

| Saturday Dec.7<br>Meeting Room Coral                         |                                                                                                                                                |                                                                                                                      |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 7:00-8:00                                                    | Breakfast                                                                                                                                      |                                                                                                                      |
| <b>Session General I Chair: Yasushi Takemura</b>             |                                                                                                                                                |                                                                                                                      |
| 8:00-8:25 AM                                                 | A01: Fabrication of Ni-based Nanoscale Junctions Utilizing Thin-Film Edges and Their Structural and Electrical Properties                      | <b>Hideo Kaiju</b><br>Hokkaido University, Japan<br>Page28                                                           |
| 8:25-8:50 AM                                                 | A02: Enhancement of anti-wear properties of aluminum with carbon nanotubes                                                                     | <b>Wei Zhang</b><br>Dalian University of Technology, China<br>Page30                                                 |
| 8:50-9:15 AM                                                 | A03: Role of a Carrier Suppressor Dopant in Amorphous Metal Oxide Semiconductor for High Performance Thin Film Transistors                     | <b>Jang-Yeon Kwon</b><br>Yonsei university, Korea<br>Page31                                                          |
| 9:15 -9:40 AM                                                | A04: On the efficiency droop in InGaN double-heterostructure light-emitting diodes with different trapezoidal-shaped wells                     | <b>Ray-Ming Lin</b><br>Chang Gung University, Taiwan<br>Page32                                                       |
| 9:40 -10:05 AM                                               | A05: On the role of material parameters in the luminescence of Si-nanostructures embedded in SiO <sub>2</sub>                                  | <b>Alfredo González-Fernández</b><br>IMB-CNM, Spain<br>Page33                                                        |
| 10:05 -10:20 AM                                              | Session Break                                                                                                                                  |                                                                                                                      |
| <b>Session: Functional Metal Oxide I Chair: Ray-Ming Lin</b> |                                                                                                                                                |                                                                                                                      |
| 10:20 -10:45 AM                                              | A06: Novel metal oxinitride materials for optoelectronic applications                                                                          | <b>Masaharu Shiratani</b><br>Kyushu University, Japan<br>Page34                                                      |
| 10:45-11:10 AM                                               | A07: The photoinjection of hydrogen and the hydrogen photochromism in the hydrogenphilic functional transition metal oxides                    | <b>Alexander Gavriluk</b><br>Ioffe Physical Technical Institute of the Russian Academy of Sciences, Russia<br>Page35 |
| 11:10 -11:35 AM                                              | A08: Structural, optical and electrical phenomena in undoped and aluminum-doped zinc oxide thin films reactively sputtered at room temperature | <b>William Chamorro</b><br>CNRS - Institut Jean Lamour, France<br>Page36                                             |
| 11:35 -12:00PM                                               | A09: Oxide Glass Phosphor Containing ns <sup>2</sup> -type Emission Center                                                                     | <b>Hirokazu Masai</b><br>Kyoto University, Japan<br>Page37                                                           |
| 12:00-12:25 PM                                               | A10: Functional iron oxides as an elements of nanocomposites                                                                                   | <b>Beata Kalska-Szotko</b><br>University of Białystok, Poland<br>Page38                                              |
| 12:25 -14:00 PM                                              | Lunch Break                                                                                                                                    |                                                                                                                      |

| <b>Session: Biomedical Applications I      Chair: Stephan Reitzenstein</b>            |                                                                                                                                                      |                                                                                           |
|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 14:00-14:25 PM                                                                        | A11: Magneto-impedance based detection of magnetic biomarkers: Opportunities and Challenges                                                          | <b>Manh-Huong Phan</b><br>University of South Florida, USA<br>Page39                      |
| 14:25 -14:50 PM                                                                       | A12: Nanowire interactions with living cells and lipid membranes                                                                                     | <b>Christelle Prinz</b><br>Lund University, Sweden<br>Page40                              |
| 14:50 -15:15 PM                                                                       | A13: Biogenic magnetic nanoparticles for applications in hyperthermia and magnetic resonance imaging                                                 | <b>Neil Telling</b><br>Keele University, United Kingdom<br>Page41                         |
| 15:15 -15:40 PM                                                                       | A14: Evaluation of magnetic nanoparticles for biomedical applications                                                                                | <b>Yasushi Takemura</b><br>Yokohama National University, Japan<br>Page42                  |
