



Sustainable Materials
science and technology
AN INTERNATIONAL CONFERENCE

15-17 July 2015
PARIS-FRANCE



**Scientific
Program**



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Wednesday, 15th July 2015

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Schedule	Main room	Room 1	Room 2
8h30	Documentation delivery		
9h30	Opening session		
9h45	Plenary talk Identification of synthetic polymers and biopolymers by analytical pyrolysis – gas chromatography/mass spectrometry (Py-GC/MS), by PhD. Peter Kusch, University of Applied Sciences, Germany		
10h30 – 11h30	ORAL COMMUNICATIONS (ENGLISH) Materials in Research Characterization of efflorescences of ambient and elevated temperature cured fly ash based geopolymer type concretes, J.Ternuujin, C.H.Ruescher, A.Minjigmaa, B.Darkhijav, B.Davaabal, B.Battsetseg, Mongolian Academy of Sciences, Mongolia Development of poly(vinylidene difluoride)-modified clay nanocomposites for capacitor thin films, N. Bunnak, P. Laorattanakul, A. S. Bhalla, H. Manuspiya, Chulalongkorn University, Thailand Sol-gel Prepared and spin coated TiO2 thin films for DSSC: optical and structural properties, Syed Sajjad Hussain, Farman Ullah Khan, Saira Riaz, Shahzad Naseem, University of the Punjab, Pakistan Structure dependent multi-photon harvesting in Zn(II) terpyridine copolymers, Y. Gao, T. He, A. C. Grimsdale, Nanyang Technological University, Singapore	ORAL COMMUNICATIONS (ENGLISH) Materials in Industry Analysis of air permeability and water vapour transmission rating of highly impermeable novel rubber nanocomposites, S.Kumar, S.Chattopadhyay, A.Sreejesh, Sujith Nair, G.Unnikrishnan, Golok B.Nando, Indian Institute Of Technology, India Comparison of the experimental and calculated data of the formation process of beryllia ceramics, U. Zhabbasbayev, G. Ramazanova, Z. Sattinova, S. Shakhov, L.N. Gumilyev Eurasian National University, Russia Embrittlement of materials during fatigue growth of short macrocracks, V.M. Kornev, Lavrentyev Institute of Hydrodynamics, Russia Some ways to improve the toughness in high strength steels: grade 38MnV7, S.F. Medina, M. Gomez, J. Calvo, J.M. Cabrera, CENIM-CSIC, Spain	ORAL COMMUNICATIONS (ENGLISH) Sustainable Materials Synthesis and characterization of corn (Zea mays L.) oil-based polyurethane film, F. Fajardo, J. Dela Peña, J. Bayani, E. Magdaluyo Jr., University of the Philippines Diliman, Philippines Morphological control for organometal halide perovskite solar cells using vapor-assisted solution process, Jing Liu, Mingqiang Wang, Zhi Yang, Jin Huang, Le Li, Xi'an Jiaotong University, China Recycled HDPE used as wastewater pipes: mechanical properties and molecular structure, M. Alzarea, M. Paris, O. Boyron, D. Ordiz, G. Louarn, O. Correc, Scientific and Technic Center of Nantes, France
11h30-12h15	Coffee-break POSTERS SESSION	Coffee-break POSTERS SESSION	Coffee-break POSTERS SESSION
12h15 – 13h30	ORAL COMMUNICATIONS (ENGLISH) Materials in research Synthesis of cobalt ferrite nanoparticles via novel EDTA/EG based precursor sol-gel method and their structural and magnetic properties as an environment friendly route, H. Shokrollahi, Shiraz University of Technology, Iran Mechanical properties of epoxy/fumed silica nanocomposites, Kh. Maghsoudi, S. Motahari, University of Tehran, Iran Study of friction surface Fe-Mn-C-B-Si-Ni-Cr coatings, M. Pashechko, K. Dziedzic, E. Mendyk, Lublin University of Technology, Poland	ORAL COMMUNICATIONS (ENGLISH) Sustainable Materials Effects of NaOH concentration on phase purity and CO2 adsorption capacity of Ca(OH)2, Nwe Ni Hlaing, Srimata Sreekantan, Hirofumi Hinode, Aye Aye Thant, Universiti Sains Malaysia, Malaysia Preparation of lignin-based PF (LPF) resoles with de-polymerized kraft lignin for wood adhesives, Homaira Siddiqui, Shanghuan Feng, Nubla Mahmood, Shuna Cheng, Zhongshun Yuan, Amin Rizkalla, Ajay Ray, Chunbao Xu, University of Western Ontario, Canada Hydrothermalites prepared with different coprecipitant agents and a hazardous aluminium waste. Effects on porosity, R. Galindo, I. Padilla, R. Sánchez-Hernández, A. López-Delgado, M. Yates, National Center for Metallurgical Research, CSIC, Spain	ORAL COMMUNICATIONS (ENGLISH) Process and Product Manufacturing Utilizing laser cutting, 3D printing and 3D scanning to create an affordable fully interactive prototype of full size animatronic figure, Christopher W. LaMorte, Haowei Wang, California State University, USA Compromising quality factors can lead to the demise of a manufacturing company, P. Kholopane, University of Johannesburg, South Africa Studies on electron beam welding of Cr-Mn stainless steel, J. Dutta Majumdar, K. Pradhan, I. Manna, Indian Institute of Technology Kharagpur, India



