Poster Programme

Poster Session
Sunday 11th September 2016, 17:00-19:00

[P01]	**Reducing wear debris and increasing lower-limp amputees' comfort by optimizing prosthetic socket design using local contact pressure relief and implementing appropriate hole.** G. Nehme*[1], S. Ghalambor[2], *[1]University of Balamand, Lebanon, [2]University of Texas at Arlington, USA*
[P02]	**Tribological rehydration: a new lubrication mechanism for biphasic materials** A.C. Moore*, D.L. Burris, *University of Delaware, USA*
[P03]	**Tribological and material properties for cartilage of and throughout the bovine stifle: support for the altered joint kinematics hypothesis of osteoarthritis** A.C. Moore*, D.L. Burris, *University of Delaware, USA*
[P04]	**Quantifying cartilage contact modulus, tension modulus, and permeability with Hertzian biphasic creep** A.C. Moore*, J.F. DeLucca, D.M. Elliott, D.L. Burris, *University of Delaware, USA*
[P05]	**Effect of proteins on surface microstructure evolution of CoCrMo alloy in bio-tribocorrosion processes** Z.W. Wang*, Y. Yan, L.J. Qiao, *University of Science and Technology Beijing, China*
[P06]	**Comparative evaluation of decreasing effect of superlubricious diamond-like carbon nanoparticles coated orthodontic wire, conventional and self-ligating brackets on friction on orthodontic tooth movement** D. Karabaglar*[1], K. Kazmanli[2], M. Baydogan[2], B. Cakirer Bakkalbasi[1], *[1]Marmara University, Turkey, [2]Istanbul Technical University, Turkey*
[P07]	**Biological, tribological as well as microstructure characterization of nano-composite, amorphous carbon coatings (a-C:H or DLC), reinforced with metallic nano-particles** M. Janusz*[1], L. Major[1], M. Kot[2], J.M. Lackner[3], *[1]Polish Academy of Sciences, Poland, [2]AGH University of Science and Technology, Poland, [3]Joanneum Research- Materials-Institute for Surface Technologies and Photonics, Austria*
[P08]	**Tribological analysis of grafted UHMWPE surfaces with MPC molecules for joint implants** M. Popa*, N. Wang, D. Portinha, A-M. Trunfio - Sfarghiu, Y. Berthier, *Institut national des sciences appliquées de Lyon, France*
[P09]	**Application of ion exchange and super-hydrophilic technology on ortho-biology surface modification** K.Y. Hung*[1], Y.J. Chuang[2], P.R. Chen[2], Y.T. Yang[3], H.P. Feng[1], *[1]Ming Chi University of Technology, Taiwan, [2]Ming Chuan University, Taiwan, [3]Chang Gung Medical Technology Co., Taiwan*
[P10]	**Effect of protein mass concentration on the friction coefficient of a steel-ball/UHMWPE contact lubricated with bovine serum under ISO 14243-3:2014 conditions of load and arthrokinematics** J.D.O. Barceinas-Sanchez*, L.A. Montoya-Santiyanes, M. Alvarez-Vera, J.L. Montes-Seguedo, I. Dominguez-Lopez, A.L. Garcia-Garcia, *Instituto Politécnico Nacional, Mexico*
[P11]	**Wear evaluation of nanostructured Ti cermets for joint reconstruction.** E.P. Georgiou[1,2], D. Drees*[1], S. Dosta[3], P. Matteazzi[4], J. Kusinski[5], J.P. Celis[2], *[1]Falex Tribology N.V., Belgium, [2]KU Leuven, Belgium, [3]Universitat de Barcelona, Spain, [4]MBN Nanomaterialia, Italy, [5]AGH University of Science and Technology, Poland*
[P12]	**Characterizing the lubricating properties of model synovial fluids** H. Stevenson*, P. Cann, *Imperial College London, UK*
[P13]	**Friction behavior at the interface between soft tissue and laparoscopic graspers with different surface configuration** W. Li*, C.M. Cai, L. Ma, Z.R. Zhou, *Southwest Jiaotong University, China*
[P14]	**Friction and wear of human hair fibres** J. Bowen[1], S.A. Johnson*[2], A.R. Avery[2], M.J. Adams[3], *[1]The Open University, UK, [2]Unilever R&D Port Sunlight, UK, [3]University of Birmingham, UK*
[P15]	**Evaluation of biotribological behaviour of phospholipid polymer-grafted cross-linked polyethylene using multidirectional pin-on-disk tester** K. Watanabe*[1,2], M. Kyomoto[1,2], K. Saiga[1,2], S. Yamane[1,2], Y. Takatori[2], S. Tanaka[2], K. Ishihara[2], T. Moro[2], *[1]KYOCERA Medical Corporation, Japan, [2]The University of Tokyo, Japan*
[P16]	**Exploring the mechanisms of soft tissue degradation in incontinence technologies** M. Bryant*, A. Neville, *Institute of Functional Surfaces, UK*

