Scientific Program

5th Global Congress & Expo on Materials Science & Engineering

June 10-11, 2019 | Osaka, Japan

Scientific Federation
Panjagutta, Hyderabad, Telangana-500082, India
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00-09:00</td>
<td>Registrations</td>
<td></td>
</tr>
<tr>
<td>09:00-09:15</td>
<td>Introduction &amp; Opening Words</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Honorary Speech by Honourable Guests</td>
<td></td>
</tr>
<tr>
<td>09:15-10:00</td>
<td>Title: 2D-Inorganic Drug Delivery Vector for Nanomedicine; Challenges and Chances</td>
<td>Jin-Ho Choy, Dankook University, Republic of Korea</td>
</tr>
<tr>
<td>10:00-10:45</td>
<td>Title: Multifunctional Materials for Emerging Technologies</td>
<td>Federico Rosei, Institut National de la Recherche Scientifique, Canada</td>
</tr>
<tr>
<td></td>
<td>Refreshments Break 10:45-11:00 @ Foyer</td>
<td></td>
</tr>
<tr>
<td>11:00-11:45</td>
<td>Title: Why have we Proposed “Polymer Complex Method” for Synthesis of Multi-Component Oxides Instead of “Sol-Gel Method”?</td>
<td>Masahiro YOSHIMURA, National Cheng Kung University, Taiwan</td>
</tr>
<tr>
<td>11:45-12:20</td>
<td>Title: DOS Engineering For New Nano-materials</td>
<td>Hiroshi Kitagawa, Kyoto University, Japan</td>
</tr>
<tr>
<td>12:20-12:55</td>
<td>Title: Nano-hybridization of Titania Nanotubes and Their Photochemical and Physicochemical Multifunctions</td>
<td>Tohru Sekino, Osaka University, Japan</td>
</tr>
<tr>
<td>12:55-13:00</td>
<td>Group Photo</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lunch Break 13:00-13:40 @ Restaurant</td>
<td></td>
</tr>
<tr>
<td>13:40-14:15</td>
<td>Title: 2D Nanovector Smuggles 10B-Icosahedral Boron Cluster (BSH) into Cells and Tissues for Boron Neutron Capture Therapy</td>
<td>Gouen Choi, Dankook University, Republic of Korea</td>
</tr>
<tr>
<td>14:15-14:50</td>
<td>Title: The World of Nitride Semiconductors</td>
<td>Takashi Matsuoka, Tohoku University, Japan</td>
</tr>
<tr>
<td>14:50-15:10</td>
<td>Title: Antibacterial Properties of Cuprous Oxide Nanoparticles Immobilized onto Polyethylene</td>
<td>Marina Nisnevitch, Ariel University, Israel</td>
</tr>
<tr>
<td>15:10-15:30</td>
<td>Title: The Mammal Pigment Eumelanin as A New Material for Bioelectronics: Perspectives and Challenges</td>
<td>Alessandro Pezzella, University of Naples “Federico II”, Italy</td>
</tr>
<tr>
<td>15:30-15:50</td>
<td>Title: Electrochemical Deposition of Anti-Cancer Drugs on Metal Implants for Biomedical Applications</td>
<td>Shiw-Kang Yen, National Chung Hsing University, Taiwan</td>
</tr>
</tbody>
</table>
15:50-16:10 Title: Advanced Artificial Molecular Motors for Materials Applications
Zhisong Wang, National University of Singapore, Singapore

16:25-16:45 Title: Impact of Cerium Oxide Nanoparticles Shape on their in vitro Cellular Toxicity
Jérémie Pourchez, Mines Saint-Etienne, University of Lyon, France

16:45-17:05 Title: Nanowire Fabrication by Site-specific Metallization of DNA Origami Templates
John N. Harb, Brigham Young University, USA

17:05-17:25 Title: Nano-formulation Designed for Gas Therapy in Nanomedicine
Chen-Sheng Yeh, National Cheng Kung University, Taiwan

17:25-17:45 Title: Possible Electric Reactions of Biomolecules in Living Cells
Hiroyuki Aizawa, Aizawa Science Museum, Japan

17:45-18:05 Title: Wrinkled Polymeric Non-planar Surfaces and Cell Growth
Dae Kun Hwang, Ryerson University, Canada

