Final Scientific Program

3rd Global Congress & Expo on

Materials Science & Engineering

June 14-16, 2018 at Rome, Italy
Venue: Holiday Inn Rome - Eur Parco Dei Medici, Rome

Day 1 June 14, 2018

07:30-08:30  REGISTRATIONS
08:30-08:35  INTRODUCTION
08:35-09:00  OPENING CEREMONY

Plenary Forum
Session Chair: Masahiro YOSHIMURA, National Cheng Kung University, Taiwan
Session Co-Chair: Ajayan Vinu, University of Newcastle, Australia

09:00-09:50  Title: Making the Hospital a safer place by the Sonochemical Coating of all its Textiles and Medical Devices with Antibacterial Nanoparticles
Aharon Gedanken, Bar-Ilan University, Israel

09:50-10:40  Title: Why Soft Processing(=Low-Energy Production) of Advanced Materials is Difficult but Necessary for Sustainable Society?
Masahiro YOSHIMURA, National Cheng Kung University, Taiwan

Networking & Refreshments Break  10:40-10:55 @ Foyer

10:55-11:45  Title: Defect Control to Eliminate Failures in Steels
John Campbell, University of Birmingham, UK

11:45-12:35  Title: Rhombohedral Super Hetero Epitaxy of Cubic SiGe on Trigonal C-plane Sapphire
Sang H. Choi, NASA Langley Research Center, USA

Keynote Forum
Session Chair: Tohru Sekino, Osaka University, Japan
Session Co-Chair: Takeshi Morikawa, Toyota Central R&D Labs., Inc, Japan

12:35-13:15  Title: Multifunctional materials for emerging technologies
Federico Rosei, National Institute of Scientific Research(INRS), Canada

13:15-13:20  Group Photo

Lunch Break  13:20-14:20 @ La Serra Restaurant

14:20-15:00  Title: Artificial Photosynthesis: Synthesis of Organic Chemicals from CO2, H2O and Sunlight Energy using Semiconductor/Molecular-Catalyst Hybrid Systems
Takeshi Morikawa, Toyota Central R&D Labs., Inc, Japan

15:00-15:40  Title: Advancement of Nanocellulose Multifunctional Composites
Jaehwan Kim, Inha University, Republic of Korea

15:40-16:20  Title: Development of Multifunctional Ceramic-based Nanocomposites by Metal Dispersion
Tohru Sekino, Osaka University, Japan

Networking & Refreshments Break  16:20-16:35 @ Foyer

16:35-17:15  Title: Advanced Photonic Polymers for High-Quality Display System
Yasuhiro Koike, Keio University, Japan

17:15-17:55  Title: Phase Change Materials Reinforced by Aluminium Foam – Breakthrough Solution for Thermal Energy Storage
Jaroslav Jerz, Institute of Materials & Machine Mechanics, Slovak Academy of Sciences, Slovakia

17:55-18:25  Title: Aerogel as an alternative bioactive ceramic in dentistry
Csaba Hegedus, University of Debrecen, Hungary

19:00-20:00  Cocktails @ Poolside

Day 2 June 15, 2018

Catullo

Keynote Forum
Session Chair: Toshiyuki Itoh, Tottori University, Japan
Session Co-Chair: Tadafumi Adschiri, WPI-AIMR, Tohoku University, Japan

