

36th LEEDS-LYON SYMPOSIUM ON TRIBOLOGY

LYON, 1 - 3 SEPTEMBER 2009

MULTI-FACETS OF TRIBOLOGY

FINAL PROGRAMME

Laboratoire de Mécanique des Contacts et des Structures – UMR CNRS5259

The Symposium will be held at INSA, 20, avenue Albert Einstein, Villeurbanne, France

TUESDAY 1ST SEPTEMBER

9:00 - 14:00 Registration in Auditorium Hall

14:00 - 15:30 *SESSION I (Amphi Capelle): OPENING SESSION*

Chairman : G. Dalmaz

- “Sound and vibration from friction between soft materials and under light loads” by **A. Akay** (Bilkent University, Ankara, Turkey).
- “Tribology and Medical Technology” by **S. Jahanmir** (Mohawk Innovative Technology, Inc. and MiTiHeart Corporation, USA).

16:00 – 17:40 *SESSION II (Amphi Curie): DYNAMIC FLUID EFFECTS 1*

Chairman : M. Braun

- “A transient 2D-finite-element approach for the simulation of mixed lubrication effects and wear progress of reciprocating hydraulic rod seals” by **T. Schmidt, M. André** (Robert Bosch GmbH -CR/APP2- Waiblingen, Germany), **G. Poll** (University of Hannover, Germany).
- “Transient Thermo-elastohydrodynamics of rough compression ring to cylinder liner conjunction at piston reversal” by **P.C. Mishra, H. Rahnejat and P.D. King** (Loughborough University, UK).
- “Film height optimization of dynamically loaded hydrodynamic slider bearings” by **R.A.J. van Ostayen, A. van Beek, R. Munnig Schmidt** (Delft University of Technology Research group Mechatronic System Design Delft, the Netherlands).
- “Observation of fluid lubrication film at lightly loaded flat-flat contact with surface micropits” by **J. Sugimura** (Kyushu University, Dept. of Mechanical Engineering, Fukuoka, Japan), **S. Matsumura** (Kyushu University, Graduate School of Engineering, Fukuoka, Japan), **H. Tanaka, K. Yagi**.
- “In Situ Observation of Scuffing Phenomenon in Point Contacts” by **K. Yagi, J. Sugimura** (Kyushu University, Dept. of Mechanical Engineering, Fukuoka, Japan), **S. Kajita, T. Ohmori** (Toyota Central R&D Labs. Inc., Japan), **A. Suzuki** (Toyota Motor Corporation, Japan).

16:00 – 18:00 SESSION III (*Amphi Turing*): FRICTION AND WEAR

Chairman : J. Denape

- “An Electrochemical Investigation of Erosion-Corrosion using a Slurry Pot Erosion Tester” by **S.S. Rajahram, T.J. Harvey, R.J.K. Wood** (University of Southampton National Centre for Advanced Tribology, UK).
- “Tribological study of Nd: YAG laser treated titanium plates: A novel approach by multianalysis (Raman, XPS, NRA and PIXE)” by **L. Lavisse, C. Marco De Luca, G. Pillon** (CNRS-Université de Bourgogne Institut Carnot de Bourgogne Dijon France), **P. Berger** (CEA/SACLAY Laboratoire Pierre Süe, France).
- “Wear Performance of a Piston Ring in an Oscillating Test Rig - Influence of Tribological Parameters” by **T. Wopelka, M. Jech, S. Ilo** (AC²T research GmbH, Wiener Neustadt, Austria), **F. Franek** (AC²T research GmbH, Wiener Neustadt, Austria & Vienna University of Technology Vienna, Austria).
- “Evaluation of the real contact area in three-body dry friction by micro-thermal analysis” by **P. Stempflé** (ENSMM – UTBM, Besançon, France), **O. Pantalé, T. Djilali** (Université de Toulouse, INP/ENIT, France), **R. Kouitat Njiwa** (INPL – Nancy Université), **X. Bourrat** (Université d’Orléans CNRS, ISTO, France).
- “Interpretation of hardness of worn DLC particles using micro-Raman spectroscopy” by **P. L. Wong, F. He** (City University of Hong Kong, Hong Kong), **X. Zhou** (SKF Engineering & Research Centre, the Netherlands).
- “Recent advances in asperity based generic friction modeling” by **K. De Moerlooze, F. Al-Bender, H. Van Brussel** (K.U.Leuven, Belgium).