| 15:40-16:05 PM                                                                        | A15: Highly luminescent nanodiamond for targeted delivery to cancer cells and high-resolution biomolecular imaging                                   | <b>Milos Nesladek</b><br>IMOMEC division IMEC & Hasselt University, Belgium<br>Page44     |
| 16:05-16:20 PM                                                                        | Session Break                                                                                                                                        |                                                                                           |
| <b>Session: Nanophotonic Structures and Applications I      Chair: Milos Nesladek</b> |                                                                                                                                                      |                                                                                           |
| 16:20 -16:45 PM                                                                       | A16: Periodic nanostructure formation using direct laser interference patterning technique                                                           | <b>Bogdan Voisiat</b><br>Center for Physical Sciences and Technology, Lithuania<br>Page45 |
| 16:45 -17:10 PM                                                                       | A17: AQuantum Light Sources Realized by Deterministic Nanofabrication Technologies                                                                   | <b>Stephan Reitzenstein</b><br>Technische Universität Berlin, Germany<br>Page47           |
| 17:10-17:35 PM                                                                        | A18: Fabrication of 2D and 3D metal nanostructure in matrix by interfering ultrashort laser processing                                               | <b>Yoshiki Nakata</b><br>Osaka University, Japan<br>Page48                                |
| 17:35-18:00 PM                                                                        | A19: Nanotechnology in Medicine: Towards realization of functionalized Rare Earth magnetic nanoparticles for Molecular Imaging and Therapy of Cancer | <b>Ranu Dutta</b><br>University of Allahabad, India<br>Page49                             |
| 18:00-18:25 PM                                                                        | A20: Nanoscale Electrons Dynamics Control in Ultrafast Laser Micro/Nano Fabrication                                                                  | <b>Lan Jiang</b><br>Beijing Institute of Technology, China<br>Page50                      |
| 19:00 PM                                                                              | Dinner Social                                                                                                                                        |                                                                                           |

**Program for EMN Fall Meeting on Dec.8**

| <b>Sunday Dec.8</b>                                                                        |                                                                                                                               |                                                                             |
|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| <b>Room A</b>                                                                              |                                                                                                                               |                                                                             |
| 7:00-8:00 AM                                                                               | Breakfast                                                                                                                     |                                                                             |
| <b>Session General II Chair: Elena Popova</b>                                              |                                                                                                                               |                                                                             |
| 8:00 -8:25 AM                                                                              | A21: Ultimate scaled Si tri-gate nanowire transistor                                                                          | <b>Kensuke Ota</b><br>Toshiba Corporation, Japan<br>Page54                  |
| 8:25 -8:50 AM                                                                              | A22: Nanomaterials integration and dedicated system architectures – application to piezoelectric nanowire-based sensors       | <b>Emmanuelle Pauliac-Vaujour</b><br>CEA-Leti, France<br>Page55             |
| 8:50 -9:15 AM                                                                              | A23: Atomically thin semiconducting channels for future nano-electronics                                                      | <b>Kazuhito Tsukagoshi</b><br>WPI-MANA, NIMS, Japan<br>Page56               |
| 9:15-9:40 AM                                                                               | A24: Electrode-contact effects on graphene and its analogs                                                                    | <b>Ryo Nouchi</b><br>Osaka Prefecture University, Japan<br>Page57           |
| 9:40 -10:05 AM                                                                             | A25: Enhanced Magnetocaloric Effect in Ni <sub>2</sub> MnGa Based Magnetocaloric Alloys                                       | <b>Anit Giri</b><br>Army Research Laboratory, United States<br>Page58       |
| 10:05-10:20 AM                                                                             | Session Break                                                                                                                 |                                                                             |
| <b>Session: Functional Metal Oxide II Chair: Anit Giri</b>                                 |                                                                                                                               |                                                                             |
| 10:20-10:45 AM                                                                             | A26: Insulating ferromagnetic LaCoO <sub>3-a</sub> films: a new functionality induced by ordered oxygen vacancies             | <b>Juan Salafranca</b><br>Complutense University of Madrid, Spain<br>Page59 |
| 10:45 -11:10 AM                                                                            | A27: Voltage Controlled Magnetization Switching with Magnetoelectrical Effect in Sesquioxide                                  | <b>Masashi Sahashi</b><br>Tohoku University, Japan<br>Page60                |