09:00-09:40  Title: Ion-Diffusion Mechanism and Explanation of New Structure-Type Ion Conductors
Masatomo Yashima, Tokyo Institute of Technology, Japan
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<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Institute</th>
<th>Location</th>
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<tbody>
<tr>
<td>09:40-10:20</td>
<td><strong>Title: Nanostructure Engineering in Oxide Thermoelectric Materials</strong></td>
<td>Michitaka Ohtaki, Kyushu University, Japan</td>
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<td></td>
<td><strong>Sessions:</strong> Advances in Dielectric Materials and Electronic Devices; Advances in Nano Materials</td>
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<td>Science; Nanomaterials and Nanocomposites; Carbon Nanomaterials</td>
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<td>10:20-10:50</td>
<td><strong>Title: Atomic structure/configuration and physical properties studies of hybrid nanostructures by STEM-EELS</strong></td>
<td>Raul Arenal, University of Zaragoza, Spain</td>
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<td>10:50-11:20</td>
<td><strong>Title: Development of High Performance Conducting-Bridge Random Access Memory (CB-RAM) using Ionic Liquid Engineering</strong></td>
<td>Toshiyuki Itoh, Tottori University, Japan</td>
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<td>Networking &amp; Refreshments Break 11:20-11:35 @ Foyer</td>
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<td>11:35-11:55</td>
<td><strong>Title: Reversible Structural Transition in 2D-MoTe2 Induced by Excess Charge Carriers</strong></td>
<td>Oleg Rubel, McMaster University, Canada</td>
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<td>11:55-12:25</td>
<td><strong>Title: Magnetic sensing and imaging with NV centers in diamond</strong></td>
<td>Donghun Lee, Korea University, South Korea</td>
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<td>12:25-12:55</td>
<td><strong>Title: Using a Single Soft Polymer to Transude Mechanical Work</strong></td>
<td>Ruizheng Hou, Xi’an Jiaotong University, China</td>
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<td>12:55-13:25</td>
<td><strong>Title: Titanium-zinc-bismuth oxides composite nanofibers with embedded graphene as high-performance photocatalyst for gas purification</strong></td>
<td>Wallace Leung, The Hong Kong Polytechnic University, Hong Kong</td>
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<td>Lunch Break 13:25-14:25 @ La Serra Restaurant</td>
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<td>14:25-14:55</td>
<td><strong>Title: Heterogeneous Dynamics in Porous Lithium Disilicate Systems Examined by Molecular Dynamics Simulations</strong></td>
<td>Junko Habasaki, Tokyo Institute of Technology, Japan</td>
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<td>14:55-15:25</td>
<td><strong>Title: Hydrothermal Reforming using CeO2 Nanocatalyst Synthesized by Supercritical Hydrothermal Method</strong></td>
<td>Tadafumi Adschiri, WPI-AIMR, Tohoku University, Japan</td>
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<td>15:25-15:55</td>
<td><strong>Title: Thermal spike Engineering in the evolution of Nanostructures: Electronic, Optical, magnetic Properties</strong></td>
<td>Santanu Ghosh, Indian Institute of Technology Delhi, India</td>
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<td>15:55-16:35</td>
<td><strong>Title: Will be updated</strong></td>
<td>Paula M. Vilarinho, University of Aveiro, Portugal</td>
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<td>Networking &amp; Refreshments Break 16:35-16:50 @ Foyer</td>
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<td>10:20-10:50</td>
<td><strong>Title: Substrate type perovskite solar cells</strong></td>
<td>Peter Chen, National Cheng Kung University, Taiwan</td>
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<td>10:50-11:20</td>
<td><strong>Title: The New Era of Marine Bacterial Photobiology- New types of Microbial rhodopsin</strong></td>
<td>Keichi INOUE, Nagoya Institute of Technology, Japan</td>
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<td><strong>Title: High thermally durable electronic textiles fabricated with silk for various applications</strong></td>
<td>Byung Hoon Kim, Incheon National University, Republic of Korea</td>
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<td>11:50-12:20</td>
<td><strong>Title: Use of cork as template agent to prepare biomorphic ecoceramics</strong></td>
<td>Clara Piccirillo, CNR NANTOC, Institute of Nanotechnology, Italy</td>
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<td>12:20-12:50</td>
<td><strong>Title: Influence of surface preparation on oxidation behavior of Fe-base alloys</strong></td>
<td>Wojciech J. Nowak, Rzeszow University of Technology, Poland</td>
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<td>12:50-13:20</td>
<td><strong>Title: Diffusion under external force field</strong></td>
<td>Bartek Wierzb, Rzeszow University of Technology, Poland</td>
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<td>14:20-14:50</td>
<td><strong>Title: Gate-voltage applied gas-desorption from a hydrogen-storage system in Metal-Oxide-Semiconductor</strong></td>
<td>Ken Hattori, Nara Institute of Science and Technology, Japan</td>
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<td>14:50-15:20</td>
<td><strong>Title: Study of the angular momentum of light from plasmonic crystals</strong></td>
<td>Hock Chun Ong, The Chinese University of Hong Kong, Hong Kong</td>
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<td>15:20-15:40</td>
<td><strong>Title: High Throughput Production of Carbon Materials by Molten Salt</strong></td>
<td>Fen-Tair Luo, Institute of Chemistry, Academia Sinica, Taiwan</td>
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<td>15:40-16:00</td>
<td><strong>Title: Bottom-Up Silicon Nanotrees Electrodes for Integrated On-chip EDLCs</strong></td>
<td>Said Sadki, UMR SYMMES (CEA, CNRS, UJF), France</td>
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Title: Effective and Simple Terpolymer Actuator based on Multilayered Concept for Next Generation Mirror
Kritsadi Thetpraphi, LGEF, INSA Lyon, France

