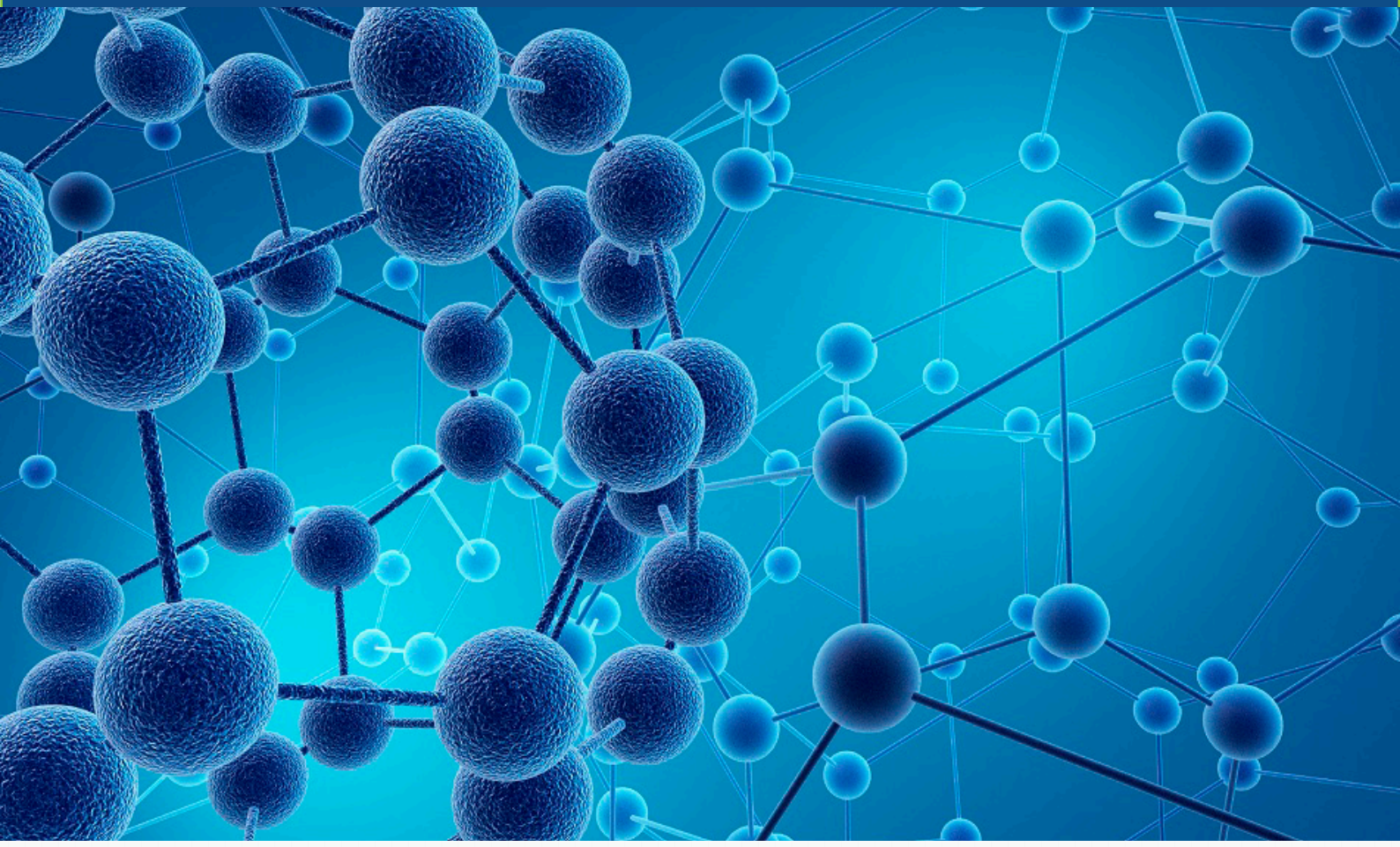
# Tentative Program

20th International Conference on

# Advanced Energy Materials and Research

August 13-14 2018 Dublin, Ireland



Interactive Sessions | Keynote Lectures | Plenary Lectures | Workshops

Exhibitors | B2B Meetings

## ***For available speaker slots***

advancedenergymaterials@materialsconferences.org

20th International Conference on

# Advanced Energy Materials and Research

August 13-14 2018 Dublin, Ireland

**Program at a Glance**

## Day 1

| | | | |
|---|---|---|---|
| Morning Sessions | Reception/Registration | 08.00-09.00 | |
| | | Time | General Session |
| | Least of 3 Keynote/Plenary Talks | 09.00-09.15 | Inaugural Address |
| | | 09.15-09.45 | Keynote/Plenary Talk 1 |
| | | 09.45-10.15 | Keynote/Plenary Talk 2 |
| | | 10.15-10.45 | Keynote/Plenary Talk 3 |
| | Panel Discussions/Group Photo | | |
| | Coffee/Tea Break 10.45-11.00 (Networking) | | |
| | 11.00-12.40 | Advanced Energy Materials & Advanced Graphene Materials | |
| Evening Sessions | | | |
| | Lunch Break 12.40-13.30 | | |
| | 13.30-15.30 | Hydrogen Energy & Solar Energy Materials | |
| | | | |
| | Coffee/Tea Break 15.30-15.45 (Networking) | | |
| | 15.45-17.25 | Workshop | |

## Day 2

| | | | |
|---|---|---|---|
| Morning Sessions | Time | Session 1 | Session 2 |
| | 09.00-10.40 | Keynote Forum | |
| | | | |
| | Coffee/Tea Break 10.40-10.55 (Networking) | | |
| | 10.55-12.35 | Advanced Nanomaterials | Nanotechnology and Energy Materials |
| | | | |
| Evening Sessions | Lunch Break 12.35-13.25 | | |
| | 13.25-15.05 | Energy Harvesting Materials & Materials Applications | Superconducting Materials & Mining, Metallurgy & Materials Science |
| | | | |
| | Coffee/Tea Break 15.05-15.20 (Networking) | | |
| | 15.20-17.00 | Polymer Energy Materials | Batteries and Energy Materials |

**NOTE: Program Schedule is subject to change with final allotment of the speaker slots**

**For more Details PS: http://energymaterials.materialsconferences.com/**

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# Conference Highlights

- Advanced Energy Materials
- Hydrogen Energy
- Advanced Nanomaterials
- Solar Energy Materials
- Advanced Graphene Materials
- Nanotechnology and Energy Materials
- Energy Harvesting Materials
- Superconducting Materials
- Polymer Energy Materials
- Batteries and Energy Materials
- Materials Applications
- Mining, Metallurgy & Materials Science

**For detailed sessions, please visit:** http://energymaterials.materialsconferences.com/

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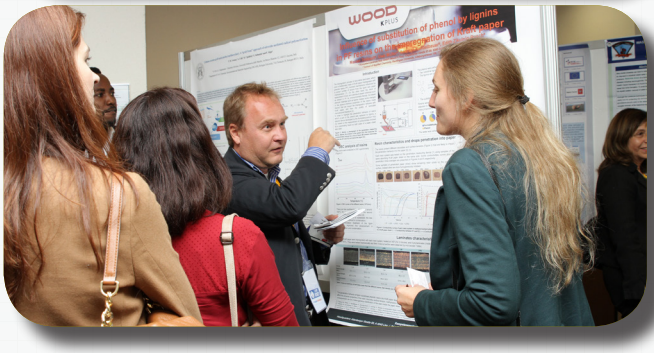
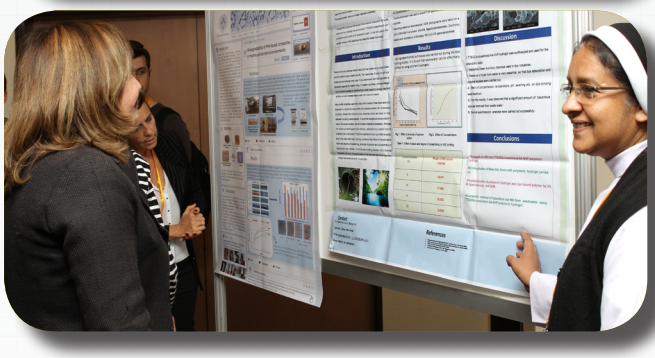
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# Glimpses of Adcanced Energy Materials Conferences

