

ROTRIB '10

11 th International Conference on Tribology - November 4-6, 2010

Final Program Technical Program Overview

Thursday, November 04. 2010			
8 ⁰⁰ -10 ⁰⁰	Registration		
10 ⁰⁰ -11 ⁰⁰	Welcome Ceremony, Opening Addresses		
11 ⁰⁰ -11 ³⁰	<i>Coffee break</i>		
11 ³⁰ -13 ³⁰	Plenary Session, Invited Lectures Session 0		
13 ³⁰ -15 ⁰⁰	<i>Lunch</i>		
15 ⁰⁰ -17 ⁰⁰	Room M III	Room M IV	Room M V
	Session 1.1 Friction and Wear of Surfaces	Session 1.2 Fundamentals of Lubrication	Session 1.3 Biotribology
17 ⁰⁰ -17 ¹⁵	<i>Exhibition & Coffee break</i>		
17 ¹⁵ -19 ¹⁵	Session 2.1 Friction and Wear of Surfaces	Session 2.2 Contact Mechanics	Session 2.3 Tribology of Machine Elements and Materials
20 ⁰⁰ -23 ⁰⁰	<i>Conference Dinner</i>		

Friday, November 05. 2010			
9 ⁰⁰ -11 ⁰⁰	Room M III	Room M IV	Room M V
	Session 3.1 Micro and Nanotribology	Session 3.2 Biotribology	Session 3.3 Tribology of Machine Elements
11 ⁰⁰ -11 ¹⁵	<i>Exhibition & Coffee break</i>		
11 ¹⁵ -13 ¹⁵	Session 4.1 Fundamentals of Lubrication. Friction and Wear of Surfaces	Session 4.2 Friction and Wear of Surfaces. Contact Mechanics	Session 4.3 Tribology of Materials
13 ¹⁵ -15 ⁰⁰	<i>Lunch</i>		
15 ⁰⁰ -16 ⁰⁰	Session 5.1 Lubricants	Session 5.2 Industrial Tribology	Session 5.3 Tribology of Materials
16 ⁰⁰ -18 ⁰⁰	ART CONFERENCE		
18 ⁰⁰	Closing Session		

Technical Program

Thursday, November 04 2010

8 ⁰⁰ -10 ⁰⁰	Registration
10 ⁰⁰ -11 ⁰⁰	Welcome Ceremony, Opening Addresses
<p>Prof.dr.ing. Emanuel Diaconescu, mc of Romanian Academy, President of the Romanian Tribology Association</p> <p>Prof.dr.ing. Spiridon Crețu, mc of AOSR, Chairman of the Conference, Vice- Rector of the “Gheorghe Asachi” Technical University, Iași</p> <p>Prof.dr.ing. Mircea Pascovici, Vice- President of the Romanian Tribology Association, Politehnica University Bucharest</p> <p>Prof.dr.ing. Cornel Munteanu , Director in Romanian Ministry of Education, Research and Innovation</p> <p>Prof.dr.ing. Cezar Opreșan, Dean of the Faculty of Mechanical Engineering</p>	
11 ⁰⁰ -11 ³⁰	<i>Coffee break</i>
11 ³⁰ -13 ³⁰	Plenary Session, Invited Lectures
<p>E. Charlaix, <i>University of Lyon, France</i> NANORHEOLOGY CLOSE TO SUPPORTED PHOSPHOLIPID BILAYERS</p> <p>J.Bouyer, <i>Institut P', CNRS-University of Poitiers-ENSMA, France</i> A FILM EXTENT STUDY IN THE DIVERGENT ZONE OF CIRCUMFERENTIAL GROOVE JOURNAL BEARINGS</p> <p>Yuichiro Nagata, <i>University of Sussex ,United Kingdom</i> OBSERVATION OF CAVITATION IN GREASE LUBRICATED EHD CONTACTS</p> <p>Benyebka Bou-Said, <i>University of Lyon, France</i> TRIBOLOGICAL ANALYSIS OF A STENTED ABDOMINAL AORTIC ANEURYSM</p> <p>Guy Bayada, <i>University of Lyon, France</i> NON-NEWTONIAN VISCO-ELASTIC OLROYD-B MODEL FOR LUBRICATION</p>	
13 ³⁰ -15 ⁰⁰	<i>Lunch</i>
Thursday, 15.00 – 17.00, Session 1	
<p><u>Session 1.1 Room M III</u> Friction and Wear of Surfaces Chairmen: Mara Kandeve and Tudor A. Association presentation – A.I.F. Romania, by Roșianu S.</p> <p>RO-003 Friction in worn lubricated circular contacts, by Cracaoanu I.and Schipper D.J.</p> <p>RO-011 Euler’s law in the aspect of the general law of contact interaction of tribology, by Kandeve M.</p> <p>RO-012 Study of the communication potential between internal contact processes in tribomechanical systems, by Kandeve M.</p> <p>RO-015 Experimental research for measuring friction forces from rod sealing at the hydraulic cylinders, by Drumea P, Cristescu C., Fatu A.and Hajjam M.</p> <p>RO-018 Some considerations on the modification of the fretting contact, by Buciumeanu M., Palaghian L., Antonio Sousa Miranda and Silva F.S.</p> <p>RO-072 Tribological aspects of electrode - elastomer contacts, by Cârlescu V., Olaru D. and Prisăcaru Gh.</p>	