Thursday, 16th July 2015

Schedule	Main room	Room 1	Room 2
12h15 – 13h30	Nanographene-based saturable absorbers for harmonic mode-locked fiber lasers , Shuo-Fu Hong, Hsin-Hui Kuo, Yi-Cheng Liao, National University of Kaohsiung, Taiwan	Reutilization incinerator fly ash using attrition scrubbing and geopolymeric technology , W.H. Lee, T.W. Cheng, L. Gautron, K. Krausova, National Taipei University of Technology, Taiwan Al-waste zeolites and their application as cadmium adsorbents , R. Sánchez-Hernández, I. Padilla, E. Winterjúnior, A.L.R. Mercê, S. López-Andrés, D.A. Fungaro, R. Galindo, A. López-Delgado, National Center for Metallurgical Research, CSIC, Spain	Application of cold spraying in development of nickel based metal matrix composites , T. Chandanayaka, F. Azarmi, A. Tangpong, North Dakota State University, USA
13h30	LUNCH	LUNCH	LUNCH

Schedule	Main room	Room 1	Room 2
9h00	Plenary talk Remediation of eutrophic coastal marine sediments using granulated coal ash, a by-product from coal electric power plants , by S. Asaoka, Kobe University, Japan		
09h45 – 11h00	ORAL COMMUNICATIONS (ENGLISH) Materials in research Study of chromatic anomalies of granite through their physical and mechanical properties , I. Valverde-Palacios, I. Valverde-Espinosa, M. Martín-Morales, R. Fuentes García, University of Granada, Spain A new biomaterial constructed with natural polymers associated to anticancer drugs entrapped in metal nanoparticles , C. N. Lunardi, W.M. Pinheiro, M.I. Silva, A.J. Gomes, University of Brasília, Brazil Effect of magnesium oxide on CaO based sorbent for CO₂ capture , Vignesh Kumaravel, Farah Diana Binti Mohd Daud, Srimala Sreekanthan, University Sains Malaysia, Malaysia The effect of modification of 0.5% Ti on the type of crystallization and selected mechanical properties of High Chromium Cast Iron , D. Siekaniec, D. Kopyciński, AGH University of Science and Technology, Poland Studies on characteristics of titanium cenosphere composite by powder metallurgy route , D. Dutta Majumdar, D. P. Mondal, A. Roy Chowdhury, S. Chauhan, A. K. Jha, J. Dutta Majumdar, Indian Institute of Technology Kharagpur, India	ORAL COMMUNICATIONS (ENGLISH) Structure of Materials Influence of surface layer of hydrated silicon on the stabilization of Co²⁺ cations in Zr-Si fiberglass materials , T. Larina, T. Glazneva, L. Dovlitova, V. Kaichev, E. Paukshitis, B. Balzhinimaev, Boroskov Institute of Catalysis, Russia Nano/microstructure and nanomechanical characteristics of some calcium silicate hydrates / polymers composites , F. Pelisser, P. J. P. Gleize, A. Mikowski, Federal University of Santa Catarina (UFSC), Brazil Surface studies of La doped bismuth iron oxide nano-particles by scanning Kelvin probe system , Hadia Noor, M. Tahir, S. Riaz, S. Naseem, University of the Punjab, Pakistan Ultrasonic impact treatment of fine-and coarse grain commercial purity titanium , R. Hairullin, A. Kozelskaya, A. Panin, M. Kazachenok, National Research Tomsk Polytechnic University, Russia Mechanical properties of pelf-binding board made of pre-treated and steam-exploded hemp (Cannabis Sativa L.) shives , R. Tupciauskas, M. Andzys, J. Rizhikovs, M. Puke, A. Paze, P. Brazdauskas, K. Meile, N. Vederikovs, Latvian State Institute of Wood Chemistry, Latvia	ORAL COMMUNICATIONS (ENGLISH) Materials in industry Guayule natural rubber –a sustainable material for the rubber industry in the 21st century , Golok B.Nando, Indian Institute Of Technology, India The low internal resistance nanocomposite electrodes for high-performance supercapacitors , M.W. Wang, W.T. Hsieh, Oriental Institute of Technology, Taiwan Synthesis and postfunctionalization of poly(etherethersulfone-allyl) copolymers for applications in membrane filtration , Adrien Faye, Josée Brisson, University Laval, Canada The interrelated effects of cast grain structure and intermetallic distribution on fatigue of Al-Cu-Li Alloys , R. Whelchel, M. Revil-Baudard, F. Mas, P. Jarry, J.-C. Ehrström, Constellium Technology Center, France Comparative study on intermetallic compounds at the interface between Pb-free solder and Ni/Pd/Au layer , A. Srisual, KMUTNB, Thailand
11h00-11h45	Coffee-break POSTERS SESSION	Coffee-break POSTERS SESSION	Coffee-break POSTERS SESSION
11h45 – 12h45	ORAL COMMUNICATIONS (ENGLISH) Materials in research Water-based method for fabrication of nanocomposites by covalent bonding between noble metal nanoparticles and polymers , T. Andryszewski, M. Iwan, M. Fialkowski, Polish Academy of Sciences, Poland The improvement of n-type (Bi₂Te₃)_{1-x}(Bi₂Se₃)_x (0.25x≤0.4) alloys' thermoelectric properties by increasing the orientation and optimizing the manufacturing process , Omer Meroz, Ofer Beeri, Yaniv Gelstein, Ben-Gurion University of the Negev, Israel	ORAL COMMUNICATIONS (ENGLISH) Structure of Materials Mechanical properties of air plasma sprayed of partially stabilized Zirconia enhanced with Tungsten Carbide , M. Salimi Jazi, S. Abuali Galedari, F. Azarmi, A. Tangpong, Y. Huang, Z. Lin, North Dakota State University, USA Wear behavior of Ni and Ni-Cr enhanced AC8A composites by low pressure infiltration process , Kelimu Tulugan, HanKi Yoon, WonJo Park, GyeongSang National University, Korea Preparation of hydroxyapatite/chitosan/silk fibroin composites , A. Sionkowska, B. Kaczmarek, M. Michalska, P. Trokowska, Nicolaus Copernicus University, Poland	ORAL COMMUNICATIONS (ENGLISH) Product Manufacturing X-ray spectra study of surface recombination in quantum dots-sensitized solar cells and their reduction , Zhenhua Chen, Hui Li, Yong Wang, Renzhong Tai, Chinese Academy of Sciences, China Shaped Fe₂O₃-Pd magnetic composites as dual modal contrast agents for targeted CT/PAT molecular imaging , Anamaria Orza, Emory University School of Medicine, USA An experimental investigation of non-traditional welding methods for aluminum alloys , Kaan Ozel, Cem Cetinarlan, Trakya University, Turkey



