

PROGRAMME

International Conference BULTRIB 2013 & CEEPUS Workshop 2013

24.10.2013, Thursday,
Technical University of Sofia, Room Library (Biblioteka)

Conference BULTRIB'13

8:30 – 10:00 Registration (TU-Sofia, Building 3, Room 3201)

24.10.2013, Thursday,
University of Chemical Technology and Metallurgy – Sofia, Conference Hall A-210
CEEPUS Workshop

10:00 – 12:00

Chair: Juliana Javorova, Project Coordinator

Workshop on the second stage of CEEPUS project CIII-BG-0703-02-1314 "Modern Trends in Education and Research on Mechanical Systems - Bridging Reliability, Quality and Tribology"

- Opening and greetings
- Presentation of Project's website
- Discussion on mobility procedure and development of electronic teaching materials

12:00 – 14:00 Lunch break

13:00 – 14:00 Registration (TU-Sofia, Building 3, Room 3201)

24.10.2013, Thursday,
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Conference BULTRIB'13

14:00 – 14:20 Opening and greetings

Chair: Mara Kandeва

Greetings by:

- Assoc. Prof. Dr. Ivan Kralov, R&D Deputy Rector, TU – Sofia
- Prof. Dr. Georgi Todorov, Dean of the Faculty of Industrial Technology, TU – Sofia

14:20 – 15:00 PLENARY SESSION

Chair: Wilfried J. Bartz, Emilia Assenova

01_BT13 Глобалната криза в трибологичен срез (The global crisis in a tribological cross-section). *Nyagol Manolov*, Society of Bulgarian Tribologists, Sofia, Bulgaria

02_BT13 Tribological and lubrication aspects of wind power plants. *Wilfried Bartz*, Technical Academy Esslingen, Ostfildern, Germany

15:00 – 15:30 Company presentation

22_BT13 New techniques and evolutions to investigate nano and micro tribological properties of surfaces. *Fanny Ecarla*, CSM Instruments, Switzerland

15:30 – 16:00 Coffee break

16:00 – 18:00 SECTIONAL SESSION I

Chair: Hakan Kaleli, Razvan G. Ripeanu

04_BT13 Influence of “Valena” metal-plating additive on the friction coefficient in rolling bearings. *Mara Kandeва, Aleksandar Vencl, Emilia Assenova* Belgrade, Sofia

43_BT13 Slider bearings lubricated with non-newtonian fluids with an engineered slip/no slip surface. *Alexandru Radulescu*, Bucharest, Romania

26_BT13 Surface Analysis Of Zinc-Phosphate Coating and ZDDP Containing Commercial Lubricant On Engine Oil Piston Ring And Cylinder Liner. *Hakan Kaleli, Doğuş Özkan, Levent Yüksek*, Istanbul, Turkey

14_BT13 Generalized energy model for sliding friction coefficient and evolution of tribosystems. *Sergey Fedorov*, Kaliningrad, Russia

28_BT13 Effect of the thickness of the lining of friction on the thermoelastic behaviour in the dry clutches. *Oday I. Abdullah, Josef Schlattmann, Mumtaz J. Akhtar*; Technical University Hamburg, Germany

35_BT13 About the methods accuracy in the elastic problem for HD lubrication of plain bearing. *Juliana Javorova*, UCTM, Sofia, Bulgaria

32_BT13 Energetical evaluation of cutting fluids of mechanical process
Michal Bachraty, Marian Tolnay, Michal Jedinak, Odrej Stas, STU, Bratislava, Slovakia

06_BT13 Studies above erosion behavior of rotor turbine materials
Razvan Ripeanu, Petroleum-Gas University, Ploesti, Romania

27_BT13 Wear performance of duplex treated low alloyed steel against wood (beech) as static partner. *Nasser Beliardouh, Corinne Nouveau, Hakan Kaleli*; Algeria, France, Turkey

50_BT13 Effect of longitudinal furrow radius upon of pressure distribution on a centric linear contact. *Cerlinca, D. and Irimescu, L.*, Suceava, Romania

57_BT13 Предложение за разкриване на нова магистърска специалност "Трибоинженеринг". *М. Кандева* (Proposal for opening a new MSc discipline “Triboengineering”). *Mara Kandeва*

19:00 – 23:00 Official Dinner

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14:00 – 18:00 POSTER SESSION

11_BT13 A Study of Contact Temperatures of Three-Body Contact Condition

Jeng-Haur Horng, Formosa Institute, Taiwan

15_BT13 Study of layer built-up with adding TiN nanoparticles. *Plamen Tashev, Rumiana*

Lazarowa, Institute of metal science, equipment and technology, BAS, Sofia

16_BT13 Phase changes in nanodimensional cobalt ferrite-type material activated by

mechanochemical treatment. *Katerina Zaharieva, Zara Cherkezova-Zheleva, Boris Kunev, Silvia Dimova, Martin Tsvetkov, Ivan Mitov*, Institute of Catalysis, BAS, Sofia

17_BT13 Механохимичен синтез и каталитични свойства на смесени Cu-Co ферити.