| 11:10-11:35 AM                                                                             | A28: Charge and cation ordering in magnetic semiconducting ilmenite-hematite Fe <sub>2-x</sub> Ti <sub>x</sub> O <sub>3</sub> | <b>Elena Popova</b><br>GEMaC, CNRS-UVSQ, France<br>Page61                   |
| 11:35-12:00 AM                                                                             | A29: Electronic Structure, Superconductivity, and Ferromagnetism in Nickelate Superlattices                                   | <b>Myung Joon Han</b><br>Department of Physics, KAIST, Korea<br>Page62      |
| 12:00-12:25 PM                                                                             | A30: ZnO grown at low temperature as a novel electronic material                                                              | <b>Elzbieta Guziewicz</b><br>Polish Academy of Sciences, Poland<br>Page63   |
| 12:25-14:00 PM                                                                             | Lunch Break                                                                                                                   |                                                                             |
| <b>Session: Nanophotonic Structures and Applications II Chair: Isabella Chiara Buscemi</b> |                                                                                                                               |                                                                             |

|                                                                   |                                                                                                         |                                                                                                      |
|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| 14:00-14:25 PM                                                    | A31: Phononic and phoxonic crystals and cavity optomechanic interactions                                | <b>Bahram Djafari-Rouhani</b><br>IEMN UMR CNRS 8520, France<br>Page64                                |
| 14:25-14:50 PM                                                    | A32: Nanophotonic glass-matrix composite scintillator for nuclear detection and radiation imaging       | <b>Zhitao Kang</b><br>Georgia Institute of Technology,<br>United States<br>Page65                    |
| 14:50-15:15 PM                                                    | A33: Modelocking of Terahertz Quantum Cascade Lasers                                                    | <b>Jerome Tignon</b><br>CNRS - LABORATOIRE PIERRE AIGRAIN, France<br>Page66                          |
| 15:15-15:40 PM                                                    | A34: Flexible nano-lasers and its sensing applications                                                  | <b>Min-Hsiung Shih</b><br>Research Center for Applied Sciences,<br>Academia Sinica, Taiwan<br>Page67 |
| 15:40-16:05 PM                                                    | A35: Impurity-doped micro-lasers                                                                        | <b>Markus Pollnau</b><br>University of Twente, Netherlands<br>Page68                                 |
| 16:05-16:20 PM                                                    | Session Break                                                                                           |                                                                                                      |
| <b>Session: Biomedical Applications II Chair: Min-Hsiung Shih</b> |                                                                                                         |                                                                                                      |
| 16:20-16:45 PM                                                    | A36: Microfluidic biosensing system using the motion of magnetic nanoparticles                          | <b>Ioanna Giouroudi</b><br>Vienna University of Technology,<br>Austria<br>Page70                     |
| 16:45-17:10 PM                                                    | A37: Real-time imaging detection of disease using polarized light and liquid crystals                   | <b>Isabella Chiara Buscemi</b><br>Universite Paris-Est Creteil, France<br>Page73                     |
| 17:10-17:35 PM                                                    | A38: Nanobiodevice that consists of membrane proteins and an artificial lipid bilayer                   | <b>Koji Sumitomo</b><br>NTT Basic Research Laboratories, Japan<br>Page75                             |
| 17:35 -18:00 PM                                                   | A39: Doxorubicin-loaded Cholic Acid-Polyethyleneimine Micelles for Targeted Delivery of Antitumor Drugs | <b>Mohd Cairul Iqbal Mohd Amin</b><br>Universiti Kebangsaan Malaysia, Malaysia<br>Page76             |
| 18:00-18:25 PM                                                    | A40: Mechanically Biocompatible Titanium Alloys                                                         | <b>Mitsuo Niinomi</b><br>Tohoku University, Japan<br>Page77                                          |
| 19:00 PM                                                          | Dinner Social                                                                                           |                                                                                                      |

| <b>Sunday Dec.8<br/>Room B</b>                              |                                                                                                                                      |                                                                                                                |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| 7:00-8:00 AM                                                | Breakfast                                                                                                                            |                                                                                                                |
| <b>Session Quantum Dot Devices I    Chair: Sven Höfling</b> |                                                                                                                                      |                                                                                                                |
| 8:00-8:25 AM                                                | B01: Light-emitting diodes and full-color displays using printed assemblies of colloidal quantum dots by dry pick-and-place transfer | <b>Tae-Ho Kim</b><br>Samsung Advanced Institute of Technology,<br>South Korea<br>Page78                        |