Keynote Session

18:05-18:40 Title: Grain Boundary Atomic Structures and Their Dynamic Behavior in Oxides
Yuichi Ikuhara, The University of Tokyo, Japan

18:40-19:00 Title: Proton Relaying in Confined NH$_3$ Medium in Porous Metal-organic Frameworks
Dae-Woon Lim, Kyoto University, Japan

Closing the Conference for the Day 1

Day 2 June 11, 2019

Kiri Full Span

Oral Sessions

<table>
<thead>
<tr>
<th>Sessions B</th>
<th>Electronics/Photonics Functional Materials including Conductors and Semiconductors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session Chair</td>
<td>Hubert Klar, University Freiburg, Germany</td>
</tr>
<tr>
<td>Session Co-chair</td>
<td>Maria Helena Braga, University of Porto, Portugal</td>
</tr>
</tbody>
</table>

09:00-09:20 Title: Mxenes - A New Class of 2D Layered Materials
Andrews Nirmala Grace, Centre for Nanotechnology Research, VIT University, India

09:20-09:40 Title: Low Temperature Performance of a Ferroelectric Glass Electrolyte Rechargeable
Maria Helena Braga, University of Porto, Portugal

09:40-10:00 Title: Correlation-Induced Electron-Electron-Attraction
Hubert Klar, University of Freiburg, Germany

10:00-10:20 Title: Stability of Halide Perovskite Films and Devices
Aleksandra Djurisic, The University of Hong Kong, Hong Kong

10:20-10:40 Title: Evolution of Photoluminescence Induced by High Temperature Annealing in Nitrogen Atmosphere of Silicon Nanostructures
Paola Castrucci, Università di Roma “Tor Vergata”, Italy
10:40-11:00  Title: Two-step Reprecipitation Method for Synthesizing Ultra-small Conductive Polymer Nanoparticles
Masaru Nagai, Nanjing Tech University, China

Refreshments Break 11:00-11:15 @ Foyer

<table>
<thead>
<tr>
<th>Session Chair</th>
<th>Session Co-chair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yuui Yokota, Tohoku University, Japan</td>
<td>Karen Gambaryan, Yerevan State University, Armenia</td>
</tr>
</tbody>
</table>

11:15-11:35  Title: Catalytic Combustion-type Carbon Monoxide Gas Sensor with Catalyst Based on Platinum-loaded Ceria Based Oxide Ion Conducting Solids
Nobuhito Imanaka, Osaka University, Japan

11:35-11:55  Title: Development of Novel Piezoelectric Single Crystals for Next-generation Sensor Devices and Oscillators
Yuui Yokota, Tohoku University, Japan

11:55-12:15  Title: Growth and Characterization of InAsSbP Composition Conic Quantum Dots
Karen Gambaryan, Yerevan State University, Armenia

12:15-12:35  Title: Nanoparticle decorated Multi Walled Carbon Nanotubes and Nanocomposites: Next Generation High Intensity Electron Source
Santanu Ghosh, Indian Institute of Technology Delhi, India

12:35-12:55  Title: Transition Metal Dichalcogenides for Hydrogen Evolution Reaction
Soo Young Kim, Chung-Ang University, Korea

Lunch Break 12:55-13:35 @ Restaurant

<table>
<thead>
<tr>
<th>Session Chair</th>
<th>Session Co-chair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tien-Lung Chiu, Yuan Ze University, Taiwan</td>
<td>Renata Bujakiewicz-Korońska, Cracow Pedagogical University, Poland</td>
</tr>
</tbody>
</table>

13:35-13:55  Title: Graphene-like Silicene Grown on Graphite Surface
Paola Castrucci, Università di Roma “Tor Vergata”, Italy

13:55-14:15  Title: Polyaniline Functionalized Honeycomb-patterned Porous Polymer Films using Interfacial Polymerization Method
Umashankar Male, Inje University, Republic of Korea

14:15-14:35  Title: Silicon-based SiGeSn Group-IV Infrared and Terahertz Photonics
Greg Sun, University of Massachusetts Boston, USA

14:35-14:55  Title: Overview of High Efficiency Organic Light Emitting Diodes
Tien-Lung Chiu, Yuan Ze University, Taiwan