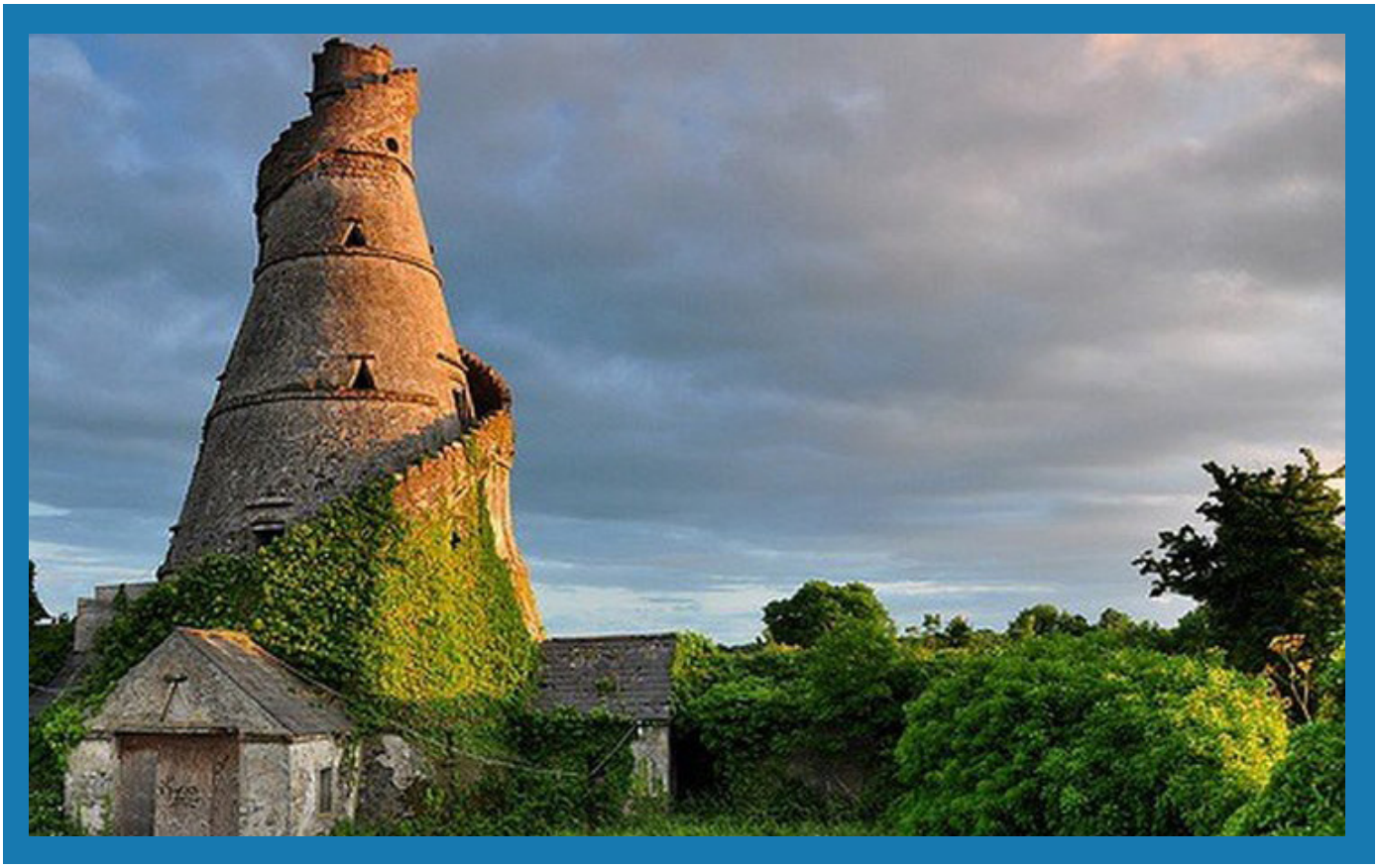




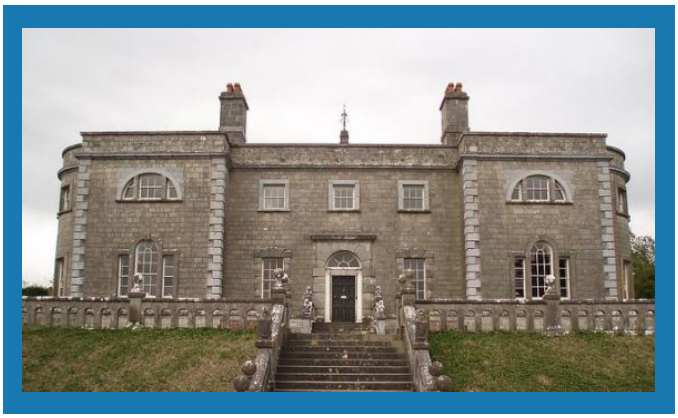






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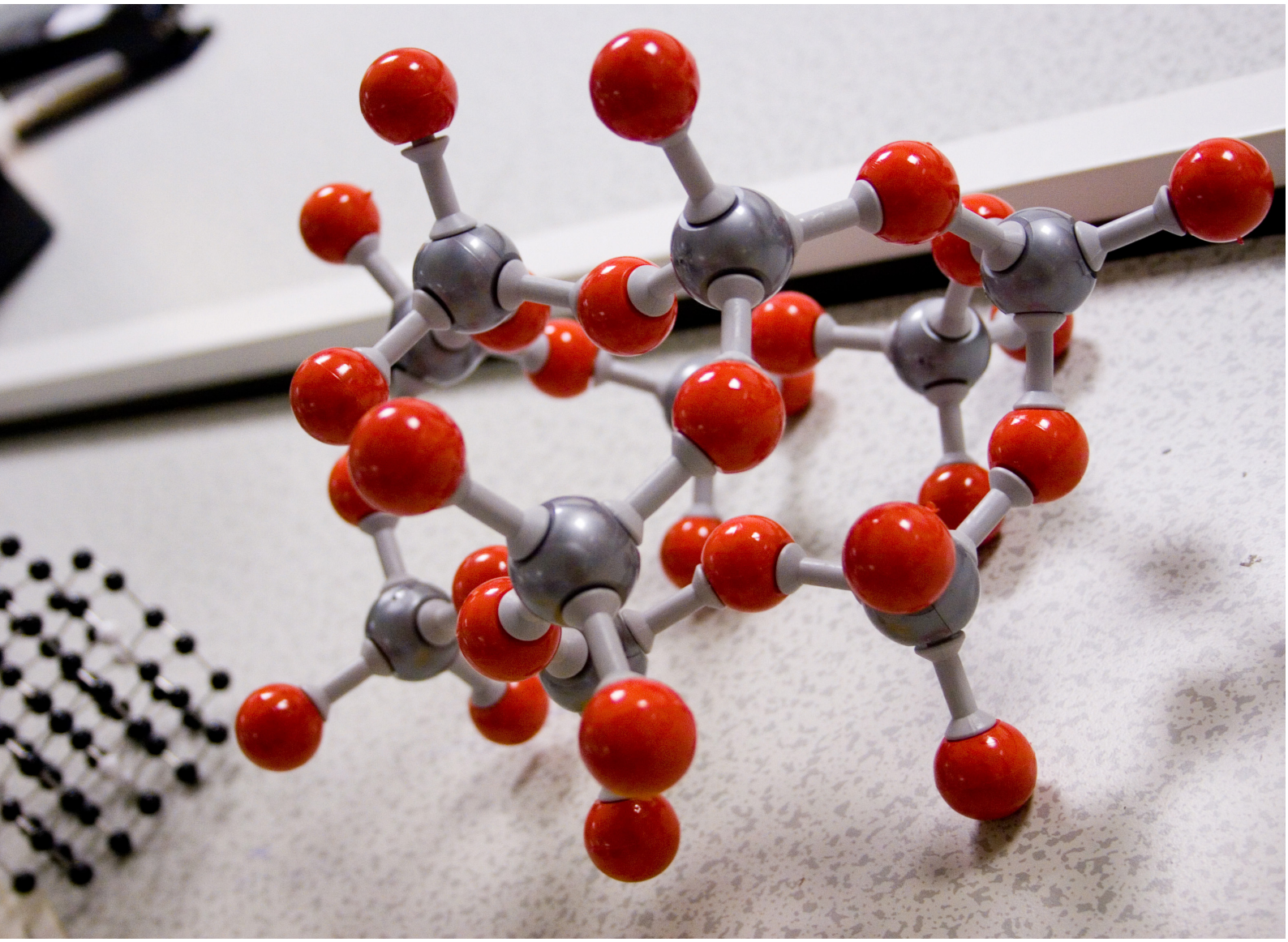
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Registrations

## Olimpica 1

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# Opening Ceremony

## Keynote Forum

**Introduction**

**New ways of vision: Protein structures in translational medicine and business development - My experience**
**Robert Huber,** Nobel Laureate, Chemistry 1988

**Nanogenerators for self-powered systems and piezotronics for artificial intelligence**
**Zhong Lin Wang,** Georgia Institute of Technology, USA

**Sessions: Materials Science and Engineering | Metals, Metallurgy and Materials**

**Session Chair: Nekane Guarrotxena,** Spanish National Research Council (CSIC), Spain
**Session Co-Chair: Augusto Di Gianfrancesco,** Consultant, Rome Area, Italy