| 8:25-8:50 AM                                                | B02: Silicon Nanocrystals produced by Solid Phase Crystallisation and their Application in Photovoltaics                             | <b>Stefan Janz</b><br>Fraunhofer ISE, Germany<br>Page79                                                        |
| 8:50-9:15 AM                                                | B03: Charge transport in two dimensional organic layer behaving as quantum dot array                                                 | <b>Megumi Akai-Kasaya</b><br>Osaka University, Japan<br>Page81                                                 |
| 9:15-9:40 AM                                                | B04: PbS quantum dots (QD) in glass matrix as infrared light sources                                                                 | <b>Jens Tamm</b><br>Max-Born-Institute for Nonlinear Optics and<br>Short Pulse Spectroscopy, Germany<br>Page83 |
| 9:40 -10:05AM                                               | B05: Is the dipole approximation valid for quantum dots?                                                                             | <b>Søren Stobbe</b><br>University of Copenhagen, Denmark<br>Page84                                             |
| 10:05-10:20AM                                               | Session Break                                                                                                                        |                                                                                                                |
| <b>Session Quantum Dot Devices II    Chair: Jens Tamm</b>   |                                                                                                                                      |                                                                                                                |
| 10:20-10:45AM                                               | B06: Manipulation and active use of phonon-induced dephasing in optically driven quantum dots                                        | <b>Martin Glaeszl</b><br>University of Bayreuth, Germany<br>Page85                                             |
| 10:45-11:10AM                                               | B07: Intraband Carrier Dynamics in Self-Assembled Quantum Dots for Infrared Optical Devices                                          | <b>Yukihiro Harada</b><br>Kobe University, Japan<br>Page87                                                     |
| 11:10-11:35AM                                               | B08: Tunable properties of quantum dot molecules                                                                                     | <b>Eric Stinaff</b><br>Ohio University, United States<br>Page89                                                |
| 11:35-12:00PM                                               | B09: Waveguide Quantum Dot Single Photon Sources and Integrated Quantum Photonics                                                    | <b>Sven Höfling</b><br>University of St Andrews, United Kingdom<br>Page90                                      |

|                                                                                      |                                                                                                                                                        |                                                                                                          |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| 12:00-12:25PM                                                                        | B10: Antimonide Quantum Dot Nanostructures for Novel Photonic Device Applications                                                                      | <b>Peter Carrington</b><br>Lancaster University, United Kingdom<br>Page92                                |
| 12:25-14:00PM                                                                        | Lunch Break                                                                                                                                            |                                                                                                          |
| <b>Session Porous Materials and Inorganic Nanocrystals I Chair: Takahito Ohshiro</b> |                                                                                                                                                        |                                                                                                          |
| 14:25-14:50PM                                                                        | B11: Well-Defined Metal-Platinum Core-Shell Nanoparticles                                                                                              | <b>Ryota Sato</b><br>Institute for Chemical Research, Kyoto University, Japan<br>Page93                  |
| 14:50-15:15PM                                                                        | B12: Integration Nanoarchitecture: Inorganic Nanocrystal/Metal-Organic Framework Core/Shell Nanostructures                                             | <b>Takaaki Tsuruoka</b><br>Konan University, Japan<br>Page95                                             |
| 15:15-15:40PM                                                                        | B13: Structural, electronic and optical properties of alpha-tin nanocrystals from first principles                                                     | <b>Sebastian Kuefner</b><br>Institut fuer Festkoerpertheorie und -optik, Germany<br>Page96               |
| 15:40-16:05PM                                                                        | B14: Oil-in-water microemulsiones for the synthesis of single and hybrid inorganic nanostructures: examples of use in catalysis and other applications | <b>Margarita Sanchez-Dominguez</b><br>Advanced Materials Research Centre(CIMAV, S.C.) , Mexico<br>Page97 |
| 16:05-16:20PM                                                                        | Session Break                                                                                                                                          |                                                                                                          |
| <b>Session Batteries and Supercapacitors Chair: Takaaki Tsuruoka</b>                 |                                                                                                                                                        |                                                                                                          |
| 16:20-16:45PM                                                                        | B15: From materials research to 3D-integrated Li-ion micro-batteries                                                                                   | <b>Peter H.L. Notten</b><br>Eindhoven University of Technology, The Netherlands<br>Page99                |