14:55-15:15  Title: Evolution of Physical Properties of Co doped BaTiO$_3$ Polycrystals
Renata Bujakiewicz-Korońska, Cracow Pedagogical University, Poland

Sessions C  Energy and Environmental related Materials including Solar Cells, Fuel cells and Catalysis

<table>
<thead>
<tr>
<th>Session Chair</th>
<th>Session Co-chair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yasuhiro Tachibana, RMIT University, Australia</td>
<td>DJURADO Elisabeth, Grenoble INP-University Grenoble Alpes, France</td>
</tr>
</tbody>
</table>

15:15-15:35  Title: Interfacial Charge Transfer and Transport Dynamics in Lead Halide Perovskite Films
Yasuhiro Tachibana, RMIT University, Australia

15:35-15:55  Title: Innovative Design of Efficient La$_{2-x}$Pr$_x$NiO$_{4+x}$-based Cathode for Solid Oxide Fuel Cells
DJURADO Elisabeth, Grenoble INP-University Grenoble Alpes, France
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:10-16:30</td>
<td>Title: Approach for the Stable and Efficient Perovskite Solar Cell via Nanostructural Control and Photovoltaic Characterizations.</td>
<td>Byungwoo Park, Seoul National University, South Korea</td>
</tr>
<tr>
<td>16:30-16:50</td>
<td>Title: Semiconductor Nanoheterostructures for Photoconversion Applications</td>
<td>Yung-Jung Hsu, National Chiao Tung University, Taiwan</td>
</tr>
<tr>
<td>16:50-17:10</td>
<td>Title: Self-Organization of Voids and Self-Healing Processes in Porous Lithium Silicate Glasses: A study by Molecular Dynamics Simulations</td>
<td>Junko Habasaki, Tokyo Institute of Technology, Japan</td>
</tr>
<tr>
<td>17:10-17:30</td>
<td>Title: The Role of Nanomaterials in Heterogeneous Catalysis and Tribocatalysis</td>
<td>Antoni Jankowski, Air Force Institute of Technology, Poland</td>
</tr>
<tr>
<td>17:30-17:50</td>
<td>Title: Preparation and Characterization of Titanium Dioxide Photocatalyst Supported on Fly Ash Particles. Evaluation of Photocatalytic Activity in Wastewater Treatment</td>
<td>Visa Maria, Transilvania University of Brasov, Romania</td>
</tr>
<tr>
<td>17:50-18:10</td>
<td>Title: Co-ion Effects in Fuel Cell Membranes</td>
<td>Ying-Lung Steve Tse, The Chinese University of Hong Kong, Hong Kong</td>
</tr>
<tr>
<td>18:10-18:30</td>
<td>Title: Nitrogen-rich Graphitic Tube Supported Platinum Nanoparticles with High Electrocatalytic Activity for Methanol and Ethanol Oxidation</td>
<td>Mehdi Rahimi-Nasrabadi, Baqiyatallah University of Medical Sciences, Iran</td>
</tr>
<tr>
<td>18:30-18:50</td>
<td>Title: Plausible Mechanism of Highly Selective Oxygen Isotope Separation With Nanoporous Materials</td>
<td>Sanjeev Kumar Ujjain, Shinshu University, Japan</td>
</tr>
</tbody>
</table>

**Sessions D**

**Fundamental/Composites/Structural Materials**

**Session Chair**
Lara LECLERC, Mines Saint-Etienne, University of Lyon, France

**Session Co-chair**
Makoto Yasutomi, University of the Ryukyus, Japan

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>18:50-19:10</td>
<td>Title: End-of-Life Incineration of Nanocomposites: New Insights on Nanofillers Partitioning Into by-Products and Biological Outcomes of Airborne Emission and Residual Ash</td>
<td>Lara LECLERC, Mines Saint-Etienne, University of Lyon, France</td>
</tr>
<tr>
<td>19:10-19:30</td>
<td>Title: Thermodynamic Mechanism of Negative Thermal Expansion of Liquid Water</td>
<td>Makoto Yasutomi, University of the Ryukyus, Japan</td>
</tr>
<tr>
<td>19:30-19:50</td>
<td>Title: Pore selective SnS Functionalization in Honeycomb-patterned Films: Breath figure Process Accompanying in situ Chemical Reaction</td>
<td>Do Sung Huh, Inje University, South Korea</td>
</tr>
</tbody>
</table>