Friday, 17th July 2015

11h00-11h45	Coffee-break POSTERS SESSION	Coffee-break POSTERS SESSION	Coffee-break POSTERS SESSION
11h45 – 12h45	<p>An approach model to study ultra-low resistance source/draincontacts scheme for III-V NMOS. A. Mohamed, D. Nagy, M. A. Elmessary, K. Kalna, Swansea University, United Kingdom</p> <p>Electroless copper deposition using environmentally-friendly natural polyols as Cu(II) ligands. E. Norkus, J. Jačauskienė, K. Prūsinskas, I. Stalioniene, L. Tamašauskaitė Tamašiūnaitė, Dordi Yezdi, Aniruddha Joi, Center for Physical Sciences and Technology, Lithuania</p>	<p>Structural properties of substituted gallium ferrites. Daniela Maria Neacsu, Gisèle Gruener, Emmanuel Veron, Jean-Claude Soret, University François Rabelais, France</p>	
13h00	LUNCH	LUNCH	LUNCH
15h-18h	TOURISTIC VISIT		

Schedule	Main room	Room 1	Room 2
9h00	<p>Plenary talk</p> <p>Low density Polylactide-Polyolefin composites generated through solid state orientation, by PhD N. Scholl, Kimberly-Clark Corporation, USA</p>		
09h45 – 11h00	<p>ORAL COMMUNICATIONS (ENGLISH)</p> <p>Materials in research</p> <p>Risk assessment of reactor containment building construction in nuclear power plant, Dae-Woong Shin, Gnam Yang, Yoonseok Shin, Kyonggi University, Republic of Korea</p> <p>Graphene doped CoFe2O4 nanocomposites for degrading dye in waste water, Lu Gan, Songmin Shang, Chun wah Marcus Yuen, Shou-xiang Jiang, The Hong Kong Polytechnic University, Hong Kong</p> <p>Comparative tribocorrosion resistance in physiological solution of untreated and modified Ti-6Al-4V alloy surface by electrodeposition of hydroxyapatite coatings into nanoporous titania layers, E. Danaila, L. Benea, University of Galati, Romania</p> <p>Effect of magnesium oxide on CaO based sorbent for CO2 capture, Vignesh Kumaravel, Farah Diana Binti Mohd Daud, Srimala Sreekantan, University Sains Malaysia, Malaysia</p> <p>Piezoelectric and ultrasonic investigation of layered ferroelectric crystals of CuInP2P6 family, V. Samulionis, J. Banyš, Yu. Vysotschanskii, Vilnius University, Lithuania</p>	<p>ORAL COMMUNICATIONS (ENGLISH)</p> <p>Process and Product Manufacturing</p> <p>Fabrication of large area acoustic metamaterials utilizing by micro-structured resonators, Sung Ho Lee, Ji Hoon Lee, Jeong Hyeon Lee, Hoon Eui Jeong, Jun-Ho Choi, Moon Kyu Kwak, Kyungpook National University, South Korea</p> <p>Digital pen-based interaction techniques for estimating labor productivity on a construction project, Sangyong Kim, Gwang-Hee Kim, Dae-Won Kim, Hyo-Min Song, Kyonggi University, Republic of Korea</p> <p>Electrochemical synthesis of catalytic and protective coatings on molybdenum substrate for application in catalysis, A. Dubrovskiy, S. Kuznetsov, Kola Science Centre RAS, Russia</p> <p>Oxidation of double-glow plasma NiCoCrAlY coating on γ-TiAl based alloy, X.H. Chen, P.Z. Zhang, D.B. Wei, X.F. Wei, Nanjing University