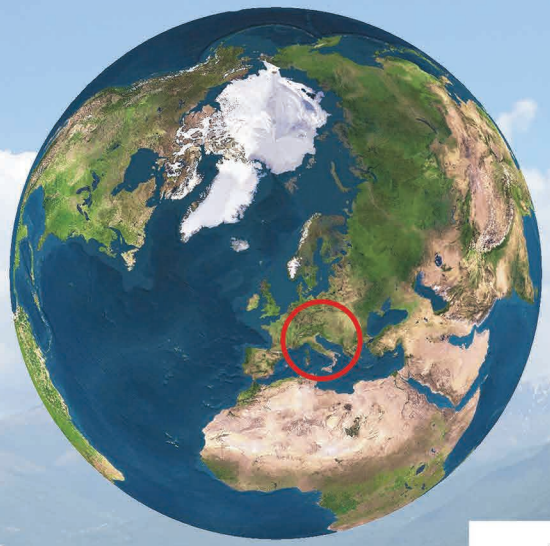
Ecotrib 2015

Hotel de la Paix

3-5 June 2015, Lugano, Switzerland

Program



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The following is a provisional program for Ecotrib 2015 to be held at the Hotel de la Paix, Lugano, Switzerland on 3-5. June 2015
Each invited speakers has 45 minutes and submitted talks have 20 minutes. Where required 5 minutes is available after the invited speakers to allow people to move between rooms. The numbers before the names of speakers correspond to the abstract number.

Wednesday 3. June

8:00 Registration Hotel de la Paix, Lugano, Switzerland

Room: Sala Spacio 1

09:00: **Introduction**
09:15: 1. **Hugh Spikes,** Imperial College, UK, *Stress-assisted thermal activation in Tribology*

10:00: **Coffee**

Room: Sala Spacio 1

10:30: 2. **Wilfried J. Bartz,** Technische Akademie Esslingen, *High Performance Lubricants-From Mineral to Synthetic Base Oils*
10:50: 3. **Achim Feldermann,** RWTH Aachen University, Germany, *CFD Modeling of Elastohydrodynamic Lubrication Using Reduced FE-Models*
11:10: 4. **Alexander Liebel,** Schaeffler Technologies AG & Co. KG, Germany, *Dimensionless parameter groups and lubricant property models for EHL simulation*
11:30: 5. **Matthias Meuter,** AVL Deutschland GmbH, Germany, *Flexible multi-body simulation including non-conformal contact simulation based on elastohydrodynamic lubrication theory*
11:50: 6. **Hamed Shahmohamadi,** Loughborough University, UK, *CFD Modeling of Cavitation Flow in Journal Bearing Lubrication*

Room, Sala Spacio 2

10:30: 25. **Chris H. Walker,** Diamond Hard Surfaces Ltd, UK, *Nano-featured, coated surfaces for enhancing and optimizing friction and wear of sliding surfaces for bearings and seals in high endurance, high reliability applications.*
10:50: 9. **M. Anand,** Daido Metal Co, UK, *Evaluation of tribological performance of novel multilayer tin-based overlays for plain bearing applications*
11:10: 27. **J. Voyer,** V-Research GmbH, Austria, *Tribologically Limited Suitability of DLC-Coatings on FKM Elastomer O-Ring Seals*
11:30: 19. **S. Akbari,** University of Ljubljana, Slovenia, *Investigation of Chemical Reactivity of ZDDP in mineral oil on Different DLC Coatings by ATR-FTIR*

11:50: 20. **M. Kalin,** University of Ljubljana, Slovenia, *Nanoscale mechanical and topographic characteristics of boundary films and their relation to macroscopic friction*

