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Scientific Program

5th World Congress on

Materials Science & Engineering

June 13-15, 2016 Alicante, Spain



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Scientific Program

Day 1 June 13, 2016

08:00-09:00 Registrations

Terra Mitica

conferenceseries.com **09:00-09:25** Opening Ceremony

Keynote Forum

09:25-09:30 Introduction

09:30-09:55 **Title: High temperature solar cell for single facility co-generation of photovoltaic and thermal electricity: A breakthrough approach to affordable solar power**

Dieter M Gruen, Dimerond Technologies LLC, USA

09:55-10:20 **Title: Liquid cell electron microscopy revealed a number of mysteries in molecular mechanism of muscle contraction**

Haruo Sugi, Teikyo University, Japan

Group Photo & Coffee Break @ Laplaza 10:20-10:35

10:35-11:35 Special Session on **The fourth phase of water: Beyond solid, liquid, and vapor**
by: Gerald Pollack, University of Washington, USA

Track 1: Materials Science and Engineering
Track 13: Entrepreneurs Investment Meet

Session Introduction

Session Chair: Maria Pilar de Miguel Ortega, Centre for the Development of Industrial Technology, Spain
Session Co-chair: Oscar Juan Dura, Castilla-La Mancha, Spain

11:35-11:55 **Title: Centre for the development of industrial technology: Funding opportunities for materials industries in Spain**
Maria del Pilar de Miguel Ortega, Centre for the Development of Industrial Technology, Spain

11:55-12:15 **Title: Transport properties on nanostructured oxides: Grain boundary effects**
Oscar Juan Dura, Castilla-La Mancha, Spain

12:15-12:35 **Title: Supercapacitors based in 3D graphene foams**
Jorge Pedros, Technical University of Madrid, Spain

12:35-12:55 **Title: Bioinspired gradient surfaces with controlling of water collection/repellency**
Yongmei Zheng, Beihang University, China

Lunch Break @ Laplaza 12:55-13:40

13:40-14:00 **Title: New advances in antennas for micro- and millimeter wave communications based on emerging materials and reconfigurable structures**
Juan Jose Vegas Olmos, Technical University of Denmark, Denmark

14:00-14:20 **Title: Overview of NFFA-Europe**
Dorian Martin, NFFA-Europe, France

Track 2: Nanomaterials

Session Introduction

Session Chair: Elena Cerro Prada, Technical University of Madrid, Spain
Session Co-chair: Alexander Axelevitch, Holon Institute of Technology, Israel

14:20-14:40 **Title: Synthesis and microstructural characterization of highly active nanocrystalline titania for enhanced photoactivity**
Elena Cerro-Prada, Technical University of Madrid, Spain

14:40-15:00 **Title: Aluminum based nanostructures for biosensing**
Alexander Axelevitch, Holon Institute of Technology, Israel

15:00-15:20 **Title: Optical active plasmonic nanoassemblies for sensory applications**
Nekane Guarrotxena, Spanish National Research Council, Spain

15:20-15:40	**Title:Nanostructure control in tungsten trioxide (WO_3) thin films for improved electochromic properties**
	Pandurang Ashrit, Université de Moncton, Canada
15:40-16:00	**Title: Catalytic decomposition of N_2O over Au/oxides**
	Sónia A C Carabineiro, University of Porto, Portugal
	Coffee Break @ Laplaza 16:00-16:15
16:15-16:35	**Title: Rapid and clean methodology to synthesize alcoholic suspensions of calcium hydroxide nanoparticles**
	Juan Antonio Madrid, National Center of Reference for Chemical VET, Spain
16:35-16:55	**Title: Nanohybrids based on multi-stimuli responsive polymers and inorganic nanoparticles: Design and functional properties**
	Nekane Guarrotxena, Spanish National Research Council, Spain
16:55-17:15	**Title: Synthesis of nanocarbon dots from spicy food and study of their *in-vitro* anticancer potential**
	Nagamalai Vasimalai, International Iberian Nanotechnology Laboratory, Portugal
17:15-17:35	**Title: Nanoconfined reactions in clay nanotubes based on metal salt loading**
	Anna Stavitskaya, I.M.Gubkin Russian State University of Oil and Gas, Russia
17:35-17:50	**Title: Carbon nanotubes doped with metal oxide nanoprticles as new materials for oil removal**
	Ahmad Kayvani Fard, Hamad Bin Khalifa University, Qatar
17:50-18:05	**Title: Development of adsorption treatment by iron oxide nanoparticles and biological degradation in mimetic column for maaged aquifer recharge**
	Soon-Uk Yoon, INHA University, South Korea