| 16:45-17:10PM                                                                        | B16: All-solid-state lithium battery using LiBH <sub>4</sub> as a solid electrolyte                                                                    | <b>Hitoshi Takamura</b><br>Tohoku Universiy, Japan<br>Page100                                            |
| 17:10-17:35PM                                                                        | B17: Development of an Aqueous Lithium-Air Battery                                                                                                     | <b>Laurent Puech</b><br>ICMCB-CNRS, IPB-ENSCBP, France<br>Page102                                        |
| 17:35-18:00PM                                                                        | B18: Computational screening for hydrogen evolution catalysts                                                                                          | <b>Kingsley Obodo</b><br>University of Pretoria, South Africa<br>Page104                                 |
| 18:00-18:25PM                                                                        | B19: Single-Molecule Tunnel-Current Identification of DNA/RNA oligonucleotides Toward Genome Sequencing                                                | <b>Takahito Ohshiro</b><br>Osaka University, Japan<br>Page105                                            |
| 19:00 PM                                                                             | Dinner Social                                                                                                                                          |                                                                                                          |

**Sunday Dec.8****Room C**

|                                                               |                                                                                                                                         |                                                                                                  |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 7:00-8:00 AM                                                  | Breakfast                                                                                                                               |                                                                                                  |
| <b>Session Photovoltaic Materials I Chair:</b>                |                                                                                                                                         |                                                                                                  |
| 8:00 -8:25 AM                                                 | C01: Roll-to-roll printing of organic photovoltaic modules                                                                              | <b>Pälvi Apilo</b><br>VTT Technical Research Centre of Finland,<br>Finland<br>Page107            |
| 8:25 -8:50 AM                                                 | C02: Photopolymerized Nanocomposites and Light-Trapping Nanostructures for Large Area Roll-to-Roll Encapsulation of Photovoltaics       | <b>Yves Leterrier</b><br>EPFL, Switzerland<br>Page108                                            |
| 8:50-9:15 AM                                                  | C03: Direct Observation of Hole Accumulation in Polymer Solar Cells During Device Operation using Light-Induced Electron Spin Resonance | <b>Kazuhiro Marumoto</b><br>University of Tsukuba, Japan<br>Page110                              |
| 9:15 -9:40 AM                                                 | C04: Morphological stabilization in organic photovoltaics                                                                               | <b>Ayse Turak</b><br>McMaster University, Canada<br>Page112                                      |
| 9:40-10:05 AM                                                 | C05: Correlating nanoscale morphology with function in bulk heterojunction organic solar cells                                          | <b>Tao Wang</b><br>The University of Sheffield,<br>United Kingdom<br>Page113                     |
| 10:05-10:20AM                                                 | Session Break                                                                                                                           |                                                                                                  |
| <b>Session Photovoltaic Materials II Chair: Patrice Miska</b> |                                                                                                                                         |                                                                                                  |
| 10:20-10:45AM                                                 | C06: Nanotechnology for silicon thin-film photovoltaics                                                                                 | <b>Matthias Meier</b><br>Forschungszentrum Jülich GmbH, Germany<br>Page115                       |
| 10:45-11:10AM                                                 | C07: Control of spontaneous emission of silicon nanostructures coupled to microcavities or plasmonic structures                         | <b>Patrice Miska</b><br>Jean Lamour Institute – CNRS – University of Lorraine, France<br>Page117 |
| 11:10-11:35AM                                                 | C08: Silicon nanoparticles for photovoltaics                                                                                            | <b>Jatindra Rath</b><br>Utrecht University, Netherlands<br>Page119                               |
| 11:35-12:00PM                                                 | C09: Improved efficiency of crystalline-Si/organic heterojunction photovoltaics using nanometer-sized functional materials              | <b>Hajime Shirai</b><br>Saitama University, Japan<br>Page120                                     |

|                                                                  |                                                                                                                                            |                                                                                                         |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 12:00-12:25PM                                                    | C10: The kinetics of hydrogen plasma interaction with a-Si:H thin films: etching or amorphous to nanocrystalline transition                | <b>Aomar Hadjadj</b><br>University of Reims, France<br>Page121                                          |
| 12:25-14:00PM                                                    | Lunch Break                                                                                                                                |                                                                                                         |
