Materials Congress 2017

9th World Congress on

Materials Science and Engineering

June 12-14, 2017 Rome, Italy

Tentative Program	
Day 1 June 12, 2017 @ Olimpica 1	
07:00-07:30	**Registrations**
07:30-08:00	**Opening Ceremony**
Keynote Forum	
	Introduction
	Robert Huber, Nobel Laureate, Chemistry 1988
	Nanogenerators for self-powered systems and Piezotronics for artificial intelligence
	Zhong Lin Wang, Georgia Institute of Technology, USA
	Coffee Break and Group Photo @ Foyer
Session 1	**Track 1: Materials Science and Engineering** **Track 10: Metals, Metallurgy and Materials**
Chair	**Yet to be decided**
Co-Chair	**Yet to be decided**
	Title: Building up smart optical "organic-inorganic" nanosystems
	Nekane Guarrotxena, Spanish National Research Council (CSIC), Spain
	Title: Materials for advanced ultra-super critical power plants
	Augusto Di Gianfrancesco, Consultant, Rome Area, Italy
	Title: Helical light induced chiral surface relief in azo-polymer thin film
	Takashige Omatsu, Chiba University, Japan
	Title: Quasiparticle approach to study the kinetics of self-assembly in complex material
	Helena Zapolsky, University of Normandy, France
	Title: Proposed link between the periodic table and the standard model
	John Roberts, University of Liverpool, UK
	Title: Fine-controlled subano-metal particles in a dendrimer reactor
	Kimihisa Yamamoto, Tokyo Institute of Technology, Japan
	Title: Structure and dynamics of polymer materials at the single molecule scale studied by novel fluorescence microscopy techniques
	Hiroyuki Aoki, Japan Atomic Energy Agency, Japan

	Title: Development of highly stretchable conductive fiber and fiber-based electronic sensors for textile electronics
	Taeyoon Lee, Yonsei University, Republic of Korea
	Title: Finite-element analysis of velocity mode transition of crack propagation in rubber materials
	Atsushi Kubo, University of Tokyo, Japan
	Title: Light driven directional mass transport of azo-benzene containing materials for complex tri-dimensional structures on surfaces
	Stefano L. Oscurato, University of Naples Federico II, Italy
	Title: Enhancing the photocatalytic activity for pollutant degradation and H2 evolution by modifying ZrO2 with nanoclusters of BiVO3, Ag3PO4, SrTiO3 and WO3: A first-principles study
	Francis Opoku, University of Johannesburg, South Africa
	Lunch Break @ Hotel Restaurant
Session 2	**Track 2: Nanomaterials**
Chair	**Yet to be decided**
Co-Chair	**Yet to be decided**
	Title: Si nanopowder for internal hydrogen generation materials
	Hikaru Kobayashi, Osaka University, Japan
	Title: N-doped carbon-based nanofibers as oxygen reduction reaction catalysts
	Marzia Quaglio, Italian Institute of Technology, Italy
	Title: Controlled synthesis of vertical and planar graphenes using plasma-enhanced chemical vapor deposition
	Mineo Hiramatsu, Meijo University, Japan
	Title: Rational clustering and fractionation of "SERS hot-spot" plasmonic nanoparticles
	Nekane Guarrotxena, Spanish National Research Council (CSIC), Spain
	Title: The nanophotonic behaviors of wideband diluted magnetic semiconductor nanostructures
	Bing Suo, Beijing institute of Technology, China
	Title: Noble metal nanostructures
	Sarmiza Elena Stanca, Leibniz Institute of Photonic Technology, Germany
	Title: Fabrication and Characterization of Carbon Nanotube – RecycledPolyethylene Terephthalate Nanocomposites
	Ravindra Reddy Chowreddy, Norner AS, Norway
	Title: Adatom's Berry phase as a classification toolkit and as the responsible for enhanced lifetimes of degenerated ground states
	Marta Prada, University of Hamburg, Germany
	Coffee Break @ Foyer