**Session Introduction**

**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

**Networking & Refreshments Break**

**Title: Helical light induced chiral surface relief in azo-polymer thin film**
**Takashige Omatsu,** Chiba University, Japan

**Title: Multi-scale deformation analysis in a thermoplastic polyurethane**
**Alexander M Korsunsky,** University of Oxford, UK

**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

**Lunch Break**

**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 $H_2$ evolution by modifying $ZrO_2$ with nanoclusters of $BiVO_3$, $Ag_3PO_4$, $SrTiO_3$ and $WO_3$: A first-principles study**
**Francis Opoku,** University of Johannesburg, South Africa

**Sessions: Nanomaterials**

**Session Chair: Hikaru Kobayashi,** Osaka University, Japan
**Session Co-Chair: Marzia Quaglio,** Italian Institute of Technology, Italy

**Session Introduction**

**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

**Networking & Refreshments Break**

**Title: The nanophotonic behaviors of wideband diluted magnetic semiconductor nanostructures**
**Bing Suo,** Beijing institute of Technology, China
**Title: Fabrication of nanoporous graphene membranes for nanofiltration applications**
**Marco Laurenti,** Politecnico di Torino, Italy
**Title: Noble metal nanostructures**
**Sarmiza Elena Stanca,** Leibniz Institute of Photonic Technology, Germany
**Title: Fabrication and characterization of carbon nanotube–recycled polyethylene terephthalate nanocomposites**
**Ravindra Reddy Chowreddy,** Norner AS, Norway
**Title: Adatom's Berry phase as a classification toolkit and responsible for enhanced lifetimes of degenerated ground states**
**Marta Prada,** University of Hamburg, Germany
**Title: Nanostructured $Mn_xO_y$ as catalyst for oxygen reduction reaction**
**Angelica Chiodoni,** Italian Institute of Technology, Italy

**Panel Discussion**

## Day 2 June 13, 2017

## Olimpica 1

## Keynote Forum

**An approximate semi-classical 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

**Sessions: Nanomaterials | Mechanics, Characterization Techniques and Equipments**

**Session Chair: Kyuman Cho,** Sogang University, South Korea
**Session Co-Chair: Olga Barrera,** University of Oxford, UK

**Session Introduction**

**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**

**Networking & Refreshments Break**

**Title: 2D material fluid nanocomposites for reconfigurable integrated optoelectronics and Si photonics**
**Anna Baldycheva,** University of Exeter, UK
**Title: Supporting titanium on silica, graphene, epoxy graphene and carbon nanotubes: A first-principles study**
**Penny Govender,** University of Johannesburg, South Africa
**Title: Nanostructure Layered Double Hydroxides (LDH): synthesis, characterization and possible applications**
**Maria Richetta,** University of Rome "Tor Vergata", Italy
**Title: Nanocrystalline cellulose from abaca fibers**
**Anniver Ryan P. Lapuz,** Forest Products Research and Development Institute, Philippines
**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

**Lunch Break**

**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: Rational design of organic electrode materials: New advances and tools**
**Christine Frayret,** Université de Picardie Jules Verne, France
**Title: Computational investigation of the kneading process of bread dough**
**Natalie German,** Technical University of Munich, Germany
**Title: Materials characterization by X ray diffraction techniques**
**Aitor Larrañaga Varga,** University of the Basque Country, Spain
**Title: Internal stress and friction measurements during $MoS_2$-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

**Networking & Refreshments Break**

**Title: Chemically bonded aramid-MWCNTs nano-composites: Morphology and thermal-mechanical properties**
**Zahoor Ahmad,** Kuwait University, Kuwait
**Title: The fate, behaviour and effect of $WO_3$ nanoparticles on the functionality of an aerobic treatment unit**
**Sandile Simelane,** University of Johannesburg, South Africa
**Title: Flexible synthesis of anatase $TiO_2$ nanocrystallines for dye-sensitized solar cells applied at regular sunlight and room light conditions**
**Yu-Ling Guo,** National Cheng Kung University, Taiwan
**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
**Title: Mechanical and thermal properties of propylene glycol extended and paper waste sludge modified polyurethane foams**
**Agne Kairytė,** Vilnius Gediminas Technical University, Lithuania

**Break-out Session Day 2 @ Olimpica 3**

**Sessions: Biomaterials and Medical Devices | Polymer Science and Technology | Ceramics and Composite Materials**

**Session Chair: Bing Lu,** Wanhua Chemical Group Co. Ltd., China
**Session Co-Chair: Loubat Cédric,** Specific Polymers, France

**Session Introduction**

**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**
**Loubat Cédric,** 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
**Title: Sticky degradable bioelastomers**
**Richard Vendamme,** Flemish Institute for Technological research, Belgium

**Special Session on:**

**Title: Physics versus non-physical ISO/NIST standards in nano, micro and the numerous macro-techniques are detrimental for daily life: what can be done?**
**Gerd Kaupp,** University of Oldenburg, German

**Lunch Break**

**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
**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

**Networking & Refreshments Break**

**Title: Synthesis and characterization of titanium carbide nanofibers using a modified carbothermal reduction process**
**Kanchan Mondal,** Southern Illinois University, USA
**Title: Highly dispersed zinc based sorbents for hot gas desulphurization: Synthesis and application**
**David Lokhat,** University of KwaZulu-Natal, South Africa
**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
**Title: High performance rubber concrete**
**Samaneh Pourmohammadimojaveri,** Western Sydney University, Australia
**Title: Investigation of the microstructure and oxidation properties of NbB2-SiC-GNP composites**
**Burak Cagri Ocak,** Istanbul Technical University, Turkey

**Poster Presentations (Session 1)**

| | |
|---|---|
| **MSE01** | **Title: Optoelectronic studies on hybrid perovskites films for solar cells applications**<br>**Mauricio Solis de la Fuente,** Lawrence Berkeley National Laboratory, USA |
| **MSE02** | **Title: Valorization of feather wastes as useful and environmental friendly materials**<br>**Marta Casadesús,** Universitat Politècnica de Catalunya, Spain |

| | |
|---|---|
| MSE03 | **Title: Manufacturing of gasket sheet using paper manufacturing process without organic solvent**<br>**Yoonjong Yoo**, Korea Institute of Energy Research, Republic of Korea |
| MSE04 | **Title: Visible light driven photo-active nano Ag-$TiO_2$ for coating applications**<br>**Jia Liang Cheng, Temasek Polytechnic, Singapore** |
| MSE05 | **Title: Preparation of leucite from analcime by ion exchange process: An experimental study**<br>**Qianqian Chang**, China University of Geosciences, China |
| MSE06 | **Title: Preparation and luminescent properties of orange reddish emitting phosphor $KCaBi(PO_4)_2:Sm^{3+}$**<br>**Mi Ruiyu**, China University of Geosciences, China |
| MSE07 | **Title: Synthesis of nano-analcime with potassic hornblende syenite by direct alkali-hydrothermal treatment**<br>**Yuxiang Qi**, China University of Geosciences, China |
| MSE08 | **Title: Angle-insensitive multicolor display device based on phase change materials**<br>**Hongkai Ji**, University of Science and Technology, China |
| MSE09 | **Title: Gate-tunable Schottky junction solar cells with light transparent and electric-field permeable graphene mesh on n-Si**<br>**Won Il Park**, Hanyang University, South Korea |
| MSE10 | **Title: Characterization and stability of $TiO_2$ nanoparticles in industrial dye stuff effluent**<br>**Langelihle Nsikayezwe Dlamini**, University of Johannesburg, South Africa |
| | **Poster Presentations (Session 2)** |
| MSE11 | **Title: Effect of binder on adsorption of cesium on silica gel containing embedded phosphotungstic acid**<br>**Aleksey Vasiliev**, East Tennessee State University, USA |
| MSE12 | **Title: A highly efficient photoanode for enhancing degradation of the azo dye and electricity generation of dual-photoelectrode photocatalytic fuel cell**<br>**He Yun**, City University of Hong Kong, China |
| MSE13 | **Title: Preparation of zeolite for slow-release fertilizer using K-feldspar powder**<br>**Jiangyan Yuan**, China University of Geosciences, China |
| MSE14 | **Title: Raman microspectroscopy in dental research**<br>**Tomasz Buchwald**, Poznan University of Technology, Poland |
| MSE15 | **Title: Inverse gas chromatography - A novel method for the examination of bond strength between tooth hard tissues and restorative materials**<br>**Zuzanna Okulus**, Poznan University of Technology, Poland |
| MSE16 | **Title: Study on deposition rate and microstructure of niobium coating prepared by CVD from niobium pentafluoride**<br>**Mingmin Zheng**, State Power Investment Corporation Science and Technology Research Institute, China |
| MSE17 | **Title: Effect of reduced graphene oxide on the mechanical, thermal and electrical properties of epoxy**<br>**Ahmed Alzahrany**, University of Sheffield, United Kingdom |
| MSE18 | **Title: Solar cell: Photochemical cells based on dye sensitization of titanium dioxide and with indium tin oxide as a conductor**<br>**Ari A Mohammed**, University of Zakho, Iraq |
| MSE19 | **Title: Preparation and properties of protective coating on inner surface of nickel-based alloy tube**<br>**Yanhong Liu**, State Power Investment Corporation Science and Technology Research Institute, China |