**Poster Presentations**

**P-001**
Title: Durability Potential of Hybrid Cement Under Aggressive Bacterial Influence
Michaela Smolakova, Technical University of Kosice, Slovakia

**P-002**
Title: Bipyridine Based Platinum Complexes and Their Application to Electroluminescent Devices
Youngjin Kang, Kangwon National University, Republic of Korea

**P-003**
Title: K(I)/Zn(II) and Rb(I)/Zn(II) Supramolecular Gels Based on Calix[4]arene Derivative
Ki-Min Park, Gyeongsang National University, South Korea

**P-004**
Title: Characteristics of Codeposition of ZnO/Cu2O Crystal Films by Electrochemical Processing
Leo Chau-Kuang Liau, Yuan Ze University, Taiwan
P-005 Title: Corrosion Patterns of Electrochemical Reduction of Indium Tin Oxide in Silica Particle Solution Using Diffusion Model Simulation
Leo Chau-Kuang Liau, Yuan Ze University, Taiwan

P-006 Title: Optical Analyses and Fabrication of the ITO/Mesh-Ag/ITO Multilayers as A Highly Conductive Transparent Electrode
Sang Jik Kwon, Gachon University, South Korea

P-007 Title: Preparation and Photoelectrochemical Properties of Silver Particle-Embedded Titania Nanobelts
Chien-Tsung Wang, National Yunlin University of Science and Technology, Taiwan

P-008 Title: Efficient Water Splitting Cascade Photoanodes
Ho Won Jang, Seoul National University, South Korea

P-009 Title: Examination of Concretes with the Incorporated Waste Materials Regarding Their Radioactivity Parameters
Adriana Estokova, Technical University of Kosice, Slovakia

P-010 Title: Engineering Embolic Microparticles from a Periodically-pulsating Charged Liquid Meniscus
Xiaowei Tian, The University of Hong Kong, Hong Kong

P-011 Title: Water-resilient Single Walled Carbon Nanotube (SWCNT) based Stretchable Strain Sensor
Preety Ahuja, Shinshu University, Japan

P-012 Title: Examination of Concretes with the Incorporated Waste Materials Regarding Their Radioactivity Parameters
Adriana Estokova, Technical University of Kosice, Slovakia

P-013 Title: Life Cycle Impact Assessment of Typical Family House in the Central Europe
Martina Wolfova, Technical University of Kosice, Slovakia

P-014 Title: Room-Temperature Crack Healing and Properties Recovery for Ti-dispersed Al₂O₃-based Multifunctional Ceramic Composites
S. F. Shi, Osaka University, Japan

P-015 Title: Study on Synthesis and Characterization of Lepidocrocite-type Titanate using Peroxo Titanium Complex Ion as a Precursor for Low Alkali Bottom-up Approach
Hyunsu Park, Osaka University, Japan

P-016 Title: Sorption properties of Co²⁺ and Zn²⁺ on Titania Nanotubes Synthesized by Solution Processing
T. Goto, Osaka University, Japan

P-017 Title: Fabrication of Robust Honeycomb Patterned Porous Polyimide Films by Thermochemical Cross-Linking Process
Joon Mo Kim, Inje University, Republic of Korea

P-018 Title: Effect of Ferrocene on The Fabrication of Honeycomb-Patterned Porous Polystyrene Films and Silver Functionalization of the Film
Soo Yeon Kim, Inje University, Republic of Korea

P-019 Title: Selective Coating of SnS on the Bio-inspired Moth Eye-like Patterned PEDOT: PSS Polymer Films
Thuy Thi Cao, Inje University, Republic of Korea

End of the Conference
Bookmark Your Dates

6th Global Congress & Expo on

Materials Science and Nanoscience

October 07-09, 2019 | Dubai, UAE

Bookmark Your Dates

7th Global Congress & Expo on

Materials Science & Engineering

July 13-14, 2020 | Las Vegas, USA
8th Global Congress and Expo on

Materials Science and Nanoscience

October 19-20, 2020 | Lisbon, Portugal