	Title: Synthesis and characterization of titanium carbide nanofibers using a modified carbothermal reduction process
	Kanchan Mondal, Southern Illinois University, USA
	Title: Photoelectron spectra of GexSb20Se80-x Glasses
	Li Wang, Beijing University of Technology, China
	Title: Nanocellulose based flexible, environment-friendly nonvolatile resistive switching memory
	Kazuki Nagashima, IMCE Kyushu University, Japan
	Title: 2D material fluid nanocomposites for reconfigurable integrated optoelectronics and Si photonics
	Anna Baldycheva, University of Exeter, UK
	Title: Fabrication of nanoporous graphene membranes for nanofiltration applications
	Marco Laurenti, Politecnico di Torino, Italy
	Title: Supporting titanium on silica, graphene, epoxy graphene and carbon nanotubes: A first-principles study
	Penny Govender, University of Johannesburg, South Africa
	Title: The fate, behaviour and effect of WO3 nanoparticles on the functionality of an aerobic treatment unit
	Sandile Simelane, University of Johannesburg, South Africa
	Title: Flexible synthesis of anatase TiO2 nanocrystallines for dye-sensitized solar cells applied at regular sunlight and room light conditions
	Yu-Ling Guo, National Cheng Kung University, Taiwan
Day 2 June 13, 2017 @ Olimpica 1	
Keynote Forum	
	An approximate smiclassical method that uses real valued trajectories for time dependent tunneling calculations
	Michael F. Herman, Tulane University, USA
	Implementation of new magnesium sheets into application from laboratory to service
	Karl Ulrich Kainer, Helmholtz-Zentrum Geesthacht, Germany
	Towards the growth of 3D forests of carbon nanotubes: Selective height control using reservoirs and overlayers
	Gilbert Daniel Nessim, Bar Ilan University, Israel
Session 1	**Track 3:Biomaterials and Medical Devices** **Track 4:Polymer Science and Technology** **Track 5:Ceramics and Composite Materials**
Chair	**Yet to be decided**
Co-Chair	**Yet to be decided**

	Title: New development and applications of polyurethane materials
	Bing Lu, Wanhua Chemical Group Co. Ltd., China
	Title: Specific Polymers – Alkoxysilane and phosphonic acid functional groups to improve compatibility between inorganic surfaces and polymers
	Cedric Lobart, Specific Polymers, France
	Title: Improving separation of polymers by size-exclusion and liquid chromatography on the background of the theoretical model
	Miloš Netopilík, Academy of Sciences of the Czech Republic,Czech Republic
	Special Session on *"Physics versus non-physical ISO/NIST standards in nano, micro and the numerous macro-techniques are detrimental for daily life: what can be done? "* **By Gerd Kaupp, University of Oldenburg, German**
	Coffee Break @ Foyer
	Title: Sticky degradable bioelastomers
	Richard Vendamme, Flemish Institute for Technological research, Belgium
	Title: Fabrication of Co-Cr alloys for biomedical applications by implementing rapid solidification
	Julio Juarez Islas, Instituto de Investigaciones en Materiales, Mexico
	Title: An enzymatic-based process for the extraction of fibers from diss stems with for composites reinforcement
	Antonio Zuorro, Sapienza" University of Rome, Italy
	Title: Flexible and soft bioelectronics for the biotic/abiotic interface
	Damia Mawad, University of New South Wales, Australia
	Title: Strategies for enhancing interfacial adhesion between chicken feather filler and thermoplastic matrices in biocompositess
	Jorge Macanás de Benito, UniversitatPolitècnica de Catalunya, Spain
	Lunch Break @ Hotel Restaurant
	Title: Geometry and size dependent structural reversibility of sub-micrometer polymer structures
	Hong Yee Low, Singapore University of Technology and Design,Singapore
	Title: Perlite metal syntactic foam (PMSF) in impact engineering
	Thomas Fiedler, University of Newcastle, Australia
	Title: Melt infiltration casting of alumina, silicon carbide and boron carbide reinforced aluminium matrix composites
	Ali Kalkanli, Middle East Technical Univeristy, Turkey
	Title: Biomaterial surface modification to control inflammation: Effect of nanotopography and surface chemistry on protein adsorption and cell response
	Rahul Madathiparambil Visalakshan, University of South Australia, Australia