	<p><u>Session 1.2 Room M IV</u> Fundamentals of Lubrification Chairmen: Pascovici D. and Kalogiannis K RO-017 Behaviour of EHD films under oscillatory conditions, by Kalogiannis K., Glovnea R., Morales G. and Stathis Ioannides RO-040 Squeeze under impact in exprohydrodynamic conditions for a finite width circular damper, by Marian V.G. , Ilie M.B. and Pascovici M.D. RO-084 Stepped versus grooved/textured surfaces for sliding motion - an experimental approach by Predescu A., D. Pascovici M.D., Cicone T., Popescu C.S. RO-085 The accuracy of analytical models for squeeze of rigid spheres on highly compressible porous layers imbibed with liquids by Ilie M.B., Cicone T. and Pascovici M.D. RO-049 Considerations regarding the solution for the Reynolds' equation at non-aligned mechanical face seals, by Onescu C., Istrate M. and Popa N.</p>
	<p><u>Session 1.3 Room M V</u> Biotribology Chairmen: Berthier Y. and Trunfio-Sfarghiu A.-M. RO-030 AFM study of the interactions between synovial liquid's molecular components in boundary lubrication, by Mirea D. A, Trunfio A.M., Piednoir A., Rieu J.P., Blanchin M.G., Berthier Y. RO-024 Tribological behaviour of hydrogels based on P(HEMA), by Bostan L., Trunfio-Sfarghiu A.-M., Verestiuc L., Popa I.M. and Berthier Y. RO-031 Nano-bio-tribological analysis of the synovial fluid: role of the molecular assemblies, by Trunfio-Sfarghiu A.-M., Matei C.I., Corneci M., Borta I., Berthier Y., Blanchun M.-G. and Rieu J.-P. RO-004 Movements and strains of total hip prostheses, by Bădita L.L. and Capitanu L. RO-008 Research about wear behaviour of biocomposites based on hydroxyapatite nanopowders obtained by two steps sintering process, by Pascu C. I. and Gingu O.</p>
17 ⁰⁰ -17 ¹⁵	Exhibition & Coffee break
Thursday, 17.15 - 19.15, Session 2	
	<p><u>Session 2.1 Room M III</u> Friction and Wear of Surfaces Chairmen: Ivkovic B. and Popa N. RO-035 Blok on disk and disk on disk test on twin disk machine, by Ivkovic B. RO-043 Optical methods based wear's investigation of polymeric rods working in dry sliding conditions, by Podaru G. and Ciortan S. RO-044 Wear maps for a class of composites with PA matrix and micro glass spheres, by Deleanu L., Andrei G., Maftai L. and Cantaragiu A. RO-048 The tribological approach of chromed OLC45 steel to dry friction and high temperature, by Popescu M., Popa N., Dobrescu R.N. and Denape J. RO-050 Influence of relative sliding on 3D parameters, by Diaconu N., Deleanu L., Birsan I.G. and Mereuță V.</p>

Session 2.2 Room M IV

Contact Mechanics

Chairmen: Nelias D. and Crețu Sp.

RO-029 Surface and subsurface stresses in stick-slip contact between dissimilar elastic materials, by Nelias D.

RO-061 Tribological aspects of wheel-rail contact for the metro system, by Tudor A., Sandu N. and Tountas I.

RO-066 Experimental tests and numerical analysis in elastic-plastic domain of concentrated contacts, by Benchea M., Crețu Sp.

RO-023-2 Solution of the residual part in elastic-plastic contact problem, by Spinu S. and Gradinaru D.

RO-022-1 A fast numerical method to predict elastic fields due to eigenstrains in an isotropic half-space, by Spinu S. and Gradinaru D.

RO-086 Changes induced by wear in wheel-rail contact, by Bărbântă C.I., Crețu Sp.

Session 2.3 Room M V

Tribology of Machine Elements and Materials

Chairmen: Prisăcaru Gh. and Buciumeanu M.

RO-005 Comparative studies of non-contact seals, by Manea M. and Prisăcaru Gh.