[P17]	**Can a "pre-worn" bearing surface geometry reduce the wear of total hip replacements?--- a numerical wear simulation study** L. Gao*, R.W. Hewson, *Imperial College London, UK*
[P18]	**The influence of machining lubrication/cooling strategies on the dental tribocorrosion behaviour of wrought and additive manufactured Ti6Al4V.** R. Bertolini*, S. Bruschi, A. Bordin, A. Ghiotti, M. Dabalà, L. Pezzato, *University of Padova, Italy*
[P19]	**Material investigation for the study of drilling bone biomodel** Y. Muramoto*[1], J. Seiller[1,2], V. Fridrici[3], P. Kapsa[3], G. Bouvard[3], F. Lundell[4], M. Ohta[1], *[1]Tohoku University, Japan, [2]INSA de Lyon, France, [3]Ecole Centrale de Lyon, France, [4]KTH Royal Institute of Technology, Sweden*
[P20]	**Combinatorial sputtering of Si-Fe-C-N coatings for joint implants** C. Skjöldebrand*, C. Persson, H. Engqvist, *Uppsala University, Sweden*
[P21]	**Comparing calculated knee joint forces with experimental data and ISO 14243-1** A. Ruggiero[1], S. Affatato[2], J.S. De Mattia[2], M. Merola*[1], D. Guida[1], *[1]University of Salerno, Italy, [2]Rizzoli Orthopaedic Institute, Italy*
[P22]	**Study on mechanical, tribological and antibacterial efficacy of silver nanoparticles and carbon nanotubes reinforced ultra high molecular weight polyethylene nanocomposite** M. kumar*, P. Gupta, D. Lahiri, *Indian Institute of Technology, India*
[P23]	**Nanoindentation to determine mechanical properties of bovine articular cartilage after simulated wear** S. Fullam*, C. Yuh, M.A. Wimmer, *Rush University Medical Center, USA*
[P24]	**Effect of glucosamine sulfate, chondrotin sulfate, methylsulfonylmethane (msm) phonophoresis on knee osteoarthritis** S. Samaan*, J. Saweris, J. Wageh, *Cairo university, Egypt*
[P25]	**A comparative study of the tribological behavior of bionic multilayers on Ti6Al4V alloy against ultra-high molecular weight polyethylene in Hank's solution and water** H.Y. Ding*, G.H. Zhou, Y. Zhang, M.J. Xia, *Huaiyin Institute of Technology, China*
[P26]	**Iliopsoas irritation as presentation of head-neck corrosion after total hip arthroplasty: a case series** L. Matsen Ko[1], J.J. Coleman[2], V. Stas[3], M.L. DeHart*[2], H.A. Gehling[2], P.J. Duwelius[3], *[1]Swedish Medical Center, USA, [2]Providence Health & Services, USA, [3]Orthopedic & Fracture Specialists, USA*
[P27]	**Experimental investigation of wear for hip implant material using designed and developed screening devices** A.C. Kulkarni*[1], D.M. Kulkarni[1], A.N. Dube[2], *[1]BITS-PILANI, India, [2]Ducom Instruments Pvt. Ltd., India*
[P28]	**Surface modification of ultra high molecular weight polyethylene for drug eluting orthopaedic implant applications** M. kumar*, P. Gupta, S.K. Sharma, V. Kumar, B.V.M. Kumar, P. Roy, D. Lahiri, *Indian Institute of Technology, India*
[P29]	**A method to access the early change of rat knee joint under certain abnormal mechanics using a whole joint wear test device** H. Cai, L. Xiao, Z. Hao*, *Tsinghua University, China*
[P30]	**Dry friction and wear performance of Co-Cr alloy tube for stent application** A. Amanov*, Y.S. Pyun, *Sun Moon University, Republic of Korea*
[P31]	**Insight into the tribological characteristics and lubrication mechanism of polyvinylpyrrolidone (PVP) as a lubrication additive for artificial knee joint** Y. Guo, Z. Hao*, C. Wan, *Tsinghua University, China*
[P32]	**Mechanical performance of dental implants: comparison of Titanium vs. Zirconia** N. Iniyan Thiruselvam[1], D. Kulkarni*[1], L. Savio[1], *[1]BIRLA Institute of Technology & Science, India, [2]Indian Institute of Techonology (IIT) Madras, India, [3]Consultant Implantologist, India*
[P33]	**PVD coatings for improved tribocorrosion response of biomedical stainless steel** B. Mallia*[1], S. Farrugia[1], P.A. Dearnley[2], *[1]University of Malta, Malta, [2]Boride Services Limited, UK*
[P34]	**A simple and low-cost method to fabricate micro-structured polymeric replica from anti-adhesive biological surfaces** C. Kumar*[1,2], V. Le Houérou[2], T. Speck[1,3], H. F. Bohn[1,3], *[1]University of Freiburg, Germany, [2]Université de Strasbourg, France, [3]Freiburg Center for Interactive Materials and Bio-Inspired Technologies, Germany*
[P35]	**Biotribological behaviour evaluation of the ISO 5832-1 stainless steel for biomedical applications treated by optical fiber laser** E.F. Pieretti[1], R.C. Cozza*[2], M.D.M. Neves[1], *[1]Instituto de Pesquisas Energéticas e Nucleares (IPEN/CNEN), Brazil, [2]Centro Universitário da FEI, Brazil*