Session 2	Track 11: Mechanics, Characterization Techniques and Equipment's
Chair	**Yet to be decided**
	Title: A high resolution, multi-purpose scanning I/Q-interferometer scheme for material diagnostics
	Kyuman Cho, Sogang University, South Korea
	Title: Coupling diffusion and mechanics modeling for hydrogen embrittlement (HE)
	Olga Barrera, University of Oxford, UK
	Title: Effects of plasticity and pressure on the morphology and propagation of blisters: formation of croissant and donut-like buckles
	Jérôme Colin, University of Poitiers, France
	Title: Computational investigation of the kneading process of bread dough
	Natalie German, Technical University of Munich, Germany
	Coffee Break @ Foyer
	Title: Materials Characterization by X Ray Diffraction Techniques
	Aitor Larrañaga Varga, University of the Basque Country, Spain
	Title: Internal stress and friction measurements during MoS2-nickel electrodeposition
	Ebru Saraloglu Güler, Baskent University, Turkey
	Title: *In-situ* measurement for ablation geometry during impinging of plume with laser triangulation method
	Juhwan Lim, Agency for Defense Development, South Korea
	Poster Presentations on Day 2 (June 13, 2017) @ Foyer
	Title: Optoelectronic studies on hybrid perovskites films for solar cells applications
	Mauricio Solis de la Fuente, Lawrence Berkeley National Laboratory, USA
	Title: Valorization of feather wastes as useful and environmental friendly materials
	Marta Casadesús, Universitat Politècnica de Catalunya, Spain
	Title: Manufacturing of gasket sheet using paper manufacturing process without organic solvent
	Yoonjong Yoo, Korea Institute of Energy Research, Republic of Korea
	Title: Visible light driven photo-active nano Ag-TiO2 for coating applications
	Jia Liang Cheng, Temasek Polytechnic, Singapore
	Title: Preparation of leucite from analcime by ion exchange process: An experimental study
	Qianqian Chang, China University of Geosciences, China
	Title: Preparation and luminescent properties of orange reddish emitting phosphor KCaBi(PO4)2:Sm3+
	Mi Ruiyu, China University of Geosciences, China

	Title: Synthesis of nano-analcime with potassic hornblende syenite by direct alkali-hydrothermal treatment
	Yuxiang Qi, China University of Geosciences, China
	Title: Angle-insensitive multicolor display device based on phase change materials
	Hongkai Ji, University of Science and Technology, China
	Title: Gate-tunable Schottky junction solar cells with light transparent and electric-field permeable graphene mesh on n-Si
	Won Il Park, Hanyang University, South Korea
	Title: Characterization and stability of TiO2 nanoparticles in industrial dye stuff effluent
	Langelihle Nsikayezwe Dlamini, University of Johannesburg, South Africa
	Title: Effect of binder on adsorption of cesium on silica gel containing embedded phosphotungstic acid
	Aleksey Vasiliev, East Tennessee State University, USA
	Title: A highly efficient photoanode for enhancing degradation of the azo dye and electricity generation of dual-photoelectrode photocatalytic fuel cell
	He Yun, City University of Hong Kong, China
	Title: Preparation of zeolite for slow-release fertilizer using K-feldspar powder
	Jiangyan Yuan, China University of Geosciences, China
	Title: Raman microspectroscopy in dental research
	Tomasz Buchwald, Poznan University of Technology, Poland
	Title: Inverse gas chromatography - A novel method for the examination of bond strength between tooth hard tissues and restorative materials
	Zuzanna Okulus, Poznan University of Technology, Poland
	Title: Study on deposition rate and microstructure of niobium coating prepared by CVD from niobium pentafluoride
	Mingmin Zheng, State Power Investment Corporation Science and Technology Research Institute, China
	Title: Effect of reduced graphene oxide on the mechanical, thermal and electrical properties of epoxy
	Ahmed Alzahrany, University of Sheffield, United Kingdom
	Title: Solar cell: Photochemical cells based on dye sensitization of titanium dioxide and with indium tin oxide as a conductor
	Ari A Mohammed, University of Zakho, Iraq
	Title: Preparation and properties of protective coating on inner surface of nickel-based alloy tube
	Yanhong Liu, State Power Investment Corporation Science and Technology Research Institute, China

Day 3 June 14, 2017 @ Olimpica 1	
Session 1	**Track 6: Electronic, Optical and Magnetic Materials**
Chair	**Yet to be decided**
Co-Chair	**Yet to be decided**
	Title: Electrical spin injection and detection in molybdenum disulfide multilayer channel
	Henri Jaffres, Unité Mixte de Physique CNRS, France
	Title: Siloxane photopolymers for PCR microfluidics
	Alessandra Vitale, Politecnico di Torino, Italy
	Title: Microscopic background in metal-insulator criterion for doped Mott-Hubbard materials
	Vladimir A Gavrichkov, Kirensky Institute of Physics, Russia
	Title: An electromagnetic-thermal model for heating patterns prediction of microwave treated palm to contrast the Red Palm Weevil
	Rita Massa, University Naples Federico II, Italy
	Title: Study on chemical reaction under microwave irradiation
	Satoshi Fujii, Tokyo Institute of Technology, Japan
	Title: Rational design of organic electrode materials: New advances and tools
	Christine Frayret, Université de Picardie Jules Verne, France
	Coffee Break @ Foyer
	Title: L10-FePt based systems for ultra high-density magnetic recording
	Gaspare Varvaro, ISM-CNR, Italy
	Title: Photoluminescent crystalline magnetic materials based on trivalent lanthanide ions and polycyanidometallates
	Szymon Chorazy, Jagiellonian University, Poland
	Title: Rare-metal-free high-performance Ga-Sn-O thin film transistor
	Tokiyoshi Matsuda, Ryukoku University, Japan
	Title: Nanocrystalline cellulose from abaca fibers
	Annivar Ryan, DOST-FPRDI, Philiphines
	Title: Ferroelectricity and magnetism in the organic charge transfer salts κ-(ET)2X
	Luca Fausto Tocchio, Politecnico di Torino, Italy
	Title: Intrinsic charge transport in stanene: Role of buckling and electron-phonon coupling
	Yuma Nakamura, Tsinghua University, China
	Lunch Break @ Hotel Restaurant

