

German-Russian Workshop
Tribology and surface engineering: theory, experiment, technologies
Berlin University of Technology
28-30 March 2007

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: **100,- €** participants from universities and speaker: **50,- €** member of TU Berlin: free

Registration

Please return the registration form to the address below as soon as possible but not later than March 15, 2007 preferably via Fax, E-mail or online at

http://mechanik.tu-berlin.de/popov/workshops/workshop_2007/announcement.htm

Organisation & contact

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Preliminary program

28. March

15:00 - 16:00 Registration (Building MS)
16:00 - 18:00 Round table

29. March

8:00 - 8:50 Registration (Building MS)
8:50 - 9:00 opening: *Popov V.L.*

Chair: Popov V.L.

9:00 - 9:40 Priit Kulu
R&D in the field of development of abrasive wear resistant materials and coatings
Faculty of Mechanical Engineering, Tallinn University of Technology

9:40 - 10:20 G. Sacher, R. Zenker
Subsequent Heat Treatment of Hard Coated Steels by Electron or Laser Beam
TU Bergakademie Freiberg, Germany
Zenker Consult, Germany

10:20 - 11:00 S. Schmauder, P. Kizler, C. Kohler, P. Binkele, D. Willer, T. Al-Kassab
From Atoms to Components: Nanosimulation of Precipitate Strengthening in Steel
Institut für Materialprüfung, Werkstoffkunde und Festigkeitslehre, Universität Stuttgart

11:00 - 11:20 coffee break

Chair: Schmauder S.

11:20 - 12:00 J.-H. Sick, G.-P. Ostermeyer
In Situ Measurement of Contact Area in Coated Surfaces
Institute of Dynamics and Vibrations, TU Braunschweig, Germany

12:00 - 12:40 N. Al Natsheh, G.-P. Ostermeyer
A new tribometer for dynamic friction measurements
Institute of Dynamics and Vibrations, TU Braunschweig, Germany

12:40 - 14:30 lunch

Chair: Ostermeyer G.-P.

14:30 - 15:10 Filippov A.E., Popov V.L.
Flexible tissue with fibers interacting with adhesive surface
Donetsk Institute for Physics and Engineering of NASU, Ukraine

15:10 - 15:50 L. Pálfi, A Czifra
Microtopography analysis of coated surface
Budapest University of Technology and Economics, Hungary

15:50 - 16:30 L. Palfi
FE modelling of Oscillating sliding friction between a steel ball and an EPDM plate
Budapest University of Technology and Economics, Hungary

16:30 - 16:50 coffee break

Chair: Kulu P.

16:50 - 17:30 T. Geike, V.L. Popov
Mapping of three-dimensional contact problems on one-dimensional ones
TU Berlin, Germany

17:30 - 18:10 M. Heß, V.L. Popov
Hierarchical Modeling of 3D Contact Problems
TU Berlin, Germany

30. March

Chair: Filippov A.E.

9:00 - 9:40 R.R. Balokhonov, V.A. Romanova
Hierarchical numerical simulation of deformation and fracture in a "steel base - boron coating" composite under dynamic loading
Russian Academy of Sciences, Tomsk, Russia

9:40 - 10:20 M.Müller, G.-P. Ostermeyer
Measurements and a topography dynamics simulation of the processes in the interface of brake pad and brake disc with a three-dimensional Cellular Automaton
Institute of Dynamics and Vibrations, TU Braunschweig

10:20 - 11:00 A. Dmitriev, W.Oesterle*, H.Kloss*
About Conditions of Mechanically Mixed Layer Formation at Primary Contacts in Automotive Brakes. Modeling with the MCA Method
Russian Academy of Sciences, Tomsk, Russia
*Federal Institute of Materials research and Testing, Germany

11:00 - 11:20 coffee break

Chair: Geike T.

11:20 - 12:00 N. Békési
Numerical simulation of the appearance of surface damage of rubbers under dry friction condition
Budapest University of Technology and Economics, Hungary

12:00 - 12:40 M. Kröger, M. Wangenheim
Friction of Rubber Components like Seals or Tires
Institute of Dynamics and Vibrations, Leibniz University Hannover, Germany

12:40 - 14:30 *lunch*

Chair: Schargott M.

