applications
Research Center Juelich, Germany

15:10 – 15:50 Müser M.
Multi-scale modeling of tribological phenomena
University of Saarland, Germany

15:50 – 16:30 Moldenhauer P., Kröger M.
Dynamics of rolling tyre tread blocks with frictional contact and wear
TU Bergakademie Freiberg, Germany

16:30 – 16:50 *coffee break*

Chair: Urbakh M.
16:50 – 17:30 Dudko O.
Theory of single-molecule force spectroscopy
University of California, San Diego, U.S.A.

17:30 - 18:10 Scherge M., Dienwiebel M., Korres S.
Contact mechanics of flowing surfaces
Fraunhofer IWM, Karlsruhe, University of Karlsruhe, Germany

07. October

8:30 - 9:00 Registration

Chair: Psakhie S.
9:00 - 9:40 Popov V.L.
Method of reduction of dimensionality for multiscale friction problems
TU Berlin, Germany

9:40 - 10:20 Filippov A.E., Popov V.L.
Numerical calculation of contact area, contact length and friction with the method of reduction of dimensionality
Donetsk, National Academy of Sciences of Ukraine

10:20 - 11:00 Dimaki A.
Simulation of rubber friction in the frame of the method of reduction of dimensionality
Russian Academy of Sciences, Tomsk, Russia

11:00 - 11:10 *coffee break*

Chair: Popov V.L.
11:10 - 11:50 Zvonkina I.J., Schlarb A.K.
Contact temperature and wear rate of CNT-epoxy composites in a dry sliding wear

process
University of Kaiserslautern, Germany
 11:50 - 12:30 Folz F.
Aspects to wear in sliding contact mechanics in three-body-wear-systems – Advanced novel sliding systems with several geometries on base of Hadfield materials
Püttingen, Germany
 12:30 - 13:10 Kulkov S.
Wear Behavior of CMC and MMC under High-Speed Dry Sliding on Steel
Russian Academy of Sciences, Tomsk, Russia

13:10 - 14:30 *lunch*

Chair: Gorb S.
 14:30 - 15:10 Psakhie S.
Protodeflects in Contacts
Russian Academy of Sciences, Tomsk, Russia
 15:10 - 15:50 Shilko E., Popov V., Starcevic J.
Precursory creep and prediction of “earthquakes” in a laboratory model
Russian Academy of Sciences, Tomsk, Russia
TU Berlin, Germany
 15:50 - 16:30 Dmitriev A.I., Schargott M., Popov V.L.
MCA modeling of processes of mass transfer and surface topography development in a micro-contact
Russian Academy of Sciences, Tomsk, Russia

16:30 - 16:40 *coffee break*

Chair: Dudko O.
 16:40 - 17:20 Gorb S., Klein M.-C.
Frictional properties of the snake skin
Zoological Institute of the University of Kiel
 17:20 - 18:00 Schargott M.
Adhesion and mechanics of biomimetic patterned surfaces
TU Berlin, Germany
 18:00 – 18:10 *Closing*

08. October

9:00 - 11:00 *Guided tour through the Institute of Mechanics*

Prof. Dr. Valentin Popov
Technische Universität Berlin
Institut für Mechanik
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GERMANY

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*Please return this form to the above address as soon as possible but **not later than September 30, 2009** (preferably via Fax or E-mail).*

Registration Form

German-Russian Workshop

Contact Mechanics and Friction

Berlin University of Technology

05. - 08..October 2009

First Name _____

Middle Name _____

Last Name _____

Title Prof. Dr. Mr. Ms.

Position _____

Organization _____

Country _____

City _____ Postal code _____

Mail Address _____

Telephone _____ Fax _____

E-mail _____

I plan to participate at:

Lecture and Round table on 05.10.09 Sessions on 06.10.09 Sessions on 07.10.09

Guided tour through the Institute of Mechanics on 08.10.09

- participants from the industry: **150,- €**
- participants from universities and speaker: **75,- €**
- members of TU Berlin: free

I will transfer the conference fee to the account:

I will pay the conference fee on registration

V. Popov, Sonderkonto/Sondermittel
Postbank Berlin
BLZ: 100 100 10
Kontonummer: 823 570 104

[IBAN: DE 66 1001 0010 0823 5701 04]
[SWIFT-Code (BIC): PBNKDEFF100]

The Way to the Institute of Mechanics



By Air

- International Airport Berlin-Tegel
 - By taxi (approx. 15 min.);
 - By Airport-Express-Bus Transfer-Line X9 (approx. 25 min.) or by City-bus Line 109 (approx. 45 min.) to the stop "Zoologischer Garten" and then as described from train station "Berlin-Zoo" to the IfM.
- International Airport Berlin-Schönefeld
 - By taxi (approx. 45 min.);
 - By AirportExpress-Train (approx. 35 min.) or RegionalExpress-Train (approx. 40 min.) to the stop "Zoologischer Garten" and then as described from train station "Berlin-Zoo" to the IfM.
 - By S-Bahn Line S9 (approx. 60 min.) to the stop "Zoologischer Garten" and then as described from train station "Berlin-Zoo" to the IfM.
- International Airport Berlin-Tempelhof
 - By taxi (approx. 30 min.);
 - By Underground Line U6 and Line U2 (approx. 45 min.) to the stop "Zoologischer Garten" and then as described from train station "Berlin-Zoo" to the IfM.



By Train

- Train Station "Berlin-Zoo"
 - By taxi (approx. 10 min.);
 - On foot (approx. 10 min.) via Jebensstraße, Hertzallee, crossing the Fasanenstrasse and entering the campus, then turn right to the building "Gebäude M").



By Car

- From the direction of Hannover, Leipzig, Nürnberg:
 - take the motorway A115 (Avus) to Charlottenburg A100, exit "Spandauer Damm", turn right into and follow "Otto-Suhr-Allee" until you reach the circle "Ernst-Reuther Platz", take the third exit "Straße des 17. Juni", keep straight right to enter the campus.
- From Northern Europe, direction Hamburg, Rostock:
 - take the motorway A111 to Charlottenburg A100, exit "Spandauer Damm", turn left into and follow "Otto-Suhr-Allee" until you reach the circle "Ernst-Reuther Platz", take the third exit "Straße des 17. Juni", keep straight right to enter the campus.