Networking & Refreshments Break 16:20-16:35 @ Foyer

Poster Presentations on Day 2 June 15, 2018 @ 17:00-19:00

P-001 Title: Diffusion calculations with two atomic models in h.c.p Zr-Nb diluted alloys
Viviana Ramunni, CONICET, Argentina

P-002 Title: Investigation of the Thermal Diffusivity of Condensed Materials Based on Photometric Analysis of their Reflection Brightness Spectra
Ermishkin Vyacheslav Alexandrovich, Baykov’s Institute of Metallurgy and Materials science of Russian Academy of Sciences, Russia

P-003 Title: Evaluation of the Surface Quality of PbBi4Te7 and PbSb2Te4 Single Crystals by Computer Photometry
Ermishkin Vyacheslav Alexandrovich, Baykov’s Institute of Metallurgy and Materials science of Russian Academy of Sciences, Russia

P-004 Title: Investigation of Diffusion Processes in Multi Component Alloys from the Photometric Analysis of the Spectra of the Brightness of the Visible Light Reflection from Their Surface
Ermishkin Vyacheslav Alexandrovich, Baykov’s Institute of Metallurgy and Materials science of Russian Academy of Sciences, Russia

P-005 Title: Pyroprotein-based electronic textiles with high thermal durability
Jun Woo Jeon, Incheon National University, Republic of Korea

P-006 Title: Influence of mechanical alloying on sintering process of copper modified with nanotubes addition
M. Hebda, Cracow University of Technology-IMR, Poland

P-007 Title: Hydrogen Storage using Phyllostachys bambusoides-based Porous Blue Carbon
Hyun-Seok Jang, Incheon National University, Incheon, Republic of Korea

P-008 Title: Hybrid silica coatings with antireflective and water repellent properties
Attila Ábrahám, Budapest University of Technology and Economics, Hungary

P-009 Title: Lignin-Containing Coupling Agent for Improvement of Wood-Polymer Composite Properties
Jevgenijs Jaunslavietis, Latvian State Institute of Wood Chemistry, Latvia

P-010 Title: Construction of iron sulfide-carbon interconnected graphene nanocomposites for superior lithium & sodium-ion storage
Wei Huang, Technical University of Denmark, Denmark

P-011 Title: Liposome-based nanovesicles systems for drug delivery in cancer therapy
Clara Piccirillo, CNR NANOTECH, Institute of Nanotechnology, Italy

P-012 Title: Quantum behavior of water confined in nano-cavities
Raymond Moreh, Ben-Gurion University of the Negev, Israel