Day 2 June 14, 2016	
Terra Mitica	
Keynote Forum	
09:25-09:50	**Title: Consequences of the physical foundation of the exponent 3/2 in pyramidal/ conical (nano) indentations for the mechanical parameters and for daily life**
	Gerd Kaupp, University of Oldenburg, Germany
Track 3: Biomaterials Track 4: Metals and Alloys Track 5: Ceramics, Polymers and Composite Materials	
	Session Introduction
Session Chair: Ignacio Martin Gullon, University of Alicante, Spain	
09:50-10:10	**Title: New technology for toughened and reinforced PLLA with phosphorous glass to form nanocomposites for bioresorbable vascular scaffold applications**
	Xiang Zhang, University of Cambridge, United Kingdom
10:10-10:30	**Title: Delamination resistances improvement of carbon fiber composites with tailored graphene oxide**
	Ignacio Martin Gullon, University of Alicante, Spain
10:30-10:50	**Title: Gas turbine blade tip alloy selection for alloy-247LC**
	Thaddeus Strusinski, Siemens Energy USA North Carolina Winston-Salem Service Center, USA
	Coffee Break @ Laplaza 10:50-11:05
11:05-11:25	**Title: CIMBNC- Combination and interactions of three kinds of nanoclays structural modifiers, for the colored bio-nanocomposites optimization**
	Bàrnbara Micó Vicent, University of Alicante, Spain
11:25-11:45	**Title: Rheological analysis of micro-structured adhesives derived from castor oil conjugates**
	Harshal D Santan, Universidad de Huelva, Spain
11:45-12:05	**Title: Thermo Optical Switching of Paraffin wax hosting carbon fillers**
	Abeer Salah, Cairo University, Egypt
12:05-12:25	**Title: Plasma electrolytic oxidaNanoarchitectures in designing polymer sensors**
	Deepalekshmi Ponnamma, Qatar University, Qatar