(Mechanochemical synthesis and catalytic properties of mix Cu-Co ferrite). *K. Koleva, D. Dimitrov, N. Velinov, K. Ivanov, I. Mitov*, Institute of Catalysis, BAS, Sofia

18_BT13 Mechanochemical synthesis and properties of LaMnO₃. *Iliyana Yordanova, Daniela*

Paneva, Zara Cherkezova-Zheleva, Boris Kunev, Ivan Mitov, Institute of Catalysis, BAS, Sofia

19_BT13 Mechanochemical preparation of perovskite-type materials. *Iliyana Yordanova, Zara*

Cherkezova-Zheleva, Daniela Paneva, Ivan Mitov, Institute of Catalysis, BAS, Sofia

30_BT13 Study of Structure and Microhardness of welded specimens of steel WELDOX 700

Elisaveta Tasheva, Valentin Gaidarov, Plamen Tashev, Galina Zamfirova, Seryoja Valkanov
Институт по металознание, съоръжения и технологии - БАН, ВТУ "Т.Каблешков", Sofia

36_BT13 Експериментално изследване на трибологични характеристики на смазочни

материали с металоплакиращи присадки. (Experimental investigation of tribological characteristics of lubricants with metal-plating additives). *Juliana Javorova, Kiril Stanulov, Rabi Lovchalieva, Nikolai Nikolov, Polina Kostova, Asen Stoyanov*, UCTM, Sofia

37_BT13 Tribological properties of Ni doped TiO₂ coatings

M. Kandeva, V.Blaskov, I.Stambolova, N. Kostova, S.Vassilev, K. Balashev, M. Shipochka, IC
BAS, Institute of General and Inorganic Chemistry BAS, Sofia

39_BT13 Characterization of ceramic layers, produced by plasma transferred arc process,

Tatiana Simeonova, BAS, Sofia

51_BT13 Pressure distribution in a linear contact affected by a eccentric longitudinal furrow.

Cerlinca, D. and Irimescu, L., Suceava, Romania

52_BT13 Stresses on the interface of a rolling contact. *Irimescu, L. and Cerlinca, D.*

, Suceava, Romania

53_BT13 Upon surface failure in a rolling contact. *Irimescu, L. and Cerlinca, D.*

, Suceava, Romania.

54_BT13 Qualitative correlation between friction coefficient and metal surface wear in the case of linear friction dry contact with reinforced polymers with glass fibre, *Dorin RUS*, *Virgil FLORESCU*, *Lucian CAPITANU**, *Liliana-Laura BADITA*, Bucharest, Romania

55_BT13 Point spectroscopy – evaluating the possibility of using AFM microscopy to study the surface properties, *Romuald Majchrowski*, *Mirosław Kuchta*, Poznan, Poland

56_BT13 Ерозия и абразия на химически никелови покрития с наночастици от боров нитрид, *М. Кандева*, *Д. Карастоянов*, *Б. Иванова*, *Тинка Грозданова* (Erosion and abrasion of Ni chemical coatings with boron-nitride nanoparticles. *Mara Kandeva*, *Dimitar Karastoyanov*, *Boryana Ivanova*, *Tinka Grozdanova*, TU-Sofia, BAS)

25.10.2013, Friday,

Technical University of Sofia, Room Library (Biblioteka)

Conference BULTRIB'13

8:30 – 9:00 Registration (TU-Sofia, Building 3, Room 3201)

09:00 – 10:30 SECTIONAL SESSION II

Chair: *Aleksandar Vencl*, *Emilia Assenova*

13_BT13 Charles Coulomb and his contribution to tribology. *Katarina Zhivkovich*, Mathematical High School, Belgrade, Serbia

09_BT13 Experimental research of the effects of slipper bearing geometry and working conditions on the system rigidity in axial piston pumps. *C. Sinanoğlu*, *E. Yilmaz*, *E. Topal*, *F. Canbulut*, Erciyes University, Kayseri, Turkey

27_BT13 The influence of strontium addition on the tribological properties of Zn₂₅Al₁Si alloy in boundary lubricated condition, *Aleksandar Vencl*, *Filip Vučetić*, *Ilija Bobić*, Belgrade, Serbia

07_BT13 Studies regarding improving sealing at three cone bits bearings *Razvan Ripeanu*, *Vasile Ispas*, *Dorina Ispas*, Petroleum-Gas University, Ploiesti, Romania

23_BT13 Friction and wear behaviour of engineering polymers against polymer *A. Mimaroglu*, *H. Unal*, *A. Ozel*, University of Sakarya, University of Sakarya, Turkey

25_BT13 Mechanical and Tribological Properties of Alumina Filled Poly-Ethylene-Terephthalate Thermoplastic Composite Materials. *A. Ozel*, *H. Unal*, *A. Mimaroglu*, University of Sakarya, Turkey

33_BT13 Tribological properties of compacts from recycled materials. *Marek Martancik*, *Ondrej Stas*, *Ernest Gondar*, STU, Bratislava, Slovakia