Room, Sala Spacio 3

10:30: 12. **Pieter Samyn,** University of Freiburg, Germany, *Evaluation of wear mechanisms on polymer composite surfaces by chemical mapping with Raman microscopy*
10:50: 13. **Jitendra Narayan Panda,** Indian Institute of Technology Delhi, India, *Role of thermally conducting graphite in polymer composites for enhancing tribo- performance in severe operating conditions*
11:10: 14. **Ken Mao,** The University of Warwick, UK, *The Wear and Thermal Mechanical contact Behaviour of Polymer Gears*
11:30: 15. **Satoshi Hoshino,** Tokyo University of Science, Japan, *Surface Texturing to Improve Tribological Properties of C/C Composite Materials*
11:50: 16. **Vishal Tulshiram Mahale,** Indian Institute of Technology Delhi, India, *Role of Aramid fibers and amount on performance of NAO brake-pad materials*

12:10: **Lunch**

Room, Sala Spacio 1

13:30: 17. **Nuria Espallargas,** NTNU Norway, *Tribocorrosion and coatings - the unexpected behaviour*

Room, Sala Spacio 1

14:20: 7. **Mousab Hadad,** Novaswiss, Switzerland, *The challenge of the erosive wear evaluation of thermally sprayed coatings*
14:40: 24. **Karolina Rzepiejewska-Malyska,** Hysitron, Inc., *Recent Developments in Characterization of Thin Films*
15:00: 26. **Alexander Renz,** Fraunhofer Institute for Mechanics of Materials IWM, Germany, *A wear model for silicon nitride in sliding contact with nickel-base alloy*

Room, Sala Spacio 3

14:20: 21. **Kan Sugiyama,** Tokyo University of Science, Japan, *Application of 3D printing technology for development of novel tribo-system*
14:40: 22. **M. Sharma,** Institute of Materials Research and Engineering, Singapore, *Fiber surface modification to endorse fiber-matrix adhesion strength and tribological properties*
15:00: 23. **Ewald Badisch,** AC²T research GmbH, Austria, *The tribological performance of scrapers in cleaning operation of conveyor belts*

15:25: **Coffee**

Room, Sala Spacio 1

16:00: 8. **Saleh Akbarzadeh,** Isfahan University of Technology, Iran, *Experimental and Theoretical Study on the Effect of Nitriding on the Running-In Behavior of Lubricated Sliding Contact*
16:20: 11. **Ajay Kumar Kadiyala,** Indian Institute of Technology Delhi, India, *Tribological performance and adhesion studies of high performance polymeric coating*
16:40: 10. **Keita Ito,** Tokyo University of Science, Japan, *Boron-doping effect on crystal structures and tribological properties of CVD diamond films*
17:00: 28. **Joël Matthey,** University of Applied Sciences He-Arc, Switzerland, *Characterization and Tribological Investigation of TiSixCy Wear Protective Coatings*
17:20: 18. **Rok Simič,** University of Ljubljana, Slovenia, *Tribological properties and neutron reflectometry, of adsorbed films on DLC*

Room, Sala Spacio 3

16:00: 29. **Friedrich Franek,** AC²T research GmbH, Austria, *Tribological Behaviour of MIM Produced Copper Alloys*
16:20: 30. **Sachiko Tanabe,** Seiko Instruments Inc., Japan, *Effect of sliding velocity on wear of lead- containing brass*
16:40: 31. **E. Houara Komba,** Université de Lyon, CNRS, INSA-Lyon, France, *Subsurface damage analysis in high loaded oscillating bearings*
17:00: 32. **Adolfo Senatore,** University of Salerno, Italy, *Tribological testing of dry-clutch facings: temperature measurement at sliding interface and influence on the engagement manoeuvre*
17:20: 33. **M. Polajnar,** University of Ljubljana, Slovenia, *In-depth tribological performance of functionally graded ductile iron for brake pads*

Thursday 4. June

Room, Sala Spacio 1

09:00: 34. **Erios Tosatti,** SISSA and ICTP, Trieste, Italy, *Rubbing some Physics off Nanofriction Theory and Simulations*
09:45: 35. **M. Kisiel,** University of Basel, Switzerland, *Noncontact dissipation reveals critical fluctuations and "central peak" of SrTiO3*