12:25-12:45	**Title: To develop a biocompatible and biodegradable polymer-metal composite with good mechanical and drug release properties**
	Murtaza Najabat Ali1, National University of Sciences and Technology, Pakistan
	Lunch Break @ Laplaza 12:45-13:30
	Poster Presentations @ Terra Mitica 13:30:14:00
MSC-01	**Title: A new biomaterial in the subsystem nurse´s A-phase-silcocarnotite**
	Piedad N De Aza, Universidad Miguel Hernández, Spain
MSC-02	**Title: Influence of hydroxyapatite granule size, porosity and crystallinity on tissue reaction, *in vivo* characterization of the materials and *in vivo* SEM analysis**
	Maria Piedad Ramírez Fernández, Universidad Católica San Antonio de Murcia, Spain
MSC-03	**Title: Post polymerization functionalization of soluable poly(2,5-dithienylpyrrole)s**
	Pinar Camurlu, Akdeniz University, Turkey
MSC-04	**Title: Effect of curing temperature on sol-gel formed glass coatings containing hBN nanoparticles**
	Hasan Erdem Çamurlu, Akdeniz University, Turkey
MSC-05	**Title: Three dimensional PEDOT nanowires by electrochemical polymerization**
	Antonio García Barberá, University of Valencia, Spain
MSC-06	**Title: Refined parameters for cations and anions in aqueous solution for atomistic force fields**
	Tariq Jamil, University of Colorado Boulder, USA
MSC-07	**Title: Adsorption of graphene oxide onto synthetic fibers**
	Ivan Plaza, University of Granada, Spain
MSC-08	**Title: Polyamide fibers coated with chlorhexidine**
	Miguel López, University of Granada, Spain
MSC-09	**Title: Poly(acrylic acid)/Polyethylene glycol hygrogel prepared by using gamma-ray irradiation for mucosa adhesion**
	Deok-Won Lee, Kyung Hee University, Korea
MSC-10	**Title: Efficient adsorbent for immobilization of caesium on contaminated areas**
	Aleksey Vasiliev, East Tennessee State University, USA
	Track 3: Biomaterials Track 4: Metals and Alloys Track 5: Ceramics, Polymers and Composite Materials
14:00-14:15	**Title: The potential of ceramic particles in coatings with improved scratch and wear resistance**
	Caterina Lesaint Rusu, Norwegian University of Science and Technology, Norway
14:15-14:30	**Title: Plasma electrolytic oxidation of AA 7075 with silver sub micrometric powder: A new biocide and corrosion protective coating for aluminum alloys**
	Pietrogiovanni Cerchier, University of Padova, Italy
14:30-14:45	**Title: *In vitro* and *in vivo* studies of dextran-based materials for peripheral nerve regeneration**
	Catarina Pinho, University of Coimbra, Portugal
14:45-15:00	**Title: An investigation into the performance of metal coated additively manufactured polymer lattice structures**
	Muhammad Farhan Khan, University of Derby, UK
15:00-15:15	**Title: Mechanical performance of novel thin ply thermoplastic composites**
	Somen K Bhudolia, Nanyang Technological University, Singapore
	Track 6: Electronic, Photonic and Magnetic Materials Track 8: Materials Science in Building and Construction Engineering Track 9: Advanced Energy Materials
	Session Introduction
	Session Chair: David A Jackson, University of Kent, UK **Session Co-chair: María Teresa Pérez Prior,** Universidad Carlos III de Madrid, Spain
15:15-15:35	**Title: Multichannel fibre laser Doppler vibrometer studies of hypervelocity impacts**
	David A Jackson, University of Kent, UK

15:35-15:55	**Title: Synthesis and characterization of DABCO-functionalized polysulfones as anion-exchange membranes for fuel cells applications**
	María Teresa Pérez Prior, Universidad Carlos III de Madrid, Spain
	Coffee Break @ Laplaza 15:55-16:10
16:10-16:30	**Title: New developments in polybinary modulation for bandwidth limited channels**
	J J Vegas Olmos, Technical University of Denmark, Denmark
16:30-16:50	**Title: Advanced materials oriented to an improved energy efficiency in buildings**
	Estibaliz Aranzabe, IK4-Tekniker, Spain
16:50-17:10	**Title: Hybrid multi-material optical fibers**
	Fabien Sorin, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland
17:10-17:25	**Title: Investigation of regularities of photoluminescence centers formation in Fe^{2+} doped CVD-ZnSe by the two-photon confocal microscopy method**
	N A Timofeeva, Russian Academy of Sciences, Russia
17:25-17:40	**Title: Conducting polymers as an alternative for classical thermoelectric materials**
	Mario Culebras Rubio, University of Valencia, Spain
	Poster Presentations @ Terra Mitica 17:40-18:10
MSC-11	**Title: Synthesis and characterization of nanoparticles III-V semiconductor core/shell (InP/ZnS)**
	Jose Eladio Flores Mena, Instituto Politécnico Nacional, México
MSC-12	**Title: Synthesis and characterization of chemical-bath deposition CdPbxS1-x nanofilms**
	Jose Eladio Flores Mena, Instituto Politécnico Nacional, México
MSC-13	**Title: Synthesis, functionalization and antimicrobial activity of a near-IR photoactive gold multibranched tags**
	Lyutakov Oleksiy, Institute of Chemical Technology, Czech Republic
MSC-14	**Title: Light-activated antibacterial nanofibers**
	Elashnikov Roman, University of Chemistry and Technology, Czech Republic
MSC-15	**Title: Platform for smart SERS sensors based on surface-modified metal plasmonic thin films**
	Guselnikova Olga, University of Chemistry and Technology, Czech Republic
MSC-16	**Title: Metal grating coupling with different nanoparticles for highly intensified SERS response**
	Kalachyova Yevgeniy, University of Chemistry and Technology, Czech Republic
MSC-17	**Title: Surface modification processes of modern bioresorbable polymers towards to the desired surface properties applying in the tissue engineering**
	Kristina Bastekova, UTC Prague, Czech Republic
MSC-18	**Title: Stability of aged ethylene norbornene copolymers used for medical devices**
	Wowro Sonia Rosine Lago, Univ Paris-Sud, France
MSC-19	**Title: Plasma generated nitrogen functionalities on polymeric bone implants for upregulating osteogenesis**
	Wei Zhang, The Chinese Academy of Sciences, China
MSC-20	**Title: Optical response materials design and synthesis: Sensor, LCD color filter, chromic and others**
	Young-A Son, Chungnam National University, South Korea