16:00 – 17:40 SESSION IV (*Amphi Hamilton*): MULTISCALE MODELING

Chairman : A. Soom

- “Ab initio structural superlubricity of graphite” by **A. Vernes** (AC²T research GmbH & Institut fuer Allgemeine Physik, Vienna, Austria), **G. Vorlaufer** (AC²T research GmbH, Vienna, Austria) and **F. Franek** (AC²T research GmbH Vienna, Austria & Institute of Sensor and Actuator Systems, Vienna, Austria).
- “Multiscale modelling of an atomic scale contact taking into account the stiffness of the asperity support”, by **G. Michal, C. Lu, A.K. Tieu** (University of Wollongong, Australia).
- “Detailed Study of Additivated Nanotribological Contacts Using Molecular Dynamics Simulations” by **S. Eder, G. Vorlaufer, A. Pauschitz** (AC²T research GmbH, Wiener Neustadt Austria) and **G. Betz** (Vienna University of Technology, Austria).
- “Nanoscale simulation of additive effects on friction in a lubricated contact” by **H. Berro, N. Fillot P. Vergne** (Université de Lyon, CNRS, LaMCoS, France).
- “FE modelling of fretting wear-induced stress evolution in coated substrates” by **A.L. Mohd Tobi, J. Ding, S.B. Leen, P.H. Shipway** (The University of Nottingham, UK).

19:00 Departure for SYMPOSIUM DINNER

WEDNESDAY 2nd SEPTEMBER
(Morning)

8:30 - 10:00 *SESSION V (Amphi Capelle) : PLENARY SESSION 1*
Chairman : J. Tichy

- “Cavitation formation and modelling” by **M. J. Braun** (University of Akron, USA), **W.M. Hannon** (The Timken Cie, USA)
- “Squeeze process in highly compressible porous layer imbibed with liquid” by **M.D. Pascovici, C.S. Popescu, M.-B. Ilie** (University POLITEHNICA of Bucharest, Romania).
- “Simulation of hydraulic seals” by **R.F. Salant** (George W. Woodruff School of Mechanical Engineering, USA).

10:30 – 12:10 *SESSION VI (Amphi Curie): DYNAMIC FLUID EFFECTS 2*
Chairman : P. Wong

- “Visualization of grease flow under shear field and its modeling by Cellular Automata” by **T. Kato, H. Sakai, S. Miyamoto, T. Shiraishi and S. Morishita** (Yokohama National University, Japan).
- “Flow and engineering assessment in converging microchannels with trapezoidal roughness and slip” by **C.I. Papadopoulos** (University of Athens, School of Naval Architecture & Marine Engineering, Greece), **P.G. Nikolakopoulos** (University of Patras, Dept. of Mechanical Engineering & Aeronautics, Greece), **L. Kaiktsis**.
- “A need for relevant multi-physics modelling of EHD problems: application to realistic film thickness and friction predictions” by **W. Habchi** (Lebanese American University, Lebanon), **N. Fillot** (Université de Lyon, CNRS, LaMCoS, France), **O. Andersson, S. Bair, D. Eyheramendy, P. Vergne, G.E. Morales-Espejel**.
- “Film Thickness Prediction in Wide Elliptical EHL Contacts” by **A.Canzi, P.Sainsot**, (Université de Lyon, CNRS, LaMCoS, France), **C.H. Venner** (University of Twente, The Netherlands) and **A.A. Lubrecht**.
- “Guideline of Design on the Coated Film with Interlayer or Gradient Layer under EHL Condition” by **T. Fujino** (Nagaoka University of Technology, Japan), **K. Iwamoto, K. Tanaka** (Tokyo University of Marine Science and Technology, Japan).