10:05: **Coffee**

Room, Sala Spacio 1

10:30: 36. **R. Aghababaei,** EPFL, Switzerland, *Microscopic origins of wear process from an atomistic model*
10:50: 37. **Giovanni Caramia,** Politecnico di Bari, Italy, *A two-dimensional numerical study of hydrodynamic Lubrication of Micro-Textured Surfaces*
11:10: 38. **A. Rota,** CNR Istituto di Nanoscienz, Italy, *Influence of the probe-surface contact area on extremely small nano-patterned Si surfaces: an AFM-based study*
11:30: 39. **Mahdi Mohammadpour,** Loughborough University, UK, *Impact Dynamics of rough surfaces in the scale of minutiae*
11:50: 40. **Krzysztof Jankowski,** Lodz University of Technology, Poland, *Solution drift control for friction models*

Room, Sala Spacio 3

10:30: 41. **Fabiana Spadaro,** ETH Zurich, Switzerland, *Investigation of the chemistry and tribological properties of thermal films formed by ZnDTP and by borate additives*
10:50: 42. **Hector Torres,** AC2T research GmbH, Austria, *Influence of in-situ formed tribolayers on abrasive wear behaviour*
11:10: 43. **V. Zin,** National Research Council, Italy, *SWCNH as additives to improve thermal and tribological properties of conventional lubricating oils for refrigerant and air conditioning applications*
11:30: 44. **Hanno Reicher,** AC²T research GmbH, Austria, *Surface modification of AISI 304 by atmospheric pressure low energy air plasma*
11:50: 45. **Deepak H. Veeregowda,** Ducom Instruments Europe B.V, the Netherlands, *Role of H2O in lubrication science*

12:10: **Lunch**

Room, Sala Spacio 1

13:30: 46. **Andrea Benassi,** TU Dresden, Germany, *Adhesion and friction mediated by host-guest bond rupture and rebinding*

13:50: 47. **Chisaki Hashimoto,** Tokyo University of Science, Japan, *Relationship between nano mechanical properties and tribological properties of tribo-films originated from phosphoric additives*
14:10: 48. **Ashesh Saha,** Lodz University of Technology, Poland, *Modeling normal contact of spherical asperity in Abaqus for determining the critical penetration depth corresponding to the onset of plasticity*
14:30: 49. **Arti Yadav,** Indian Institute of Science, India, *Tribological Properties of Textured Nanoporous Alumina Film*

Room, Sala Spacio 3

13:30: 50. **Jacopo Brunetti,** Université de Lyon, France, *Time-space distribution of mechanical energy on a contact interface during friction-induced vibrations*
13:50: 51. **Mario Pisaturo,** University of Salerno, Italy, *On the dry-clutch torque kinetics: FE model for temperature field*
14:10: 52. **Fatemeh Saeidi,** Empa, Switzerland, *Laser surface texturing: parametrical study and modeling*
14:30: 53. **Richard F. Salant,** George W. Woodruff School of Mechanical Engineering, USA, *Numerical analysis of a hydraulic rod seal: flooded vs. starved conditions*

15:10: **Coffee**

15:10 **Poster session**

The conference dinner will be held on the evening of Thursday 4. June, time and place will be announced later.

Friday 5. June

Room, Sala Spacio 1

09:00: 54. **Michael Urbakh,** Tel Aviv University, Israel, *Modeling Friction in Nanoscopic Ionic Liquid Films.*
09:45: 55. **Andrea Arcifa,** ETH Zurich, Switzerland, *Highlights of the Wear Mechanism of Si(100)/Silica in the Presence of Various Ionic Liquids.*