Day 3 June 15, 2016
Terra Mitica
Track 7: Materials Chemistry Track 10: Materials and Environmental Effects Track 11: Advanced Materials and Tools Track 12: Materials in Industry
Session Introduction
Session Chair: Josep Vives, Proquimia S.A., Spain **Session Co-chair: Hanumantha Rao Kota,** Norwegian University of Science and Technology, Norway

10:00-10:20	**Title: The times are changing. New surface treatments based on nanoceramics coatings**
	Josep Vives, Proquimia S.A. Vic, Spain
10:20-10:40	**Title: Implications in sulphide mineral processing with new insights into metal sulphides oxidation during grinding by H_2O_2 generation**
	Hanumantha Rao Kota, Norwegian University of Science and Technology, Norway
10:40-11:00	**Title: Plasmonics for plasmon-enhanced single-molecule spectroscopy**
	Yuko S Yamamoto, Kagawa University, Japan
	Coffee Break @ Laplaza 11:00-11:15
11:15-11:35	**Title: Probing optical, phonon, thermal and defect properties of 3C-SiC/Si (001)**
	Devki N Talwar, Indiana University of Pennsylvania, USA
11:35-11:55	**Title: Preparation of polyamide microspheres with tunable morphology and size for use in SLS processing**
	Gexia Wang, The Chinese Academy of Sciences, China
11:55-12:15	**Title: Breathe2Seat – New methodologies for assessing comfort and moisture management in automotive seats**
	Anabela Carvalho, Centre for Nanotechnology and Smart Materials, Portugal
12:05-12:20	**Title: Mechanism of molecular interaction of superplasticizer oligomers with hydrated cement phases**
	Tariq Jamil, University of Colorado Boulder, USA
12:20-12:35	**Title: Effect of the composition and production process parameters on the microstructure, residual stresses, mechanical and corrosion properties of gold alloys used in industrial processes**
	C Cason, University of Padua, Italy
12:35-12:50	**Title: Corrosion and wear resistance of PEO coatings containing graphite nanoparticles produced on magnesium alloys**
	L Pezzato1, University of Padua, Italy
12:50-13:05	**Title: Elucidating the mechanisms of ultrafiltration for wastewater treatment in the presence of surface active molecules and aggregates**
	Aybike Nil Olcay, Izmir Institute of Technology, Turkey
	Panel Discussion
	Award Ceremony
	Lunch Break @ Laplaza 13:05-13:50

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7th World Congress on

Materials Science & Engineering

May 8-10, 2017 Berlin, Germany

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