MSE20 **Title: Specific Polymers – Alkoxysilane and phosphonic acid functional groups to improve compatibility between inorganic surfaces and polymers**
**Loubat Cédric,** Specific Polymers, France

MSE21 **Title: Response of S-phase to rapid annealing**
**Yana Liang,** University of Birmingham, UK

**Panel Discussion**

## Day 3 June 14, 2017

## Olimpica 1

**Sessions: Electronic, Optical and Magnetic Materials**

**Session Chair: Henri Jaffres,** Unité Mixte de Physique CNRS, France
**Session Co-Chair: Alessandra Vitale,** Politecnico di Torino, Italy

**Session Introduction**

**Title: Electrical spin injection and detection in molybdenum disulfide multilayer channel**
**Henri Jaffres,** Unité Mixte de Physique CNRS, France
**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: $L1_0$-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

**Networking & Refreshments Break**

**Title: Rare-metal-free supermagnet $L1_0$-type FeNi ordered alloy**
**Masato Kotsugi,** Tokyo University of Science, Japan
**Title: Rare-metal-free high-performance Ga-Sn-O thin film transistor**
**Tokiyoshi Matsuda,** Ryukoku University, Japan
**Title: Ferroelectricity and magnetism in the organic charge transfer salts k-$(ET)_2X$**
**Luca Fausto Tocchio,** Politecnico di Torino, Italy
**Title: Materials by design for thermodynamically stable electrides**
**Mina Yoon,** University of Tennessee, USA
**Title: Intrinsic charge transport in stanene: Role of buckling and electron-phonon coupling**
**Yuma Nakamura,** Tsinghua University, China

**Lunch Break**

**Sessions: Emerging Smart Materials | Materials for Energy and Environmental Sustainability**

**Session Chair: Tsvetanka Zheleva,** US Army Research Lab, USA
**Session Co-Chair: Antonina Pirrotta,** University of Palermo, Italy

**Session Introduction**

**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: Quasiparticle approach to study the kinetics of self-assembly in complex material**
**Helena Zapolsky**, University of Normandy, France
**Title: Screen printable molecular copper ink for printed electronics**
**Bhavana Deore**, National Research Council, Canada

**Networking & Refreshments Break**

**Title: Relation between nanoscale structures and transport phenomena in materials of polymer electrolyte fuel cell**
**Takashi Tokumasu**, Tohoku University, Japan
**Title: Siloxane photopolymers for PCR microfluidics**
**Alessandra Vitale**, Politecnico di Torino, Italy
**Title: The quantum Hall effect, the theta angle, instantons and all that**
**Adrianus M M Pruisken**, University of Amsterdam, Netherlands
**Title: $CO_2$ 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: Influence of grain size on super elasticity and actuation properties of Cu-Al-Mn shape memory alloys**
**Nazim Babacan**, Ghazi University, Turkey

**Panel Discussion**

**Award Ceremony**

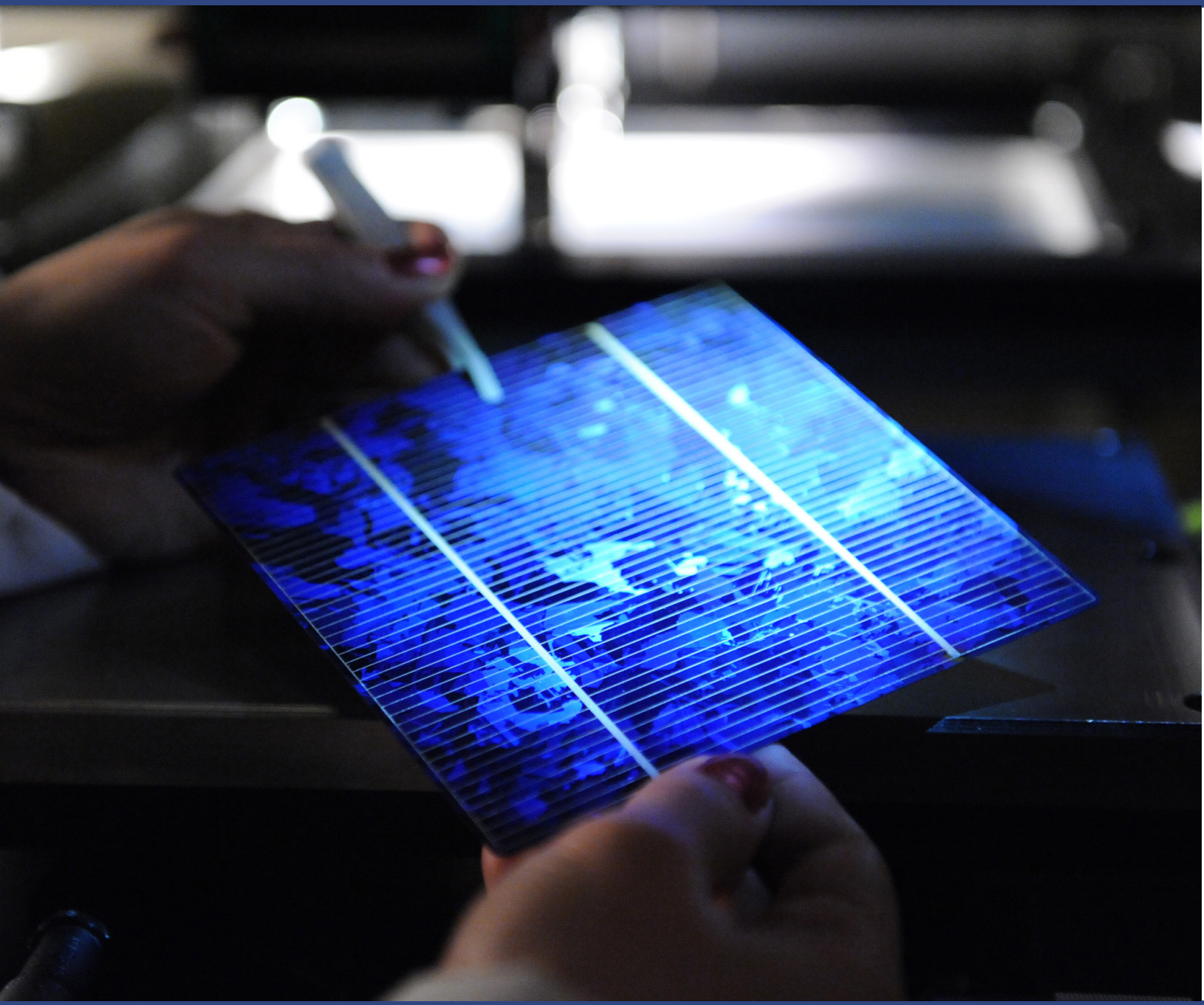
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# Opening Ceremony

## Keynote Forum

**Introduction**

**Title: Investigating materials formation with liquid-phase TEM**
**Jim De Yoreo**, University of Washington, USA

**Title: ISO-standards 14577 violate the first energy law: Can we further live with that?**
**Gerd Kaupp**, University of Oldenburg, Germany

**Title: New concept of bioresorbable polymer-based ceramic hybrids for cardiovascular stent applications**
**Xiang Zhang**, University of Cambridge, UK

**Title: Graphene flake and graphene quantum dot-receptor sensor for detecting nerve agents**
**Hyoyoung lee**, Sungkyunkwan University, Republic of Korea

**Coffee Break**

**Sessions:**
**Materials Science and Engineering | Materials in Industry**

**Session Chair: Hyoyoung lee**, Sungkyunkwan University, Republic of Korea
**Session Co-Chair: Nekane Guarrotxena**, Spanish National Research Council, Spain

**Session Introduction**

**Title: Smart functional nanoscale-hybrid materials: Surface modification and applications**
**Nekane Guarrotxena**, Spanish National Research Council, Spain
**Title: Ductile behavior of hard MoBC and WBC nanolaminated coatings**
**Petr Vasina**, Masaryk University, Czech Republic
**Title: Dynamics of single ions and molecules at the surface of solids in solution**
**Kislon Voitchovsky**, Durham University, UK
**Title: Design and evaluation of new ligands with highly extractability and selectivity for palladium from secondary raw material**
**Emad Mowafy**, University of Hail , Saudi Arabia
**Title: Evaluating mechanical properties of complex material structures from a new combination of calotte grinding and indentation tests**
**Nick Bierwisch**, Saxonian Institute of Surface Mechanics, Germany
**Title: Optimizing electrical conductivity and optical transparency of IZO thin film deposited by radio frequency (RF) magnetron sputtering**
**Lei Zhang**, Winston Salem State University, USA
**Title: Fabrication, optical and thermal properties of glass and crystalline rare-earth aluminates**
**Vijaya Kumar**, University of Mysore, India
**Title: Effect of process parameters and post heat treatment in the development of microalloyed HSLA tubes for torsional applications**
**Thendralarasu Udhayakumar**, Tube Investments of India Ltd, India