10:30 – 12:10 *SESSION VII (Amphi Turing) : FRICTION CHARACTERISATION 2*
Chairman : A. Akay

- “Acoustic Emission contribution for the degradation mechanism identification in the case of fretting” by **R. Merhej, M-E Aktan, J. Alexis, J.-Y. Paris, J. Denape** (Ecole Nationale d’Ingénieurs de Tarbes, France).
- “Identification of fretting fatigue crack propagation mechanisms using acoustic emission” by **J. Meriaux** (Ecole Centrale de Lyon, LTDS, France & SNECMA – Villaroche, France), **M. Boinet** (Euro Physical Acoustics, France) **S. Fouvry** (Ecole Centrale de Lyon, LTDS, France), **JC. Lenain**.
- “Thermal measurements in railway braking, coupling between IR camera and two-color pyrometer measurements” by **H. Kasem, J. Thévenet, X. Boidin, M. Siroux, P. Dufrenoy, B. Desmet, Y. Desplanques** (Université des Sciences et Technologies de Lille, France).
- “Multi-scale characteristic lengths of abraded surfaces” by **S. Giljean** (IUT de Mulhouse & ISMM, Université de Haute-Alsace, France), **M. Bigerelle** (Laboratoire Roberval, France) and **T. Mathia** (Ecole Centrale de Lyon, LTDS, France)
- “Presentation of a method to measure the friction coefficient using an electromagnetic digital device” by **L. Petit, M. Bigerelle, A. Jourani, C. Prella, E. Dore, F. Lamarque** (Université de Technologie de Compiègne, Laboratoire Roberval, France).

10:30 – 12:10 SESSION VIII (*Amphi Hamilton*): LUBRICATION AND PERFORMANCE

Chairman : C. Hooke

- “Influence of tooth profile and oil formulation on gear power loss” by **L. Magalhães** (Instituto Superior de Engenharia do Porto, Portugal), **R. Martins, C. Locateli** (Instituto de Engenharia e Gestão Industrial, Porto, Portugal), **J. Seabra** (Faculdade de Engenharia da Universidade do Porto, Portugal).
- “Advanced characterisation of cam/roller wear for improvements of contact models” by **F. Cabanettes** (Halmstad University Sweden), **C. Chevalier** (Halmstad University Sweden & ENISE Saint-Etienne, France), **Z. Dimkovski, H. Löfgren, B-G. Rosén** (Halmstad University Sweden).
- “Investigations on power losses and thermal behaviour of rolling element bearing” by **F. Pouly** (Turbomeca groupe SAFRAN, Pau, France), **C. Changenet** (Université de Lyon, ECAM Lyon, France), **F. Ville, P. Vexlex** (Université de Lyon, INSA de Lyon - LaMCoS, France), **B. Damiens**.
- “Tribological Performance of Different Geometries of Piston Ring in Marine Diesel Engine” by **T. Imran, P. Klit**, (D.T.U., Kgs. Lyngby, Denmark), **C. L. Felter, A. Vølund** (R&D, MAN Diesel SE, Denmark).
- “Double-Newtonian Rheology in Piston-ring Cylinder-Wall Contacts” by **P. Charles** (Université de Lyon, INSA de Lyon LaMCoS, CNRS, France), **M. Elfassi** (PSA Peugeot Citroën, France), **A.A. Lubrecht**.