[P36]	**Biological strategies for fatigue and wear avoidance: lessons from stingray skeletons and teeth** M.N. Dean*[1], A. Hosny[2], R. Seidel[1], D. Baum[3], *[1]Max Planck Institute of Colloids & Interfaces, Germany, [2]Wyss Institute for Biologically Inspired Engineering, USA, [3]Zuse Institute Berlin, Germany*
[P37]	**The influence of C addition on the tribocorrosion and properties of TiZr coatings deposited by pulsed DC magnetron sputtering** M.G. Rodriguez[1], O. Jimenez*[1], L. Flores[1], F. Alvarado[2], M. Flores[1], E. Andrade[3], C. Canto[3], C. Avila[4], F. Espinoza[4], *[1]Universidad de Guadalajara, Mexico, [2]Universidad Autonoma de Zacatecas, Mexico, [3]Universidad Nacional Autonoma de Mexico, Mexico, [4]Cinvestav Unidad Queretaro, Mexico*
[P38]	**In-vitro replication, measurement and characterisation of fretting wear for development of total hip replacement prostheses** P. Leung*, L. Fleming, K. Walton, L. Blunt, *University of Huddersfield, UK*
[P39]	**Frictional testing of hydrogels using a novel physiological tribometer** E.M. Porte*, P.M. Cann, M.A. Masen, *Imperial College London, UK*
[P40]	**Mechanism of lubrication by milk with low and high fat** T. Tomasi, A. Maria Tortora*, D. H Veeregowda, *Ducom Instruments Europe B.V, The Netherlands*
[P41]	**Modified ASTM F732 testing to investigate the friction and wear of UHMWPE** A. Maria Tortora, D. Halenahally Veeregowda*, *Ducom Instruments Europe B.V, The Netherlands*
[P42]	**Modulation of surface elasticity and cell patterning on polymer films by using micropatterns** H. Sunami*[1], J. Denda[1], I. Yokota[2], Y. Uechi[1], H. Nakasone[1], T. Yoshizawa[2], Y. Igarashi[2], Y. Shimizu[1], H. Noguchi[1], *[1]University of Ryukyus, Japan, [2]Hokkaido University, Japan*
[P43]	**Composite hydrogel: a new tool for reproducing the mechanical behaviour of soft human tissues** Z. Tan*, A. Forte, S. Galvan, D. Dini, F. Rodriguez y Baena, *Imperial College London, UK*
[P44]	**Measurement of single cell adhesion to a defined area** P. Engel, C. Petzold*, R. Bennewitz, *Leibniz INM Institute for New Materials, Germany*
[P45]	**Tribology of writing on paper and glass screens; friction behaviour of haptic devices** A. Rochas, M.A. Masen*, *Imperial College London, UK*
[P46]	**Influence of slide stroke of friction on the damage and the restoration on a passive film of cobalt chromium alloy** M. Honna*, K. Mabuchi, M. Ujihira, *Kitasato University, Japan*
[P47]	**Shear deformation of human skin during frictional loading** M. Klaassen*[1], R. Maiti[2], R. Lewis[2], M.J. Carre[2], S.J. Matcher[2], M.A. Masen[3], *[1]University of Twente, The Netherlands, [2]The University of Sheffield, UK, [3]Imperial College London, UK*
[P48]	**Breast implant after explantation: from the macroscopic to the microscopic scales** R. Delille[1], C. Garabedian*[1], R. Deltombe[1], M. Atlan[2], K. Anselme[3], M. Bigerelle[1], *[1]LAMIH Université de Valenciennes, France, [2]Pierre et Marie Curie Faculté de Médecine Paris, France, [3]IS2M Mulhouse, France*
[P49]	**Effect of lubricant composition and structure on the in vitro tribological behavior of UHMWPE: case of unicompartmental knee prosthesis** M-M. Sava*, B. Munteanu, Y. Berthier, A-M. Trunfio Sfarghiu, *laMCoS, INSA of Lyon, France*
[P50]	**Wear mechanisms on the articulating surfaces of explanted knee prosthesis** M. Bigerelle[1], C. Garabedian*[1], D. Najjar[2], H. Migaud[3], *[1]LAMIH Université de Valenciennes, France, [2]Laboratoire de Métallurgie Physique et Génie des Matériaux, Lille, France, [3]CHRU Lille, Service d'Orthopédie, France*
[P51]	**Tribo-corrosion and corrosion performance of the hierarchical TaN/Ta coatings for biomedical applications** C.D. Rivera-Tello*[1], M. Flores[1], E. Broitman[2], *[1]Universidad de Guadalajara, Mexico, [2]Linköping Universitet, Sweden*
[P52]	**The effect of cathodic protection potential on the tribocorrosion behavior of CoCrMo biomedical Alloy** M. Flores*, O. Jimenez, L.M. Flores, E. Garcia, *Universidad de Guadalajara, Mexico*
[P53]	**Electrophoretic deposition and characterisation of polymer PEEK and composite Al_2O_3/PEEK coatings for improvement the Ti-13Nb-13Zr titanium alloy's bio-tribological properties** T. Moskalewicz*, A. Sak, S. Zimowski, A. Łukaszczyk, *AGH University of Science and Technology, Poland*
[P54]	**A biomimetic simplified model to represent tooth brushing** M. Popa*[1,2], S. Descartes[1], Y. Berthier[1], F. Peditto[2], *[1]INSA de Lyon, France, [2]Solvay Silica, France*
[P55]	**Surface mechanical and tribological behavior of human tooth enamel** Y-W. Lu*[1], J-H. Wu[1], T-H. Fang[2], *[1]Kaohsiung Medical University, Taiwan, [2]National Kaohsiung University of Applied Sciences, Taiwan*