45_BT13 Micro – indentation test for measuring the adhesion of copper layer on electronic printed circuit boards. *Georgiana Dumitru*, *Georgiana Chişiu*, *Andrei Tudor*, *Sorin Cănanău*, Bucharest, Romania

24_BT13 Friction and wear of poly-ether-imide polymers. *H. Unal*, *A. Mimaroglu*, University of Sakarya, Turkey

60_BT13 Functionally graded materials in tribology. *Adelina Miteva*, Space Research and Technology Institute, BAS, Sofia, Bulgaria

10:30 – 11:00 Coffee break

11:00 – 12:30 SECTIONAL SESSION III

Chair: Alexandru Radulescu, Cem Sinanoglu

05_BT13 Investigation on surface roughness of carbon steel machined by abrasive water jet using Taguchi method

Miroslav Radovanovic, University of Nis, Serbia

31_BT13 3D surface layer characterization for hydrogenated X 65 steel samples

Claudiu Teletin, Constantin Spânu, Iulian Bîrsan, Sorin Ciortan, Galati, Romania

44_BT13 Advanced technologies used in education and training for lubrication processes

Irina Radulescu, Alexandru Radulescu, Bucharest, Romania

12_BT13 Axial thrust bearings, different geometry and the number of cycles to investigate the performance of work. **Ali Kurban**, **Mehmet Yaman**, Kayseri, Turkey

20_BT13 A solution for improving seizure resistance in metal on metal total hip prostheses with self directed balls

Lucian Capitanu, Virgil Florescu, Dumitru C. Bursuc, Bucharest, Romania

21_BT13 Modelling possibilities of very high temperatures and pressures at friction contact plastics filled with glass fibres on steel

Dorin Rus, Virgil Florescu, Lucian Capitanu, Bucharest, Romania

40_BT13 Per-fluorinated derivatives of carboxylic acids used as motor oil additives for the purpose of friction loss reduction in internal combustion engine mating components.

Konstantin Bykov, Sergey Gaydar, Moscow State AgroUniversity

41_BT13 Development and application of repair-recovery agents for engine performance improvement. **Elena Bykova, Viktor Balabanov, Konstantin Bykov**, MTAA “Timiriazeva”, Moscow State AgroUniversity

42_BT13 Modern methods of use of per-fluorinated chemical agents, **Olga Tretiakova, Konstantin Bykov**, MTAA “Timiriazeva”, Moscow State AgroUniversity

12:30 – 14:00 Lunch break

14:00 – 16:00 SECTIONAL SESSION IV

Chair: Mara Kandeva, Georgi Mishev

34_BT13 Behavior of rolling garnets in the tribozone of micaschists. *Evgenia Kozhoukharova*, Geological Institute, BAS, Sofia

08_BT13 Photocatalytic behaviour of mechanochemucally prepared materials
Nina Kostova, Alexander Eliyas, Martin Fabian, Erika Dutkova, Peter Balaz, Bulgaria, Slovakia

10_BT13 Възможности за повишаване ресурса на работа на шприцоващи инструменти (Possibilities for improvement the resource of extrusion instruments)
Георги Мишев, Велко Рупецов, Мирослав Симов, TU-Sofia, Branch Plovdiv

29_BT13 Increase the wear resistance of injection molds using PVD coatings
Geogy Mishev, Stefan Dishliev, Velko Rupezov TU–Sofia, Branch Plovdiv

38_BT13 Study of the influence of temperature on the structure of the deposited electrospark coatings. *Todor Penyashki*, IPAZR - Sofia

46_BT13 Актуализиране на учебните планове на специалностите в Машинно-технологичен факултет - ТУ-София в съответствие с потребностите на пазара на труда. (Updating the syllabuses of the disciplines in the Faculty of Mechanical Engineering at the Technical Univerisity - Sofia according to the labor market). *G. Todorov, J. Petrova, M. Kandeva* , TU - Sofia

47_BT13 Учебно-методичната парадигма парадигма на трибологията. (The educational and methodological paradigm of tribology). *M. Kandeva*, TU - Sofia

48_BT13 Асиметрични ефекти в режим на статично триене на сфероиден чугун, микролегиран с калай (Asymmetric effects under static friction of на spheroid cast iron with Sn micro-alloy), *M. Kandeva, B. Ivanova*, TU - Sofia

49_BT13 Виртуален модел на инструментална екипировка за електроерозийно обработване (Virtual model of instrumental equipment for electro-erosion treatment)
J. Petrova, D. Georgiev, TU - Sofia

59_BT13 Концептуални въпроси на трибологията. *Цонка Костевска*, ТУ-София;
Conceptual problems of tribology. *Tzonka Kostevska*, TU-Sofia

16:00 Conference Closure

**26.10.2013, Saturday,
Conference BULTRIB'13
Conference Trip**

The last day of the Conference, Saturday, September 26th, a 1-day Conference Trip by bus is previewed with a visit to the Exhibition of the **Panagyurishte Thracian Golden Treasure** in the city of Panagyurishte and to the **city-museum Koprivshtitsa** located at about 110 km from Sofia. The additional payment of € 35 per person is due for the trip and is to be paid at the registration desk of the Conference.