10:05: **Coffee**

Room, Sala Spacio 1

10:30: 56. **Shouhei Kawada,** Tokyo University of Science, Japan, *Lubricity of Halogen-free Ionic Liquids*
10:50: 57. **Y. Kondo,** Tokyo Metropolitan Industrial Technology Research Institute, Japan, *The effect of molecular structure on the tribological properties of ionic liquids against carbon coatings*
11:10: 58. **Manoj Kumar Gupta,** Indian Institute of Technology Delhi, India, *Nano and micro hBN in oil as anti-wear and antifriction additive*
11:30: 59. **Marcella Frauscher,** AC²T research GmbH, Austria, *Identification of oxidative degradation products of esters by joint use of mass spectrometry and isotope labeling*
11:50: 60. **K.Prabhakaran Nair,** National Institute of Technology, India, *Silver sulfide as an antiwear additive for a biolubricant based on rice bran oil*

Room, Sala Spacio 2

10:30: 61. **Philipp Bergmann,** Montanuniversität Leoben, Austria, *Simulative Investigations of a Close-to-Component Journal Bearing System and Comparison with Test Data*
10:50: 62. **V. Brizmer,** SKF Engineering & Research Centre, the Netherlands, *An Experimental and Theoretical Study on Surface Distress Resistance of Hybrid Bearings*
11:10: 63. **Phuoc Vinh Dang,** Politecnico di Milano, Italy, *Analysis of Dynamic Behavior of a Non-Nominal Five-Pad Tilting Pad Journal Bearing*
11:30: 64. **Lorenza Mattei,** University of Pisa, Italy, *Wear predictions for reverse total shoulder replacements*
11:50: 80 **Andreas Pauschitz***,* AC2T research GmbH*, Grinding and Polishing on the Nanometric Scale Using Hard Abrasives –An Atomistic Numerical Study*

Room, Sala Spacio 3

10:30: 66. **Flavia Gili,** C.R.F. S.C.p.A., Italy, *Tribotesting of advanced materials for a lightweight brake disc concept*

10:50: 67. **Lovro Gorjan,** Empa, Switzerland, *Ceramic plates joined to aluminum alloy parts for protection against wear*
11:10: 68. **Maria Cristina Valigi,** University of Perugia, Italy, *Wear detection and measurement using a 3D optical scanner: a case study*
11:30: 69. **Sylvain Philippon,** Ecole Nationale d'Ingénieurs de Metz (ENIM), France, *Interaction force measurement in case of quasi-instantaneous loadings: application to severe contacts in turbomachines*
11:50: 70. **Aya Matsumoto,** Tokyo University of Science, Japan, *Kinetic energy regeneration in friction-induced vibration system by using piezoelectric device*

12:10: **Lunch**

Room, Sala Spacio 1

13:30: 71. **Frederik Wolf,** Die Anton Paar GmbH, *Tribometry in oscillation - a closer look at static friction*

Room, Sala Spacio 1

14:20: 72. **Stefan Klien,** V-Research GmbH, *Practical aspects for the determination of the static and dynamic friction behavior using an oscillating tribometer*
14:40: 73. **Florian Summer,** Montanuniversität Leoben, Austria, *Tribometric assessment of start stop journal bearing wear with the aid of a component close test methodology*
15:00: 74. **J. Sequard-Base,** AC²T research GmbH, Austria, *Quantification of barrel friction in small arms*
15:20: 75. **Thomas Wopelka,** AC²T research GmbH, Austria, *Characterisation of wear behaviour of bearing bush material for different lubrication conditions*

Room, Sala Spacio 2

14:20: 76. **Mehdi Eskandarzade,** Islamic Azad University, Iran, *Investigating the effect of ultrasonic vibrations in friction force reduction between Die and Sample in ECAP Process*
14:40: 77. **I. Velkavrh,** V-Research GmbH, Austria, *Development of a model experiment for friction analysis in forming processes*
15:00: 78. **Pranay Bagde,** College of Engineering Pune, India, *Structural and abrasive wear characterization of surface coated H11 hot work die steels*
15:20: 79. **Luigi Lentini,** Politecnico di Torino, Italy, *Active Aerostatic Thrust Bearings with Piezo-actuator*

Room: Sala Spacio 1

15:40: **Closing Remarks**