**Lunch Break**

**Title: Effect of process parameters and post heat treatment in the development of microalloyed HSLA tubes for torsional applications**
**Elakkiya Mani,** Tube Investments of India Ltd, India
**Title: Graphite based minimum quantity dry lubrication at drilling CFRP**
**Robert Beckenlechner,** University of Stuttgart, Germany
**Title: Insights into linear supramolecular polymer formation via TPE and BODIPY containing host-guest interaction**
**Chinmayananda Gouda,** National Chiao Tung University, Taiwan

**Sessions:**
**Nanomaterials | Biomaterials and Healthcare**

**Session Chair: Nikolay Ledentsov,** VI Systems GmbH, Germany
**Session Co-Chair: Yongmei Zheng,** Beihang University, China

**Session Introduction**

**Title: Recent progress in epitaxial quantum dots for lasers and light emitting diodes**
**Nikolay Ledentsov,** VI Systems GmbH, Germany
**Title: Functional metal-ceramic nanocomposites based on tubule clay**
**Yuri Lvov,** Louisiana Tech University, USA
**Title: Characterization of nanosuspension using pulsed field gradient nuclear magnetic resonance**
**Haruhisa Kato,** National Institute of Advanced Industral Science and Technology, Japan

**Coffee Break**

**Title: Engineering optical Raman active nanoassemblies for nanosensor purposes**
**Nekane Guarrotxena,** Spanish National Research Council, Spain
**Title: Mechanical and topographical characterization of biomaterials, cells and tissues by enhanced atomic force microscopy**
**Jörg Barner,** JPK Instruments AG, Germany
**Title: Soft thermal nanoimprint lithography**
**Mark Schvartzman,** Ben-Gurion University of the Negev, Israel
**Title: Bioinspired gradient surfaces with controlling of dynamic wettability**
**Yongmei Zheng,** Beihang University, China
**Title: EHDA technology utilizing different bio-structure**
**Rita Haj Ahmad,** De Montfort University, UK
**Title: Electrochemical and biosynthesis of Nano-Photocatalytic materials and its applications in photovoltaic, anti-bacterial, anti-cancer and in preparation of polymer composites**
**Sannaiah Ananda,** University of Mysore, India
**Title: Synthesis and characterization of single-crystal bismuth telluride nanowires**
**Ming Yau Chern,** National Taiwan University, Taiwan
**Title: Iriartea deltoidea & Socratea exhorriza: Sustainable production alternatives for integrated Biosystems, first stage - bioconstruction.**
**Lina Fernanda Mojica Sánchez,** CIAM-UNIMETA, Colombia
**Title: On-demand release of paclitaxel and 5-flourouracil using thermoresponsive poly(NIPAAm-co-HMAAm)/ polyurethane partnered with alternating magnetic field induced hyperthermia on non-vascular nitinol stent**
**Ludwig Erik Aguilar,** Chonbuk National University, South Korea
**Title: Reversible and irreversible self-folding behavior of water responsive poly (vinyl alcohol) films**
**Amrita Rath,** Indian Institute of Technology Madras, India
**Title: Doxorubicin conjugated $Fe_3O_4$-GQD nanoparticle for magnetically targeted and ph responsive drug delivery vehicle: a two way targeted approach**
**Ankan Dutta Chowdhury,** National Chiao Tung University, Taiwan

**Panel Discussion**

## Keynote Forum

**Title: Hybrid photovoltaic-piezoelectric flexible device for energy harvesting from nature**

**Elias Siores,** University of Bolton, UK

**Title: The decomposition of the solution during the formation of eutectic composites**

**Alex guskov,** Institute of Solid State Physics of RAS, Russia

**Title: Designing topological states by pressure, strain and functionalization**

**Udo Schwingenschloegl,** King Abdullah University of Science & Technology,Saudi Arabia

**Title: Graphene/h-BN heterostructures based field effect transistors employing chemical vapor deposition grown h-BN as a dielectric layer**

**Dae Joon Kang,** Sungkyunkwan University, Republic of Korea

**Sessions:**
**Materials Chemistry | Materials Physics | Energy Materials**

**Session Chair: Claude Delmas,** University of Bordeaux, France
**Session Co-Chair: Zhiqiang Gao,** National University of Singapore, Singapore

**Session Introduction**

**Title: Solid state electrochemistry: A tool for synthesis and characterization of solids**
**Claude Delmas,** University of Bordeaux, France
**Title: Chemical effects on metals friction at the nanometer scale**
**Arnaud Caron,** KoreaTech, Republic of Korea
**Title: Graphene oxide supported layered double hydroxide hybrids: Synthesis and applications**
**Mohamed Mokhtar Mohamed Mostafa,** King Abdulaziz University, Saudi Arabia

**Coffee Break**

**Title: Approaches to reduce material consumptions in photovoltaics**
**Martha Ch. Lux-Steiner,** Helmholtz-Zentrum Berlin, Germany
**Title: Imaging electrons motion in semiconductor materials**
**Michael K L Man,** Okinawa Institute of Science and Technology Graduate University, Japan
**Title: Neutron scattering investigations of hydrogen storage in porous materials**
**Margarita Russina,** Helmholtz Centre Berlin for Material and Energy Research, Germany
**Title: Development of novel organic radical batteries**
**Shinichi Nakatsuji,** University of Hyogo, Japan
**Title: A dual-carbon phase modified and nanostructured nickel sulfide anode for sodium-ion batteries**
**Zhiqiang Gao,** National University of Singapore, Singapore
**Title: Hierarchical conducting polymers micro/nanostructures and their electrochemical energy conversion**
**Ying Zhu,** Beihang University, China
**Title: Environmental benign graphene quantum dots embedded halloysite nanotubes as high performance supercapacitor electrode material**
**Akhilesh Babu Ganganboina,** National Tsing Hua University, Taiwan

**Lunch Break**

**Sessions:**
**Metallurgy and Materials Science | Advanced Materials and Devices | Characterization and Testing of Materials**

**Session Chair: Mikhail Lebyodkin,** CNRS, France
**Session Co-Chair: Mihaela Albu,** Graz Centre of Electron Microscopy, Austria

**Session Introduction**

**Title: Development of solar grade silicon refining via metallurgical route: Thermodynamic properties of silicon based alloys**
**Kazuki Morita,** The University of Tokyo, Japan
**Title:Controlling microstructure via thermal science analysis during resistance spot welding**
**Peng-Sheng Wei,** National Sun Yat-Sen University, Taiwan
**Title: Light-induced superconductivity in an organic mott insulator induced by light-driven carrier doping**
**Masayuki Suda,** Institute for Molecular Science, Japan
**Title: Large tunnel magnetocapacitance in magnetic tunnel junctions**
**Hideo Kaiju,** Hokkaido University, Japan
**Title: Crack-closing of superelastic NiTi SMA short fibers in mortar beams**
**Eunsoo Choi,** Hongik University, Korea
**Title: Correlated versus random behavior of dislocations in jerky flow of Al-Mg alloys**
**Mikhail Lebyodkin,** CNRS, France
**Title: The development of smart materials for medical applications using laser scanning micrometry**
**Daniel Melling,** University of Dundee, UK
**Title: Quantum contact mechanics for holistic material optimization**
**Norbert Schwarzer,** Saxonian Institute of Surface Mechanics, Germany

## Coffee Break

**Title: Magnetic characterization of the phase transformations during synthesis of the $FeWO_4$ nanoparticles using $WS_2$ nanotubess**
**Gregory Leitus,** Weizmann Institue of Science, Israel
**Title: Advanced alloys and steels microstructure characterization by analytical high resolution scanning transmission electron microscopy**
**Mihaela Albu,** Graz Centre of Electron Microscopy, Austria
**Title: Evaluation of liquid tin corrosion on austenitic steels as well as nickel-based alloys and first tests on possible protective surface layers at high temperature**
**Thomas Emmerich,** Karlsruher Institute of Technology, Germany

## Workshop

**Title: Correlative and *in-situ* Materials Characterization**
**Said Mansour,** Hamad Bin Khalifa University, Qatar
**Mathias O. Mosig,** Protochips, USA
**Philipp Wachsmuth,** JEOL, Germany