[P56]	**Tribology: measuring lubrication of food particles under oral relevant conditions** M. van Stee, H.J. Klok, F. van de Velde, E.H.A. de Hoog*, *NIZO food research, The Netherlands*
[P57]	**An ophthalmological study to investigate the surface interaction between the contact lens and the eyelid** R. Morecroft[1], P. Toomey[2], P. Mylon[1], M.J. Carré[1], S.J. Matcher[1], R. Lewis[1], J.E. Goff[1], R. Maiti*[1], *[1]University of Sheffield, UK, [2]Sheffield Teaching Hospital NHS Foundation Trust, UK*
[P58]	**Effect of bias voltage on the tribocorrosion behavior of magnetron sputtered Zr-ZrN coatings deposited on Ti_6Al_4V biomedical alloy** L. Flores*, O. Jiménez, C. Rivera-Tello, M. Flores, *Universidad de Guadalajara, Mexico*
[P59]	**A holistic framework for selection of biomaterials for some bio tribological applications** A. Anand*[1], M.I. Ul Haq[1], A. Raina[1], M.F. Wani[2] *[1]Shri Mata Vaishno Devi University, India, [2]NIT Srinagar, India*
[P60]	**Bio-inspired driving system for directional transportation** S.H. Ma*, F. Zhou, *State Key Laboratory of Solid Lubrication, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, China*

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[P61]	**Cartilage Changes In Hemiarthoplasty**

M. Imani*, N. Ajdari, U. Hansen, D. Dini, *Imperial College London, UK*