14:30 - 15:10 S.G. Psakhie
Technology of Formation of an Activated Layer for Enhanced Microhardnes and Wear resistance
Russian Academy of Sciences, Tomsk, Russia

15:10 - 15:50 A. Dimaki, S.G. Psakhie
Surface Treatment with High Frequency Currents for healing Micro-Cracks
Russian Academy of Sciences, Tomsk, Russia

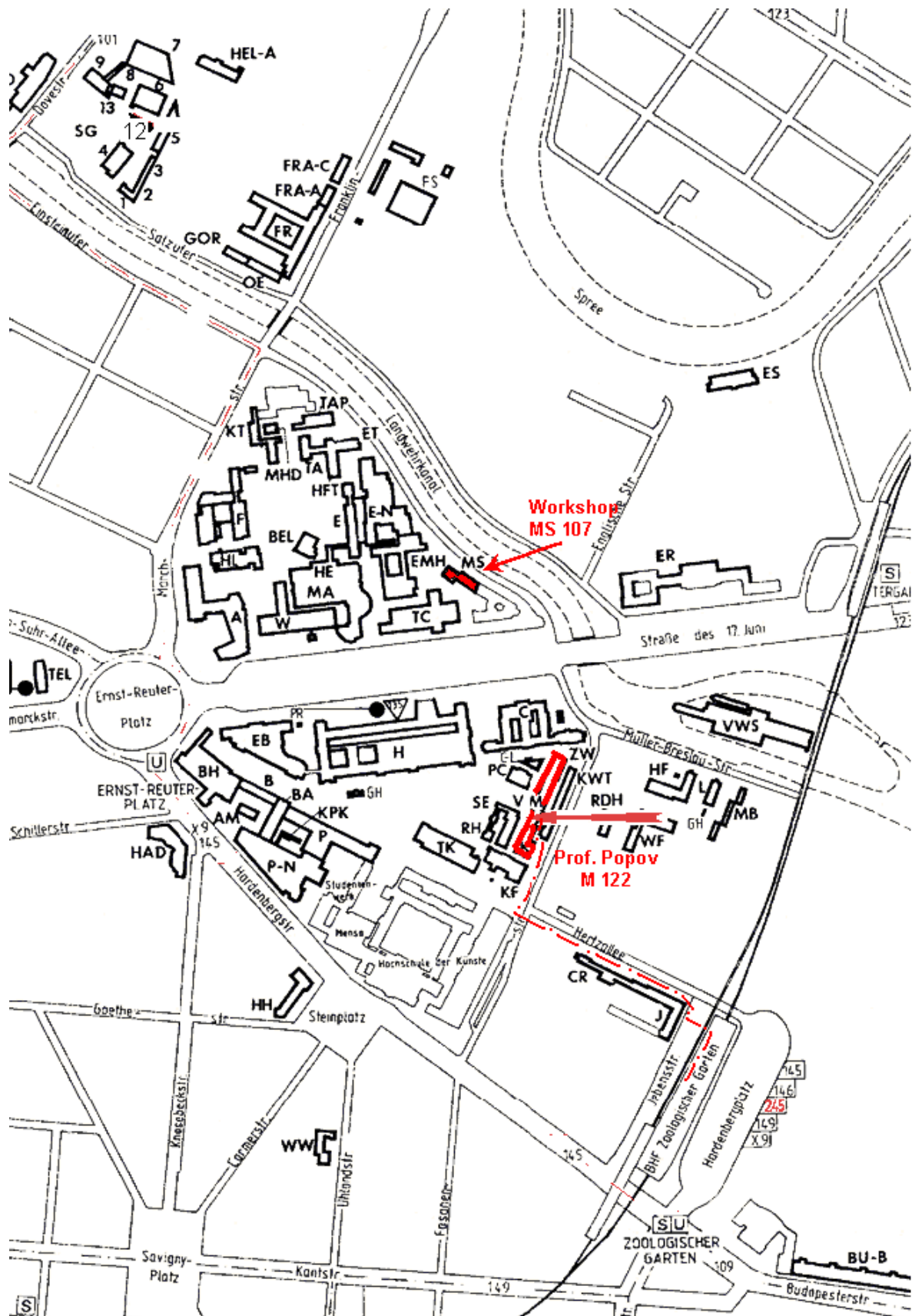
15:50 - 16:10 *coffee break*

Chair: Psakhie S.G.

16:10 - 16:50 V. Romanova, R.R. Balokhonov
3D-Analysis of of surface and interface effects in heterogeneous materials under loading
Russian Academy of Sciences, Tomsk, Russia

16:50 - 17:00 *Closing*

17:15-18:00 *Guided tour through the Institute of Mechanics (Building M)*



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.