## Session Introduction

**Title: Optimization of sustainable cutting conditions in turning carbon steel by CNC turning machine**
**Haider M. Mohammad Albu-Swelim,** University of Basrah, Iraq
**Title: Enhancement the mechanical properties of aluminum casting alloys (A356) by adding nanorods structures from zinc oxide**
**Zaid S Qassim,** University of Basrah, Iraq
**Title: Prediction of hardness, yield strength, and tensile strength for single roll melt spinning of 5083 Al-alloy ribbons**
**Ahmad Kadhim Jassim Al-Dawod,** University of Basrah, Iraq
**Title: Comprehensive study of chemical synthesis and dielectric parameters of holmium substituted yttrium iron garnets (HoxY3-xFe5O12, x=0.1, 0.3, 0.6, 0.9, 1.2, 1.5) prepared by conventional ceramic method**
**Kausar Javed Khan,** Lahore College for Women University, Pakistan
**Title: Water content dependent mechanical properties of biopolymer thin films: A molecular dynamics study**
**Santhosh Mathesan,** IIT Madras, India

## Poster Presentations on Day 2

**MSC-01**

**Title: Predictive wear modelling - The ultimate simulation tool for optimum tribo coatings**
**Nick Bierwisch,** Saxonian Institute of Surface Mechanics, Germany

**MSC-02**

**Title: Synthesis and characterization of conductive polymer hydrogels and the investigation of their application as biosensor hybrid for catechol detection**
**Ezer Castillo,** Adelphi University, USA

| | |
|---|---|
| MSC-03 | **Title:Dynamic response of a modified water tank exposed to concentrated solar energy**<br>**Mohammed H. Alhamdo,** University of AlMustansirya, Iraq |
| MSC-04 | **Title: Experimental study of the thermal behavior of heated natural composite material**<br>**Qasim Saleh Mahdi,** AL-Mustansiryah University, Iraq |
| MSC-05 | **Title: Engineering of multi-functional composite nano-particles to address anti-microbial resistance using EHDA particle technology**<br>**Suleman Ramzan,** De Montfort University, UK |
| MSC-06 | **Title: Rare earth Chalcogels NaLnSnS4 (Ln= Y, Gd, Tb) for Selective Adsorption of Volatile Hydrocarbons and Gases**<br>**Fatimah Edhaim,** King Abdullah University of Science & Technology, SA |
| MSC-07 | **Title: On the friction and wear on-set of fcc metals by atomic force microscopy**<br>**Hui-Eun Ko,** KoreaTech, Republic of Korea |

**Panel Discussions**

**End Of Day 2**

**Closing Ceremony**

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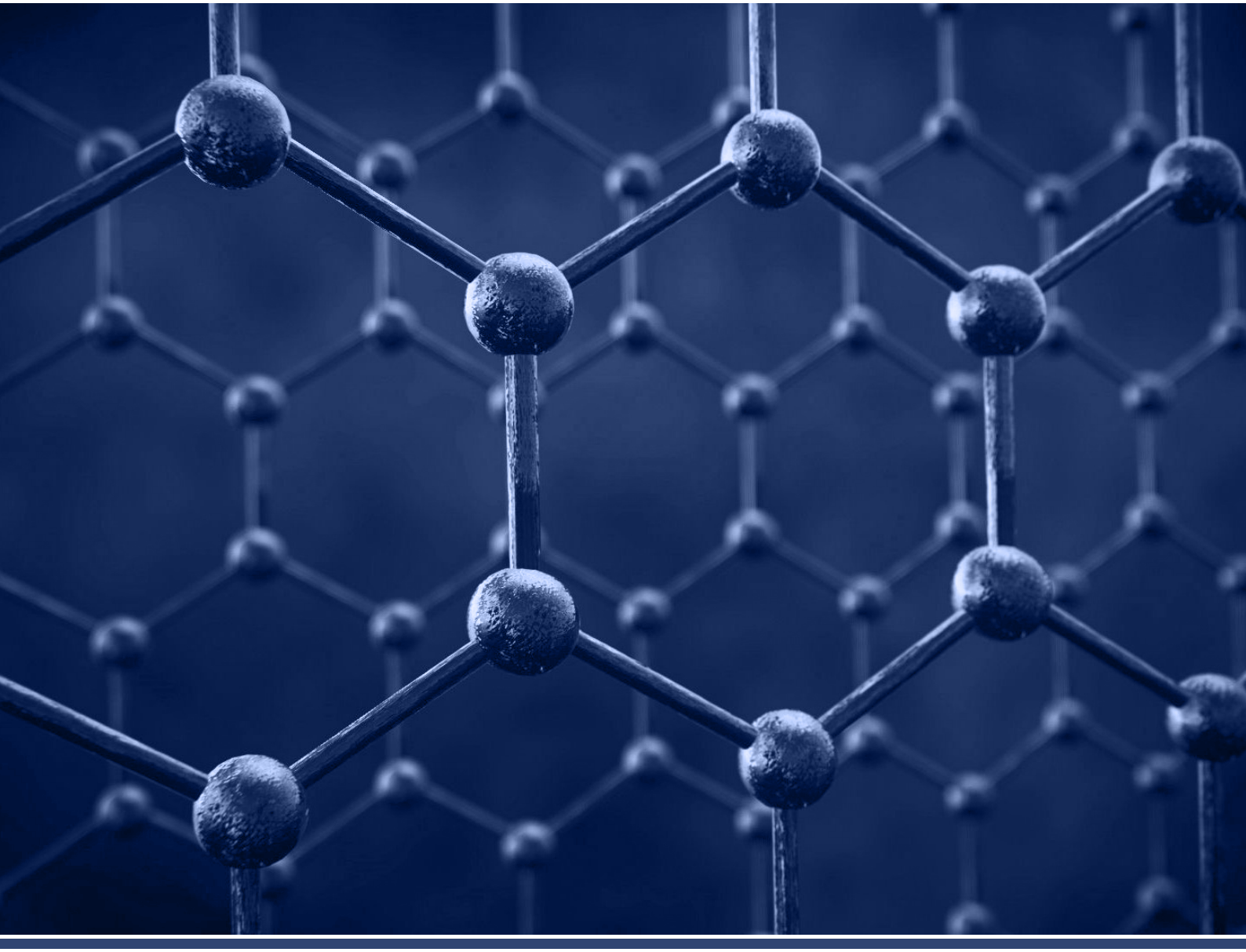
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## Day 1 September 07, 2017

Registrations

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# Opening Ceremony

## Keynote Forum

**Introduction**

**Title: Direct recording of myosin head power and recovery strokes in hydrated myosin filaments provides evidence against the swinging lever arm mechanism in muscle contraction**

**Haru Sugi**, Teikyo University Medical School, Japan

**Title: The skeleton microporous materials with coatings inside the pores for medical and dental applications**

**Leszek Adam Dobrzanski**, World Academy of Materials and Manufacturing Engineering, Poland

**Title: Single wall and multiwall $WS_2$ nanotubes synthesis and characterization - the update**

**Alla Zak**, Holon Institute of Technology, Israel

**Networking and Refreshments Break**

**Sessions: Advancement in Nanomaterials Science And Nanotechnology | Coatings and Surface Engineering | Functional Materials**

**Session Chair: Hideo Miura**, Tohoku University, Japan

**Session Introduction**

**Title: Evaluation of atomic scale damages of advanced materials based on the order of atom arrangement**

**Hideo Miura**, Tohoku University, Japan

**Title: Thermokinetic modeling and simulation of complex phase transformations in the framework of advanced functional materials**

**Erwin Povoden-Karadeniz**, Institute of Materials Science and Technology, Austria

**Title: Evaluation of sputtered PZT thin films on Ti-substrates upon re-crystallization with a thin Pb-overcoat**

**Ankita ghatak**, S.N.Bose National Centre For Basic Sciences, India

**Title: Modification of ground state property on size reduction to 1D**

**Barnali Ghosh (Saha)**, S.N.Bose National Centre For Basic Sciences, India

**Title: Towards conductive textiles: coating polymeric fibres with graphene**

**Ana neves**, University of Exeter, UK

**Title: Functionalization of cocoa shell (CS) surfaces using nanoparticles and their application in $CO_2$ storage**

**Julien vieillard**, University of Rouen Normandie, France

**Lunch Break**

**Session Chair: Manfred Martin**, RWTH Aachen University, Germany

**Title: Low friction, wear resistant quasicrystalline coatings**
**Jean marie dubois,** Université de Lorraine, France
**Title: Hafnium and palladium modified aluminide coatings**
**Jolanta Romanowska,** Rzeszów University of Technology, Poland
**Title: Resistive switching in highly disordered thin oxide films**
**Manfred Martin,** RWTH Aachen University, Germany
**Title: $TiO_2$ nanotubes as potential vascular stents: Effect of oxygen plasma treatment on crystal structure and surface properties**
**Metka bencina,** Jožef Stefan Institute, Slovenia
**Title: Particle size versus energetics of nanomaterials: Key parameters controlling the stability and reactivity of nanostructured materials**
**Speranta Tanasescu,** Institute of Physical Chemistry Ilie Murgulescu of the Romanian Academy, Romania
**Title: Formation of carbon-based nanostructures from carbon suboxide decomposition at high pressure and temperature – a ReaxFF study**
**Xavier bidault,** Commissariat Energie Atomique, France
**Title: Starch capped silver nanoparticles as colorimetric sensor for hydrogen peroxide recognition in aqueous medium**
**Abdelaziz Elgamouz,** University of Sharjah, UAE