12:10 – 12:30 Photograph

WEDNESDAY 2nd SEPTEMBER
Afternoon

14:30 – 16:10 SESSION IX (*Amphi Curie*): MECHANICS AND TRIBOCHEMISTRY

Chairman : A. Neville

- “Effects of Phosphor on friction behaviour in wet clutch systems – a comparison of different coatings” by **A. Stadler, J. Brenner**, (AC²T research GmbH, Wiener Neustadt, Austria), **J. Wosik** (Centre of Electrochemical Surface Technology Wiener Neustadt, Austria), **A. Pauschitz, F. Franeka** (Vienna University of Technology Vienna, Austria) **J. Wendrinsky, A. Schindel**.
- “A tribochemical description of Ti alloy fretting wear mechanisms: Contact size and Pressure effects” by **C. Mary** (Ecole Centrale de Lyon, LTDS, France & Snecma, Groupe SAFRAN), **S. Fouvry, T. Le Mogne, J.M. Martin** (Ecole Centrale de Lyon, LTDS, France).
- “Effect of additives in rolling contact fatigue” by **M. Meheux** (CETIM SENLIS, France), **F. Ville** (Université de Lyon, INSA-Lyon, LaMCoS, CNRS, France), **C. Minfray, Th. Le Mogne**, (Université de Lyon, Ecole Centrale de Lyon, LTDS, France), **A. A. Lubrecht** (Université de Lyon, INSA-Lyon, LaMCoS, CNRS, France), **J. M. Martin** (Université de Lyon, École Centrale de Lyon, LTDS, France), **H. P. Lieurade** (CETIM Senlis, France).
- “Tribological properties of additives for water-based lubricants” by **A. Tomala** (Vienna University of Technology, Wien, Austria), **A. Karpinska** (Imperial College Tribology Group, London, UK), **W.S.M Werner** (Vienna University of Technology, Wien, Austria), **A. Oliver** (Imperial College Tribology Group, London, UK), **H. Störi** (Vienna University of Technology, Wien, Austria).
- “Corrosion and erosion interactions in oilsands processing; how MMCs can manage component integrity” by **J Flores, A Neville, N Kapur, A Gnanavelu, T Revega, S Chiovelli** (University of Leeds, Institute of Tribology, Leeds, UK).

14:30 – 16:10 *SESSION X (Amphi Turing) : SURFACE TRANSFORMATION 1*
Chairman : M. Pascovici

- “Influence of bias voltage on properties and microtribology of amorphous carbon coatings” by **D. Paulkowski, R. Bandorf, K. Schiffmann** (Fraunhofer Institute for Surface Engineering and Thin Films, IST Germany), **V. Buck** (University Duisburg-Essen, Germany).
- “Influence of Sliding Speed on Friction of Steel Surface Modified by Ion Implantation under Different Phosphorous-ion Dose Condition” by **S. Aoki, Y. Teranishi, A. Mitsuo, M. Kawaguchi, K. Morikawa**, (Tokyo Metropolitan Industrial Technology Research Institute Tokyo Japan), **A. Suzuki** and **M. Masuko** (Tokyo Institute of Technology, Tokyo Japan).
- “To investigate the effect of surface coatings on the wear behaviour of the friction contact of ultrasonic motors” by **C.K. Cheung** (Johnson Electric Ltd., & City University of Hong Kong, SAR, China), **B. Shi, C.S. Lau** (City University of Hong Kong, SAR, China), **P.W. Shum, Z.F. Zhou, K.Y. Li** (Johnson Electric Ltd., Hong Kong).
- “Surface and sliding wear behaviour of TiN, CrN and WC/C coatings on different steel substrates” by **E. E. Vera** (Universidad Politecnica de Tulancingo, Mexico), **M. Vite** (National Polytechnic Institute Mexico D.F, Mexico), **R. Lewis, E. A. Gallardo** (University of Sheffield, UK).