| <b>Session Spin Electronics Devices I Chair: Hyuk-Jae Jang</b>   |                                                                                                                                            |                                                                                                         |
| 14:00-14:25PM                                                    | C11: Electron states and coherent tunneling in $\text{Fe}_{1-x}\text{Co}_x$ / MgO / $\text{Fe}_{1-x}\text{Co}_x$ magnetic tunnel junctions | <b>Lionel Calmels</b><br>CEMES-CNRS, France<br>Page123                                                  |
| 14:25-14:50PM                                                    | C12: Domain replication in perpendicularly magnetized Co/Au/Co system with ferromagnetic and antiferromagnetic interlayer coupling         | <b>Piotr Kuswik</b><br>Institute of Molecular Physics, Polish Academy of Sciences, Poland<br>Page124    |
| 14:50-15:15PM                                                    | C13: Transport and structural properties of the abrupt Fe/GaAs(001) interface                                                              | <b>Atsufumi Hirohata</b><br>University of York, United Kingdom<br>Page126                               |
| 15:15-15:40PM                                                    | C14: Electrical spin injection into GaAs through MgO tunnel barriers                                                                       | <b>Pierre Renucci</b><br>Universite de Toulouse,INSAT, France<br>Page128                                |
| 15:40-16:05PM                                                    | C15: Electrical creation of spin polarization in Ge at room temperature                                                                    | <b>Hidekazu Saito</b><br>Advanced Science Research Center, Japan Atomic Energy Agency, Japan<br>Page129 |
| 16:05-16:20PM                                                    | Session Break                                                                                                                              |                                                                                                         |
| <b>Session Spin Electronics Devices II Chair: Lionel Calmels</b> |                                                                                                                                            |                                                                                                         |
| 16:20-16:45PM                                                    | C16: Highly efficient thermal spin injection using CoFeAl injector                                                                         | <b>Takashi Kimura</b><br>Kyushu University, Japan<br>Page130                                            |
| 16:45-17:10PM                                                    | C17: Spin-polarized electron current modification in gated semiconductor nanowires                                                         | <b>Janusz Adamowski</b><br>AGH University of Science and Technology, Poland<br>Page131                  |
| 17:10-17:35PM                                                    | C18: Investigation of current driven domain wall motion for RE-TM magnetic wire device                                                     | <b>Hiroyuki Awano</b><br>Toyota Technological Institute, Japan<br>Page132                               |
| 17:35-18:00PM                                                    | C19: Spin transport in organic semiconductors and manipulation of organic magnetoresistance                                                | <b>Hyuk-Jae Jang</b><br>National Institute of Standards and Technology, USA<br>Page134                  |
| 18:00-18:25PM                                                    | C20: Control of spin-wave interference in metallic nanostructures                                                                          | <b>Koji Sekiguchi</b><br>Department of Physics, Keio University, Japan                                  |
| 19:00                                                            | Dinner Social                                                                                                                              |                                                                                                         |

| <b>Monday Dec.9</b>                              |                                                                                                                                                      |                                                                                                           |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Room A</b>                                    |                                                                                                                                                      |                                                                                                           |
| 7:00-8:00AM                                      | Breakfast                                                                                                                                            |                                                                                                           |
| <b>Session: General III Chair: Aline Rougier</b> |                                                                                                                                                      |                                                                                                           |
| 8:00-8:25AM                                      | A41: Thermo-mechanical analysis of colorless polyimide substrates for future display devices                                                         | <b>Youngsuk Jung</b><br>Samsung Advanced Institute of Technology,<br>South Korea<br>Page136               |
| 8:25-8:50AM                                      | A42: Novel optical polymer films for high-quality LCDs                                                                                               | <b>Akihiro Tagaya</b><br>Keio University, Japan<br>Page137                                                |
| 8:50-9:15AM                                      | A43: Ion Beam Modification of Nanostructured Binary Oxide Ceramics for Energy Applications                                                           | <b>Philip Edmondson</b><br>University of Oxford, United Kingdom<br>Page138                                |
| 9:15-9:40AM                                      | A44: Biomimetic approaches for a new type of imaging system – Insect's eye camera                                                                    | <b>Young Min Song</b><br>Pusan National University, South Korea<br>Page139                                |