RO-047 The presence of hydrogen as wear environment for the mechanical system of the continuous casting equipment, by Teletin C., Spânu C. and Crudu I.

RO-026-1 Possibilities for modeling thermal processes inside sliding bearings, by Tudor D. and Sabau A.

RO-045 Surface roughness parameters evolution under fatigue loading, by Mereuță V., Palaghian L. and Buciumeanu M.

RO-083 Surface roughness influence on fatigue life in roller bearings by Bălan R.M., Crețu Sp.

RO-077 The influence of APS parameters on substrate, by Chicet D.L., Munteanu C., Bistricianu I.L., Lemne D.

RO-078 Some analysis of the zirconia layer deposited on a NiCrCo substrate, by Bistricianu I.L., Munteanu C, Chicet D. L, Tarnauceanu A. R.

20⁰⁰-23⁰⁰

Conference Dinner

Friday, November 05, 2010

Friday, 9.00 - 11.00, Session 3

Session 3.1 Room M III

Micro and Nanotribology

Chairmen: Assenova E. and Olaru.D

RO-010 Selforganization, synergism, microtribology, by Assenova E.

RO-037 Effect of roughness and/or normal load on the tribological contact during nanoindentation, by Kumar A., Staedler T. and Jiang X.

RO-074 Adhesive forces in the microball-liquid (water and oil) contacts, by Stamate C., Olaru D.

RO-075 Dynamic model to determine the rolling friction torques in microsystems for dry and lubricated conditions, by Olaru.D., Dumitrașcu A.C., Stamate C. and Prisăcaru Gh.

RO-076 Geometrical effects on rolling friction in microsystems by Dumitrașcu A.C., Stamate C., Baiceanu M. and Olaru D.,

RO-079 Materials structure analysis for water pumps microstructure made by different technological processes, by Pintilei G.L., Munteanu C., Barbanta A.C. si Barca A.

	<p><u>Session 3.2 Room M IV</u> Biotribology Chairmen: Tudor A. and Gafițanu M. RO-053 Dynamic friction evaluation in dental contacts, by Frunza Gh., Frunza M.C. and Luca R. RO-062 Biomechanics considerations on fixing of intervertebral disc prostheses in the lumbar space L3-L4, by Rotaru I. and Munteanu F. RO-065 Indentation tests to study the mechanical properties of UHMWPE, by Chisiu G., Tudor A. and Laurian T. RO-071 Theoretical kinematic elements in the ankle joint motion, by Amancea A.M., Gafițanu M., Știrbu B. RO-073 SEM analysis and shape factor evaluation of the wear particles from intervertebral disc prosthesis, by Crețan (Stamate) M., Gafițanu M. RO-063 Theoretical contributions regarding the orthosis for trauma of the Achile's tendon, by Rancea A.</p>
	<p><u>Session 3.3 Room M V</u> Tribology of Machine Elements Chairmen: Bujoreanu C. and Paleu V. Rolling bearings company presentation RO-057-1 Solution to describe the internal kinematics in ball bearings with 4 to 6 contact points, by Rezmires D., Bocanet V., Monfardini A. and Racoccea C. RO-058-2 New classes of rolling bearings with new working principles, by Rezmires D., Bocanet V., Monfardini A., Racoccea C. and Racoccea C. RO-064 The influence of the operating conditions on the ball bearings grease damaging, by Ianuș G., Farcaș F. and Tiron M.C. RO-080 Experimental research on all - steel and hybrid angular contact ball bearings, by Paleu V., Bujoreanu C. and Crețu S. RO-070 Scuffing failure analysis of a ball bearing, by Bujoreanu C., Paleu V. and Chicet D.L.</p>
11 ⁰⁰ -11 ¹⁵	<i>Exhibition & Coffee break</i>
Friday, 11.15-13.15, Session 4	
	<p><u>Session 4.1 Room M III</u> Fundamentals of Lubrication. Friction and Wear of Surfaces Chairmen: Muscă I. and Onescu C. RO-039 Static and dynamic characteristics of four-lobe journal bearing with couple stress lubricants, by Chetti B. RO-021 Upon lubricated ball-plane impact, by Muscă I. and Ciornei F.C. RO-055 The tribological effect about the flow of saturated concrete in circular pipes, by Tudor A. and Vlase M. RO-081 Lubricating greases in electrical environment. Tests and analyzing methodologies, by Tiron M.C., Farcaș F., Ianuș G. and Gafițanu M. RO-052 Wear factors acting on aviation turbo engines and emphasize the thermal fatigue, by Manoliu V., Ionescu Gh., Stefan A. and Vilcu C. RO-059 Functional parametres and tribological aspects of tubing and casing connections, by Știrbu C. and Grigoraș Ș.</p>