14:30 – 16:10 *SESSION XI (Amphi Hamilton) : BIOTRIBOLOGY 1*
Chairman : P. Cann

- “Elastohydrodynamic Lubrication Analysis of Metal-on-metal Hip Implants with Complex Structures Using a Finite Element Method” **Q. Meng, F. Liu, and Z. Jin** (University of Leeds, Institute of Tribology, Leeds, UK).
- “Effect of Surface Texturing on the Elastohydrodynamic Lubrication Analysis of Metal-on-Metal Hip Implants” **L. Gao, P. Yang and Z. Jin** (University of Leeds, Institute of Tribology, Leeds, UK).
- “Tribofilm formation in biotribocorrosion - does it regulate ion release in MoM joints”, **Y Yan, A Neville, D Dowson, J Fisher, S Williams**, (University of Leeds, Institute of Tribology, Leeds, UK).
- “Role of ions concentration and pH in the tribological operation of phospholipid biomimetic surfaces” by **M. Corneci** (Université de Lyon, INSA-Lyon, LaMCoS, CNRS, France), **F. Dekkiche** (LPMC, Université Claude Bernard Lyon1, France & Université Mentouri, Algérie), **A.-M. Trunfio-Sfarghiu, Y. Berthier, M.-H. Meurisse, J.-P. Rieu**
- “Contribution to tribological analysis of tibiofemoral contact: determination of contact pressures using MRI-based FEM” by **F. Dang** (Université de Lyon, INSA-Lyon, LaMCoS, CNRS, France), **J-B. Pialat** (Hopital Edouard Herriot, Lyon, France), **A. Saulot , Y. Berthier , C. Dayot**.

16:30 – 18:30 *SESSION XII (Amphi Curie) : MULTI FACETS OF TRIBOLOGY*
Chairman : R. Salant

- “Hydroplaning speed and infrastructure characteristics” by **V. Cerezo, M. Gothié** (Laboratoire Régional de Ponts et Chaussées CETE de Lyon, France).
- “Local friction and adhesion of elastomers within torsional contacts” by **A. Chateauminois** and **C. Fretigny** (ESPCI, Laboratoire de Physico-Chimie des Polymères et des Milieux Dispersés, France).
- “Scratch tests and multilayer polymeric coatings” by **Y.Rudermann, A. Iost**, (ENSAM France), **M. Bigerelle**, (UTC Centre de Royallieu, France).
- “Characterization of transfer layer on countermaterials against DLC-coatings under water lubrication” by **M. Tokoro, Y. Aiyama, M. Masuko, A. Suzuki** (Tokyo Institute of Technology, Japan), **H. Ito** and **K. Yamamoto** (Kobe Steel Ltd, Japan).
- “Slippage characteristic of liquid lubricants” by **L. K. Yip** and **P. L. Wong** (City University of Hong Kong, Dept. of Manufacturing Engineering and Engineering Management, Hong Kong).
- “Simulation of mix & boundary lubrication with CFD and MD” by **C. Zhang** (School of Automobile, Tongji University, P.R.China), **M. Huang** (College of Science, Tongji University, P.R.China), **Moritz** (Berlin University of Technology, Germany).

16:30 – 18:30 *SESSION XIII (Amphi Turing) : SURFACE TRANSFORMATION 2*
Chairman : M. Bigerelle

- “Abrasive wear resistance of crn sputtered coatings” by **M. Moreno Rios, M. Vite Torres** (SEPI, ESIME, ZACATENCO, IPN México, D. F. México), **I. Hilerio Cruz** (Universidad Autónoma Metropolitana México, D.F., México)
- “Amelioration of tribological behaviour of Carbon/ Ti-6Al-4V couple by plasma nitridation of the Titanium alloy” by **M. Sylvestre** (L.M.S, Université de Poitiers & Laboratoire PHYMAT Université de Poitiers, France), **H. Zaidi** (L.M.S, Université de Poitiers, France), **J.P. Rivière, D. Eyidi, F. Doyen** (Carbone Lorraine Composant, France).
- “Influence of the film characteristics on the blistering phenomenon of thin hard nitride coatings submitted to repeated impacts” by **S. Lamri, C. Langlade** (UTBM, Laboratoire LERMPS, France), **G. Kermouche** (ENISE Saint Etienne, LTDS, France), **V. Martinez** (Laboratoire de Physico-Chimie des Matériaux Luminescents UCBL, France).
- “Fretting behaviour of alumina nanocomposites under different loading conditions” by **A.G. Ural** (LGP, Ecole Nationale d'Ingénieurs de Tarbes & Société des Céramiques Techniques, France), **J.-Y Paris., J. Denape, J.-D. Beguin, R. Merhej** (LGP, École Nationale d'Ingénieurs de Tarbes, France), **J. Gurt Santanach, A Weibel., A. Peigney, Ch. Laurent, G. Chevallier, C. Estournes, Y. Paranthoen.**
- “Experimental Study of the erosive wear on ceramics materials achieved from solid residuals and volcanic ashes” by **J. Vite** (Centro Nuclear, ININ, Mexico), **M. Vite, M. Castillo, J. Soto, O. Susarrey** (SEPI ESIME IPN, Mexico).