**Networking and Refreshments Break**

**Sessions: Advanced Biomaterials, Bio devices & Tissue Engineering | Advanced Ceramics and Composite Materials**

**Session Chair: Garcia Garcia Francisco,** University of Edinburgh, Scotland

**Title: Design of nanostructured powders and mechanical properties of WC-AISI 304 stainless steel composites**
**Ana senos,** University of Aveiro, Portugal
**Title: Thermal characterization of a thermoplastic resin for resin transfer molding in process conditions: Demonstrating of the feasibility of the technology**
**Bailleul Jean-Luc,** Laboratoire de Thermocinétique de Nantes, France
**Title: Thermoelectric oxides processed by a laser floating zone technique**
**Nuno M. Ferreira,** University of Aveiro, Portugal
**Title: LIPSS stimulate stem mesenchymal cells differentiation to osteoblasts in titanium and tantalium**
**Alberto Jorge Mora,** Universidad de Santiago de Compostela, Spain
**Title: Biological cell inspired reactors for an increasing population world**
**Garcia Garcia Francisco,** University of Edinburgh, Scotland
**Title: Synthesis of Nano $CaCO_3$ and Hydroxyapatite by Sol-Gel methods, on spores and in 3D-printed $Ca^{2+}$-crosslinked PVA hydrogels and their use in bone regeneration**
**Paul Sermon,** Brunel University, UK

**Breakout @ Edradour**

**Sessions: Materials Processing and characterization | Materials for Energy application& Energy storage**

**Session Chair: Alexandre Maitre,** University of Limoges, France

**Title: Atomic layer deposition routes to monolithic integration of crystalline oxides on semiconductors**
**John Ekerdt,** Univerisity of Texas at Austin, USA
**Title: Tailoring compatibility in ultrapermeable polymer blends to switch off plasticization and physical ageing**
**Lau Sam,** University of Edinburgh, Scotland
**Title: Mechanism of spark plasma sintering of high temperature ceramics such as carbides**
**Alexandre Maitre,** University of Limoges, France
**Title: Testing methodologies for thermo-mechanical fatigue evaluation in advanced aerospace materials**
**Mark Whittaker,** Swansea University, UK
**Title: Characterization of energy materials by neutron scattering**
**Martin Jones owen,** Science and technology facilities council, UK
**Title: Permanent magnets in energy applications for the clean environment**
**Spomenka Kobe,** Jožef Stefan Institute, Slovenia

**Lunch Break**

**Sessions: Advanced Materials Engineering | Materials Science and Engineering | Emerging Areas of Materials Science**

**Session Chair: Masumi Saka,** Tohoku University, Japan

**Title: Interaction of nanoparticles with amino acids and a physiologically important model protein studied by spectroscopic techniques**
**Karolína M. Šišková,** Palacký University in Olomouc, Czech Republic
**Title: Kovacs effect and the relation between glasses, supercooled liquids and crystals**
**Francesco Aliotta,** Istituto per i Processi Chimico-Fisici, Italy
**Title: Co-electrodeposition of Zn-rich Cu-Zn-Sn metallic alloy and its conversion to $Cu_2ZnSnS_4$ and $Cu_2ZnSnSe_4$ photovoltaic absorber films**
**Ali Rakhshani,** Kuwait University, Kuwait
**Title: Surface mechanics design of metallic materials by cavitation peening**
**Hitoshi soyama,** Tohoku University, Japan
**Title: Fatigue analysis of a failed connecting rod in race car engine**
**Klaudio Bari,** University of Derby, UK
**Title: Crack/damage evaluation and micro-materials fabrication in the relation with electric field**
**Masumi Saka,** Tohoku University, Japan
**YRF: Heat transfer performance of double-layer porous copper produced by tape casting with lost carbonate sintering**
**Mosalagae Mosalagae,** Sheffield Univeristy, UK

**Networking and Refreshments Break**

**Session Chair: Klaudio Bari,** University of Derby, UK

**Title: Advanced polydimethylsiloxane-urea copolymer basedmasterbatches with multiple functionality**
**Hans-Joachim Radusch,** MLU Halle, Germany
**Title: Sculpture art and fashion design**
**Mayssa El Fare,** Damietta University, Egypt
**Title: Material science and fashion design**
**Nashwa El Shafey,** Damietta University, Egypt
**Title: Structures, interactions and optical responses from polymer and polymer nanocomposites**
**Sarathi Kundu,** Institute of Advanced Study in Science and Technology, India
**Title: Recent advances in polylactic acid based blends, composites and nanocomposites for packaging and barrier applications**
**Kartikey Verma,** Chandigarh University, India

## Day 2 September 08, 2017

## Balvenie Glenmorangie

## Keynote Forum

**Title: Influence of non-Newtonian behavior of polymers on their processing characteristics**
**Mosongo moukwa,** PolyOne Corporation Designed Structures and Solutions LLC, USA
**Title: Continuous nanocrystallizing of medicaments by spray flash evaporation**
**Denis Spitzer,** NS3E Laboratory, ISL-CNRS-UNISTRA, France
**Title: Hybrid biomaterials for nanobioelectronic device: toward biocomputing system**
**Jeong-Woo Choi,** Sogang University, Korea

**Networking and Refreshments Break**

**Title: Molten salts & molten salts technology: past, present and future in materials and processing technology**
**Francisco Javier Perez Trujillo,** Universidad Complutense de Madrid, Spain
**Title: SERS tag-therapeutic drug delivery, multimodal imaging, multiplexed sensing and diagnosis metal-nanosystems**
**Nekane Guarrotxena,** Institute of Polymer Science and Technology, Spanish National Research Council, Spain

**Sessions: Materials Engineering and Performance | Materials For Engineering and Environmental Sustainability | Metals, Metallurgy and Materials | Polymers Science and Engineering | Optical, Electronic and Magnetic Materials**

**Session Chair: Nekane Guarrotxena,** Institute of Polymer Science and Technology, Spanish National Research Council, Spain

**Session Chair: Sylvain G.Cloutier,** École de Technologie Supérieure, Canada

**Session Introduction**

**Title: Adsorptive removal of sulfur compounds using $Cu^{2+}$-based porous coordination polymers**
**Masashi morita,** Panasonic Corporation, Japan

**Title: Key role of the liquid-surface interactions to reveal hidden elastic properties in liquids**
**Laurence Noirez,** Université Paris-Saclay, France

**Title: Influence of nickel and aluminum additions on the microstructure and tensile properties of innovative, free-carbon, 10% cobalt maraging composit steel**
**Saied Elghazaly,** Central metallurgical R&D Inst, Egypt

**Title: Functionalized well-defined polymeric nanostructures for biomedical applications**
**Efrosyni Themistou,** Queen's University Belfast, UK

**Lunch Break**

**Title: The performance of polypropylene fibre reinforced concrete: Mechanical properties**
**Noor faisal Abas,** Universiti Sains Malaysia, Malaysia

**YRF: Polymeric nanoparticles and gels: modeling of dynamic behavior and properties using Discrete Element Method**
**Martin Kroupa,** University of Chemistry and Technology Prague, Czech Republic

**Title: High-performance perovskite hybrids for printable optoelectronics**
**Sylvain G.Cloutier,** École de Technologie Supérieure, Canada

**Title: Hydrogen production from water using the sun via photocatalytic processes on Au/g-$C_3N_4$/$TiO_2$ materials**
**Valerie Keller,** Institute of Chemistry and Processes for Energy, Environment and Health, France

**Title: On unified approach in description of crysttalline structures in discrete space**
**Vladimir Shevcheko,** Institute of Silicate Chemistry RAS, Russia

**Video Presentations**

**Title: Engineering columnar crystals: A novel, template-based method of sequential deposition**
**Ho-kei Chan,** Harbin Institute of Technology, China

**Title: Microstructure development affected by electrode geometry during resistance spot welding**
**Peng-Sheng wei,** National Sun Yat-Sen University, Taiwan