	Title: Single particle spectroscopic studies on two-photon photoluminescence of plasmon coupled gold nanotriangle dimers
	Monalisa Garai, National University of Singapore, Singapore
	Title: Fiber networks modified with graphene for durable and versatile flexible electronics
	Pietro Cataldi, Italian Institute of Technology, Italy
Session 2	**Track 7: Emerging Smart Materials** **Track 8: Materials for Energy and Environmental Sustainability**
Chair	**Yet to be decided**
Co-Chair	**Yet to be decided**
	Title: Materials research in energy and power for defense
	Tsvetanka Zheleva, US Army Research Lab, USA
	Title: A new perspective for analyzing experimental tests on biomaterials
	Antonina Pirrotta, University of Palermo, Italy
	Title: Solar cells efficiency enhancement by plasmons generation
	Alexander Axelevitch, Holon Institute of Technology, Israel
	Title: Sustainable solutions for industrial waste minimization: Environmental and Material Applications
	Shivani Bhardwaj Mishra,University of South Africa, South Africa
	Title: Multi-scale deformation analysis in a thermoplastic polyurethane
	Alexander M Korsunsky, University of Oxford, UK
	Coffee Break @ Foyer
	Title: Screen printable molecular copper ink for printed electronics
	Bhavana Deore, National Research Council, Canada
	Title: Relation between nanoscale structures and transport phenomena in materials of polymer electrolyte fuel cell
	Takashi Tokumasu, Tohoku University, Japan
	Title: Highly dispersed zinc based sorbents for hot gas desulphurization: Synthesis and application
	David Lokhat, University of KwaZulu-Natal, South Africa
	Title: CO2 adsorption equilibria on calcium exchanged bentonite modified by mono-, di- and triethanolamines
	Ali Elkhalifah, Al-Neelain University, Sudan
	Title: Structural features and functions of ZIF crystals made via a reaction diffusion process at room temperature
	Mohamad Hmadeh, American University of Beirut, Lebanon
	Title: High performance rubber concrete
	Samaneh Pourmohammadimojaveri, Western Sydney University, Australia

	Title: Mechanical and thermal properties of propylene glycol extended and paper waste sludge modified polyurethane foams
	Agne Kairytė, Vilnius Gediminas Technical University, Lithuania
	Title: Influence of grain size on super elasticity and actuation properties of Cu-Al-Mn shape memory alloys
	Nazim Babacan, Ghazi University, Turkey
	Award Ceremony

Welcome Message



It is my pleasure to invite colleagues from academia and business, young researchers and students from all parts of the world to attend the 9th World Congress on Materials Science and Engineering to be held at Roma, Italy on June 12 to 14, 2017.

The past century has seen revolutionary discoveries in biology, physics, chemistry, and material science. The pace of growth in knowledge seems to have gained momentum even more quite recently.
We learned to make use of a very wide spectrum of electromagnetic radiation and of particles, electrons and neutrons, to visualize biological and inorganic objects in their finest details and their dynamic properties with the help of novel materials and instruments and by developing new methods. Many of these have found practical utilization in technology and medicine and have revolutionized these fields for the benefit of mankind.

The Meeting will gather a multi-disciplinary group of scientists and engineers to present their latest findings, exchange ideas, and so pave the way for further discoveries, which most often happen where disciplines and specialists meet.
Apart from presenting and listening to great science, the location of the event in Roma, the capital of Italy, offers an unforgettable visit of the 'Eternal City' and the 'Capital of the World'.
Do not miss it!

Yours sincerely
Robert Huber

Prof. Robert Huber
Max-Planck-Institut für Biochemie
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