16:30 – 18:30 *SESSION XIV (Amphi Hamilton) : BIOTRIBOLOGY 2*
Chairman : S. Jahanmir

- “A study of Biolo^x® *delta* from Water Lubricated Reciprocating Wear by Advanced Microscopies” by **L. Ma, W. M. Rainforth** (University of Sheffield, UK).
- “Experimental analysis of friction induced vibrations at the finger contact surface” by **R.Fagiani** (La Sapienza Università di Roma, Italy), **F. Massi, E. Chatelet, Y. Berthier**, (Université de Lyon, CNRS, INSA-Lyon, LaMCoS, France), **A. Sestieri** (La Sapienza Università di Roma, Italy).
- “Nano-Structure and Multi Scale Surface Characterization of Shed Boa Constrictor Skins Compared to Human Skin” by **H.A Abdel-Aal** (University Plaza Platteville, USA), **S. Mezghani, M. El Mansori** (LMPF, Arts et Métiers ParisTech, France).

THURSDAY 3rd SEPTEMBER

8:00 - 9:30 *SESSION XV (Amphi Capelle): PLENARY SESSION 2*
Chairman : M. Priest

- “Subscale Tribological Modelling of Tribofilm Performance for Engine Applications using Multivariate Analysis” by **R. Roshan, M. Priest, A. Neville, A. Morina, X. Xia, C. P. Warrens and M. J. Payne** (University of Leeds, Institute of Tribology, Leeds, UK).
- “Tribology fundamentals for material removal in chemical mechanical polishing” by **J. Tichy** (Rensselaer Polytechnic Institute, USA), **W. Cai, J.Xin** (University of North Carolina at Charlotte, USA)
- “Local modeling of the shapes and stress distributions at sliding contacts when both surfaces wear” by **A. Soom, G. F. Dargush and N. C. Stenz** (University at Buffalo, NY, USA).

10:00 – 12:00 *SESSION XVI (Amphi Curie): DYNAMIC DRY EFFECTS*

Chairman : P. Pawlus

- “Dynamic rupture on a bi-material interface with asperities” by **A. Meziane** (Laboratoire de Mécanique Physique - Université Bordeaux 1, CNRS, France), **M. Di Bartolomeo**, **F. Massi** (Université de Lyon, CNRS, INSA-Lyon, LaMCoS, France), **L. Baillet** (Université Joseph Fourier, LGIT, France).
- “3D X-FEM model for fretting crack propagation with interfacial frictional contact: two-scale strategy” by **E. Pierres**, **M.-C. Bailetto-Dubourg**, **A. Gravouil** (Université de Lyon, CNRS, INSA-Lyon, LaMCoS, France).
- “Analysis of the consequences of the wear flows on local contact dynamics” by **C. Vayssière**, **A. Saulot** (Université de Lyon, CNRS, INSA-Lyon, LaMCoS, France), **L. Baillet** (Université de Grenoble, CNRS, Université Joseph Fourier, LGIT, France), **G. Roche** and **Y. Berthier**.
- “Initiation of sliding of an elastic contact under a Scanning Force Microscope probe: Validity of the Mindlin theory at the nanometer scale” by **P.-E. Mazeran** (Université de Technologie de Compiègne Laboratoire Roberval, France), **H. Nasrallah**, **O. Noel** (Laboratoire de Physique de l’Etat Condensé, France).
- “Prediction of residual stresses due to grinding with metallurgical phase evolution phenomenon” by **S. M. Shah**, **M. Coret**, **D. Nélias** (Université de Lyon, CNRS, INSA-Lyon, LaMCoS, France).