**Networking and Refreshments Break**

**Poster Presentations**

**Poster Judges: Speranta Tanasescu & Valerie Keller**

**AM-01** **Title: Luminescence of morphologically-controlled calcium silicon nitride particles through combined techniques of ultrasonic spray pyrolysis and carbothermal reduction/ nitridation**
**Satoshi ono,** Sophia University, Japan

**AM-02** **Title: Natural plant-derived polymer fabricated with sugar-containing hydroxyapatite for biocompatible bone-hemostasis**
**Yeonjeong Noh,** Sophia University, Japan

**AM-03** **Title: Title: Encapsulation of oxynitride phosphors into sintered $Li_2O$-ZnO-$B_2O_3$-$P_2O_5$-$CaF_2$ glass body**
**Nanako akiyama,** Sophia University, Japan

**AM-04** **Title: Electrochemical decoration of $MoS_2$ nanoplatelet arrays with Pt quantum dots for high efficient water splitting**
**Arnas Naujokaitis,** Vilnius University, Lithuania

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|---|---|
| AM-05 | **Title: Detachable photocatalysts of anatase $TiO_2$ nanoparticles: Annulling surface charge for immediate photocatalyst separation**<br>**Al-Hetlani,** Kuwait University, Kuwait |
| AM-06 | **Title: Luminescence of $Mn^{2+}$ and $Eu^{3+}$ doped zinc phosphate glass**<br>**Hector Octvaio Murrieta Sanchez,** Universidad Nacional Autónoma de México, México |
| AM-07 | **Title: : Impact of the granularity of a high-explosive material on its shock properties**<br>**Xavier bidault,** Commissariat Energie Atomique, France |
| AM-08 | **Title: Green synthesized biocompatible anode in MFCs for sustainable wastewater treatments and energy recycling**<br>**Ying Cheng,** University of Newcastle, Australia |
| AM-09 | **Title: Fibers made by centrifugal spinning technology**<br>**Jana Hlavata,** Technical University of Liberec, Czech Republic |
| AM-10 | **Title: Preparation of composite scaffolds from micro / nano fibers and biocompatible hydrogels**<br>**Radek Jirkovec,** Technical University of Liberec, Czech Republic |
| AM-11 | **Title: Study of electrically conductive water-based polyurethane**<br>**Valentina Caba,** University of Brescia, Italy |
| AM-12 | **Title: Study of the mechanical and surface properties of the composites commonly used in lightweight constructions**<br>**Donata Kuczyska,** Warsaw University of Technology, Poland |
| AM-13 | **Title: The study of point defect properties of Fe-Cr alloys: First-principles calculations**<br>**Marcin Zemla,** Warsaw University of Technology, Poland |
| AM-14 | **Title: Materials selection for modern and mobile medical constructions**<br>**Agata Sotniczuk,** Warsaw University of Technology, Poland |
| AM-15 | **Title: Hybrid polymer nanofibers**<br>**Stanislav Nevyhosteny,** Technical University of Liberec, Czech Republic |
| AM-16 | **Title: One pot synthesis of acid doped polypyrrole and investigation of its visible light driven dye degradation and room temperature ferromagnetic properties**<br>**Sanchoyita Nag,** Indian Institute of Engineering Science and Technology, India |
| AM-17 | **Title: Catalytic oxidation of methane into methanol over copper exchanged zsm-5 zeolites**<br>**Madina Ryssakova,** The University of Edinburgh, Scotland |

**Awards & Closing Ceremony**

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Scientific Program

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# Scientific Program

## Day 1 June 13, 2016

**Registrations**

**Terra Mitica**

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## Opening Ceremony

## Keynote Forum

### Introduction

**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

**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

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

**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
**Title: Transport properties on nanostructured oxides: Grain boundary effects**
**Oscar Juan Dura,** Castilla-La Mancha, Spain
**Title: Supercapacitors based in 3D graphene foams**
**Jorge Pedros,** Technical University of Madrid, Spain
**Title: Bioinspired gradient surfaces with controlling of water collection/repellency**
**Yongmei Zheng,** Beihang University, China

Lunch Break

**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
**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

**Title: Synthesis and microstructural characterization of highly active nanocrystalline titania for enhanced photoactivity**
**Elena Cerro-Prada,** Technical University of Madrid, Spain
**Title: Aluminum based nanostructures for biosensing**
**Alexander Axelevitch,** Holon Institute of Technology, Israel
**Title: Optical active plasmonic nanoassemblies for sensory applications**
**Nekane Guarrotxena,** Spanish National Research Council, Spain
**Title:Nanostructure control in tungsten trioxide ($WO_3$) thin films for improved electochromic properties**
**Pandurang Ashrit,** Université de Moncton, Canada
**Title: Catalytic decomposition of $N_2O$ over Au/oxides**
**Sónia A C Carabineiro,** University of Porto, Portugal

Coffee Break

**Title: Rapid and clean methodology to synthesize alcoholic suspensions of calcium hydroxide nanoparticles**
**Juan Antonio Madrid,** National Center of Reference for Chemical VET, Spain
**Title: Nanohybrids based on multi-stimuli responsive polymers and inorganic nanoparticles: Design and functional properties**
**Nekane Guarrotxena,** Spanish National Research Council, Spain
**Title: Synthesis of nanocarbon dots from spicy food and study of their *in-vitro* anticancer potential**
**Nagamalai Vasimalai,** International Iberian Nanotechnology Laboratory, Portugal
**Title: Nanoconfined reactions in clay nanotubes based on metal salt loading**
**Anna Stavitskaya,** I.M.Gubkin Russian State University of Oil and Gas, Russia
**Title: Carbon nanotubes doped with metal oxide nanoprticles as new materials for oil removal**
**Ahmad Kayvani Fard,** Hamad Bin Khalifa University, Qatar
**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

**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

**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
**Title: Delamination resistances improvement of carbon fiber composites with tailored graphene oxide**
**Ignacio Martin Gullon,** University of Alicante, Spain
**Title: Gas turbine blade tip alloy selection for alloy-247LC**
**Thaddeus Strusinski,** Siemens Energy USA North Carolina Winston-Salem Service Center, USA

Coffee Break

**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
**Title: Rheological analysis of micro-structured adhesives derived from castor oil conjugates**
**Harshal D Santan,** Universidad de Huelva, Spain
**Title: Thermo Optical Switching of Paraffin wax hosting carbon fillers**
**Abeer Salah,** Cairo University, Egypt
**Title: Plasma electrolytic oxidaNanoarchitectures in designing polymer sensors**
**Deepalekshmi Ponnamma,** Qatar University, Qatar
**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

**Poster Presentations**

| | |
|---|---|
| **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

**Title: The potential of ceramic particles in coatings with improved scratch and wear resistance**
**Caterina Lesaint Rusu,** Norwegian University of Science and Technology, Norway
**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
**Title: *In vitro* and *in vivo* studies of dextran-based materials for peripheral nerve regeneration**
**Catarina Pinho,** University of Coimbra, Portugal
**Title: An investigation into the performance of metal coated additively manufactured polymer lattice structures**
**Muhammad Farhan Khan,** University of Derby, UK
**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

**Title: Multichannel fibre laser Doppler vibrometer studies of hypervelocity impacts**

**David A Jackson,** University of Kent, UK

**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

**Title: New developments in polybinary modulation for bandwidth limited channels**

**J J Vegas Olmos,** Technical University of Denmark, Denmark

**Title: Advanced materials oriented to an improved energy efficiency in buildings**

**Estibaliz Aranzabe,** IK4-Tekniker, Spain

**Title: Hybrid multi-material optical fibers**

**Fabien Sorin,** École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

**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

**Title: Conducting polymers as an alternative for classical thermoelectric materials**

**Mario Culebras Rubio,** University of Valencia, Spain

**Poster Presentations**

| | |
|---|---|
| **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

**Title: The times are changing. New surface treatments based on nanoceramics coatings**

**Josep Vives,** Proquimia S.A. Vic, Spain

**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

**Title: Plasmonics for plasmon-enhanced single-molecule spectroscopy**

**Yuko S Yamamoto,** Kagawa University, Japan

Coffee Break

**Title: Probing optical, phonon, thermal and defect properties of 3C-SiC/Si (001)**

**Devki N Talwar,** Indiana University of Pennsylvania, USA

**Title: Preparation of polyamide microspheres with tunable morphology and size for use in SLS processing**

**Gexia Wang,** The Chinese Academy of Sciences, China

**Title: Breathe2Seat – New methodologies for assessing comfort and moisture management in automotive seats**

**Anabela Carvalho,** Centre for Nanotechnology and Smart Materials, Portugal

**Title: Mechanism of molecular interaction of superplasticizer oligomers with hydrated cement phases**

**Tariq Jamil,** University of Colorado Boulder, USA

**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

**Title: Corrosion and wear resistance of PEO coatings containing graphite nanoparticles produced on magnesium alloys**

**L Pezzato1,** University of Padua, Italy

**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

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