of Aeronautics and Astronautics, China</p> <p>Creation of the composite material Nitinol-Tantalum coating for medical application, E. Marenkova, S. Kuznetsov, Kola Science Centre RAS, Russia</p>	<p>ORAL COMMUNICATIONS (ENGLISH)</p> <p>Structure of Materials</p> <p>Mechanical behaviour of PLA/clay reinforced nanocomposite material using FE simulations: Comparison of an idealized volume against the real electron tomography volumen, P. Jimbert, M. Iurondobetia, R. Fernandez-Martinez, T. Guraya, UPV/EHU, Spain</p> <p>Punching shear strength of reinforced concrete flat plates with steel plate shear reinforcement, E. Jo, M. S. Kim, H. Kim, Y. H. Lee, Kyung Hee University, Korea</p> <p>Wettability of two-level structured metal surfaces, Hie Chan Kang, Kunsan National University, South Korea</p> <p>Numerical analysis of the composite RCC-HMA pavement structures, Sepehr Ghafari, Navrood Construction Company, Iran</p> <p>Strength of multi-bolted single-lap joints with carbon-fibers and glass-fibers reinforced epoxy composites, R. Boukhili, F. Gamdani, A.Vadean, Polytechnique Montreal, Canada</p>
11h00-11h45	<p>Coffee-break POSTERS SESSION</p>	<p>Coffee-break POSTERS SESSION</p>	<p>Coffee-break POSTERS SESSION</p>
11h45 – 12h45	<p>ORAL COMMUNICATIONS (ENGLISH)</p> <p>Structure of materials</p> <p>Altering the microstructure of pearlitic steel using pulsed electric current, B. Elliott-Sowman, A.C. Cook, P. Brown, D. Dye, R.S. Qin, Imperial College London, United Kingdom</p> <p>The growth of protective coating during low- and high-temperature hot dip galvanizing, D. Kopyciński, A. Szczepny, E. Guzik, University of Science and Technology, Poland</p> <p>Quantum chemical studies Glycine max oil as green corrosion inhibitor for mild steel in acidic medium, Jeetendra Bhawsar, P.K. Jain, Preeti Jain, Government Holkar Science College, India</p>	<p>ORAL COMMUNICATIONS (ENGLISH)</p> <p>Materials in research</p> <p>Characterization and corrosion-resistance performance of hybrid Co/UHMWPE composite biocoatings, L. Benea, E. Danaila, I. Bournegru, University of Galati, Romania</p> <p>Influence of salt quantity on recovery yield of heterogeneous aluminum scrap, S. Capuzzi, G. Timelli, L. Capra, L. Romano, University of Padua, Italy</p> <p>Role of Enrichment in ZnTe Thin Films for Solar Cell Applications, Nazar Abbas Shah, COMSATS Institute of Information, Pakistan</p>	



11h45 – 12h45	Preparation and characterization of Nickel Oxy-hydroxide electrodes to urea alkaline electrolyzers for the Hydrogen production , Paulo Duarte, Luiz Rodrigues, Paulo Brito, Polytechnic Institute of Portalegre, Portugal	Investigation of the influence of polyvinyl alcohol and its derivative polyvinyl butyral on the electrophysical properties of compacted protonated potassium , E. Orozaliyev, S. Shevtsov, Yuri Gagarin State Technical University of Saratov, Russia	
13h00-15h00	CLOSING COCKTAIL		