10:00 – 12:00 *SESSION XVII (Amphi Turing): MECHANICS & TRIBOCHEMISTRY 2*

Chairman : T. Shiraishi

- “Effect of passive film on macroscopic wear in tribocorrosion systems: a multi-scale approach” by **J. Perret**, **S. Mischler**, (Swiss Federal Institute of technology Switzerland), **A. Beaudouin**, **W. J Chitty** and **J.Ph Vernot**, (AREVA NP Technique Center, France).
- “Lubricant Film Formation Properties of Alkyl Imidazolium Tetrafluoroborate and Hexafluorophosphate Ionic Liquids” by **H. Arora** and **P.M. Cann** (Imperial College, Tribology Section, UK).
- “Influence of grease formulation on thrust bearings power loss” by **T. Cousseau**, **B. Graça**, (Instituto de Engenharia Mecânica e Gestão Industrial – INEGI, Portugal), **A. Campos**, (ISEP-IPP, Portugal), **J. Seabra** (FEUP, Portugal).
- “Tribological Properties and Trace Impurities in Gaseous Environment” by **K. Fukuda** (Kyushu University, Japan) and **J. Sugimura** (Kyushu University & AIST, Japan).
- “Characterisation of Transparent Deposits on Cylinder Liner Surfaces of HDD Truck Engines” by **Z. Dimkovski** (School of Business and Engineering, Sweden), **R. Ohlsson** (Volvo Power Train Corp Sweden), **S. Rosén** (Toponova AB, Sweden), **B.-G. Rosén**.
- “Friction modifier interaction on Steel and WC-DLC under pure sliding and sliding-rolling contact conditions” by **A. Morina**, **A. Neville**, **K. K. Mistry** (University of Leeds, Institute of Tribology, Leeds, UK), **T. Haque**, **M. N. Webster** (ExxonMobil Corporate Strategic Research, New Jersey, USA).

10:00 – 12:00 *SESSION XVIII (Amphi Hamilton): SURFACE TEXTURE*

Chairman : R. von Ostayen

- “Experimental study of real roughness attenuation in concentrated contacts” by **P. Šperka**, **I. Křupka** and **M. Hartl** (Brno University of Technology, The Czech Republic).
- “Effect of surface texture on tribological property of the slideway” by **H. Ogawa**, **S. Sasaki** (Tokyo University of Science, Japan), **A. Korenaga**, **K. Miyake**, **M. Nakano**, **T. Murakami** (AIST, Japan).
- “Effect of Roughness Geometry model in Contact Mechanics: Numerical and Experimental study” by **A. Jourani**, **M. Bigerelle** (Université de Technologie de Compiègne, Laboratoire Roberval, France), **H. Zahouani** (Ecole Centrale de Lyon, LTDS, France).
- “The study of the tribological properties of two-process textures” by **W. Grabon**, **P. Pawlus**, **J. Sep** (Rzeszow University of Technology, Poland).
- “The surface texturing effect on seizure resistance of steel-bronze sliding pair” by **W. Koszela**, **L. Galda**, **A. Dzierwa**, **P. Pawlus** (Rzeszow University of Technology, Poland).

12: 00 – 12:30 *SESSION XIX (Amphi Capelle) CLOSURE/AWARD ATTRIBUTION*
Chairman : G. Dalmaz