Day 3 June 16, 2018
Catullo

Sessions: Electronic, Optical and Magnetic Materials; Photonic & plasmonic nanomaterials;Polymer Science and Materials
Session Chair: Kyo D. Song, Norfolk State University, USA
Session Co-chair: Jaehwan Kim, Inha University, Republic of Korea

09:00-09:30 Title: Review of smart optical materials development and systems for space applications
Kyo D. Song, Norfolk State University, USA

09:30-10:00 Title: Few-layer transition metal dichalcogcnides as semiconductor quantum wells
Vladimir Fal’ko, National Graphene Institute, The University of Manchester, UK
Title: Design and Synthesis of All-Inorganic Perovskite Nanowires as a Photonic Material

10:00-10:20 for UV Detectors
Yingying Tang, Technical University of Denmark, Denmark

10:20-10:50 Title: A bias-free, Schottky photo-diode Hall sensor
Antonio Ruotolo, City University of Hong Kong, Hong Kong

Networking & Refreshments Break 10:50-11:05 @ Foyer
### Plenary Forum

**Title:** Tendon and Muscle Regenerative Engineering to meet Grand Challenges: New Paradigms for Treatment of Shoulder Rotator Cuff Tear Injury  
**Speaker:** Cato T. Laurencin, University of Connecticut, USA

### Sessions: Electronic, Optical and Magnetic Materials; Photonic & plasmonic nanomaterials; Polymer Science and Materials

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<td>11:55-12:25</td>
<td><strong>Title:</strong> Photoluminescence Enhancement by Plasmonic Nanoparticles and Arrays</td>
<td>Shunsuke Murai, Kyoto University, Japan</td>
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<td>12:25-12:55</td>
<td><strong>Title:</strong> Photonic and Plasmonic Designs for the Enhanced Raman and Brillouin Scatterings</td>
<td>Qiang Liu, Shenzhen University, China</td>
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<td>12:55-13:25</td>
<td><strong>Title:</strong> Green polymer blend from polyactic acid and polyethylene vinyl acetate</td>
<td>Medhat Lotfy Tawfic, National Research Centre, Cairo-Egypt</td>
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**Lunch Break 13:25-14:25 @ La Serra Restaurant**

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<td>14:25-14:55</td>
<td><strong>Title:</strong> Electrical breakdown enhancement of electrostrictive polymers via synthesis and processing control</td>
<td>Francesco PEDROLI, University of Lyon, INSA-Lyon, France</td>
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<td>14:55-15:25</td>
<td><strong>Title:</strong> Tin sulphides nanostructured layers for thin-film solar cells</td>
<td>Aliaksandr Khodin, 1Optics, Optoelectronics and Laser Techniques Association, National Academy of Sciences of Belarus, Belarus</td>
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<td>15:25-15:45</td>
<td><strong>Title:</strong> Small Organic Multiheterocycles: Molecular Hybridisation for the Design and Synthesis of Multifunctional Molecular Materials</td>
<td>K G Sreejalekshmi, Indian Institute of Space Science and Technology, India</td>
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<td>15:45-16:05</td>
<td><strong>Title:</strong> Strong and Stretchable Superabsorbent Smart Hydrogels</td>
<td>Dibyendu S. Bag, DMSRDE P. O., Kanpur, INDIA</td>
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**Networking & Refreshments Break 16:05-16:20 @ Foyer**

**Certificate Felicitation @ Closing Ceremony**

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**Bookmark Your Dates**

**4th Global Congress & Expo on**  
**Materials Science and Nanoscience**  
**October 15-17, 2018 at Amsterdam, Netherlands**  

**5th Global Congress & Expo on**  
**Materials Science & Engineering**  
**June 10-12, 2019 in Osaka, Japan**  
https://scientificfederation.com/gcemse-2019/

**6th Global Congress & Expo on**  
**Materials Science and Nanoscience**  
**October 07-09, 2018 at Dubai, UAE**