	<p><u>Session 4.2 Room M IV</u> Friction and Wear of Surfaces. Contact Mechanics Chairmen: Poștaru Gh. and Alaci S.</p> <p>RO-028 Improving the scratch resistance of PMMA surface by using plasticizers, by Mansha M., Gaurhier Ch. and Schirrer R. RO-054 The dynamic behavoir of the sliding tribosystem in cyclical translation motion in unsteady duty, by Poștaru Gh.,Crudu I., Poștaru A., Ceban V., Manole I. and Comendant V. RO-060 Method and device for study of friction, by Alaci S., Diaconescu E., Ciornei F.C., Irimescu L. and Cerlincă D. RO-087 Sliding indentation tests for tribological characteristion of laser cladde surfaces, by Boiciuc S., Rîpă M., Spânu C. RO-067 Simulation of the non-gaussian roughness with specified values for the high order moments, by Urzică A., Crețu S. RO- 068 Plastic flow and cyclic ratchetting of a perlitic rail steel in two- dimensional rollingand sliding line contact, by Popescu G.</p> <p><u>Session 4.3 Room M V</u> Tribology of Materials Chairmen: Munteanu C. and Filip Ilie</p> <p>RO-036 Corrosion behaviour of superficial layers obtained through electrical sparking with crromium electrode in sea water, by Barhalescu M. and Dumitrache C. RO-056 Mechanical properties, abrasive wear and surface quality evaluation of new sintered alloys, by Drugescu E., Potecașu O., Potecașu F., Marin M., Deleanu L. and Mereuță V. RO-006 Tribological behaviour of W/Cu nanostructured materials used for electrical contacts, by Nicolicescu C., Ghercioiu J. and Iulian Ș. RO-013 A method of determining the thickness of the thin layers performing tribological, by Filip Ilie RO-034 Deposition of tin containing carbon amorphous composite films by thermionic vacuum arc technique, by Ionescu V., Lungu C., Porosnicu C., Luculescu C. and Osiac M. RO-069 Gears materials analysis in order to establissh the mechanical properties, by Axinte C., Munteanu C., Bărbîntă A.C.and Bârcă E.S. RO-082 The influence of the metallographic characteristics of R7T steel on rail wheels durability, by Bărbântă C.I., Munteanu C., Axinte C., Chicet D.L. and Bărbântă A.C.</p>
13 ¹⁵ -15 ⁰⁰	Lunch
Friday, 15.00 – 16.00, Session 5	
	<p><u>Session 5.1 Room M III</u> Lubricants Chairmen: Sucala F. and Radulescu A.V.</p> <p>RO-007 Aspects of the vegetable oil tribological characteristics influence in engine mechanism components, by Cazila A., Sucala F. and Mariasiu F. RO-020 Multipurpose ecological lubricating greases, by Florea O., Luca M. and Matei V. RO-033 Influence of biodiesel fuels on lubricity of passenger car diesel engine oils, by Petraru L.and Novotny-Farkas F. RO-038 Experimental researches concerning the properties of bio-degradables lubricants, by Radulescu A.V., Padgurskas J., Rukuiza R., Radulescu I. and Kreivaitis R.</p>

	<p><u>Session 5.2 Room M IV</u> Industrial Tribology Chairmen: Florea V. and Știrbu C.</p> <p>RO-002 Research regarding the parameters which influence spare parts weare of rock dislocation technological equipments, by Florea C., Nan M. and Florea V. RO-027-2 Structural change in thermal areas of influence for welded joints, by Sabau A., Tudor D. and Dumitrache C. RO-046 Hydrogen wear of the slab continuous casting guiding tribosystems, by Crudu I., Spânu C., Teletin C., Bendrea C., Șarpe A. and Sandu A. RO-025 Some considerantions concerning the friction coefficient of the heavy-duty mechanical brakes, by Drumeanu A.C.</p>
	<p><u>Session 5.3 Room M V</u> Tribology of Materials Chairmen: Deleanu L.and Antonescu N.N.</p> <p>RO-014 Durability of the layers deposed with metal-ceramic powders type Cr₃C₂ – NiCr and high speed flame (HVOF), by Petrescu D. and Antonescu N.N. RO-019 Nitriding treatments influence above tribologic behavior of austenitic stainless steel, by Onitiu O., Ripeanu R.G. and Tudor I. RO-041 Aspects of fabric reinforced composite tribology, by Circiumaru A., Bria V., Roman I., Ungureanu V., Birsan I.G. RO-042 Tribological behavior of some particulate composites, by Birsan I.G. , Bria V., Roman I., Ungureanu V. and Circiumaru A.</p>
16 ⁰⁰ -18 ⁰⁰	ART Conference
18 ⁰⁰	Clossing Session