| 9:40-10:05AM                                     | A45: Lithography challenges for next device generations                                                                                              | <b>Sébastien Pauliac-Vaujour</b><br>CEA-Leti, France<br>Page140                                           |
| 10:05-10:20AM                                    | Session Break & Poster                                                                                                                               |                                                                                                           |
| <b>Session: General IV Chair: Dae Soon Lim</b>   |                                                                                                                                                      |                                                                                                           |
| 10:20-10:45AM                                    | A46: Polysaccharide Composite Films as Eco-Friendly Structural Materials                                                                             | <b>Mineo Hashizume</b><br>Tokyo University of Science, Japan<br>Page142                                   |
| 10:45-11:10AM                                    | A47: Lithographically defined group III-nitride quantum dots and applications                                                                        | <b>P.C. Ku</b><br>University of Michigan, USA<br>Page143                                                  |
| 11:10-11:35AM                                    | A48: Impedance spectroscopic study on resistance switching memory devices                                                                            | <b>Toshihiro Nakamura</b><br>Osaka Electro-Communication University,<br>Japan<br>Page144                  |
| 11:35-12:00PM                                    | A49: Optimized Electrochromic Materials and Devices                                                                                                  | <b>Aline Rougier</b><br>Institut de Chimie de la matière condensée de<br>Bordeaux-CNRS, France<br>Page145 |
| 12:00-12:15PM                                    | A50: Near-infrared Photoresponse Sensitization of Solvent Additive Processed Poly(3-hexylthiophene)-Fullerene Solar Cells by a Low Band Gap Polymers | <b>Andre Gesquiere</b><br>University of Central Florida, United States<br>Page146                         |

|                                                                      |                                                                                                                                                         |                                                                                                                              |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 12:15-12:30PM                                                        | A51: Mesoporous TiO <sub>2</sub> nano-assembly with high surface area: a superior candidate for high performance photocatalysis and energy applications | <b>Masih Darbandi</b><br>Brown University, United States<br>Page147                                                          |
| 12:30-14:00PM                                                        | Lunch Break                                                                                                                                             |                                                                                                                              |
| <b>Session: General V Chair: Masih Darbandi</b>                      |                                                                                                                                                         |                                                                                                                              |
| 14:00-14:25PM                                                        | A52: Nanostructured Diamond Electrodes for Electrochemical Wastewater Treatment                                                                         | <b>Dae Soon Lim</b><br>Korea University, South Korea<br>Page148                                                              |
| 14:25-14:50PM                                                        | A53: Two mechanisms of resistive memories in complex oxide thin films                                                                                   | <b>Kuijuan Jin</b><br>Institute of Physics, Chinese Academy of Sciences, China<br>Page149                                    |
| 14:50-15:15PM                                                        | A54: Advanced Conjugated Polymers for Photonics                                                                                                         | <b>Vera Cimrová</b><br>Institute of Macromolecular Chemistry<br>Academy of Sciences of the Czech Republic,<br>Czech Republic |
| 15:15-15:40PM                                                        | A55: Realization of ferromagnetism in diluted magnetic semiconductors based on II-VI compounds                                                          | <b>Shinji Kuroda</b><br>University of Tsukuba, Japan<br>Page151                                                              |
| 15:40-16:05PM                                                        | A56: Beyond Li-ion – A Case for Magnesium Battery Systems                                                                                               | <b>Nikhilendra Singh</b><br>Toyota Research Institute of North America,<br>United States<br>Page152                          |
| 16:05-16:20PM                                                        | Session Break & Poster                                                                                                                                  |                                                                                                                              |
| <b>Session: Biomedical Applications III Chair: Nikhilendra Singh</b> |                                                                                                                                                         |                                                                                                                              |
| 16:20-16:45PM                                                        | A57: Fluorescent diamond particles as nanoscale intracellular sensors                                                                                   | <b>Vladimira Petrakova</b><br>Faculty of Biomedical Engineering,<br>Czech Republic                                           |
| 16:45-17:10PM                                                        | A58: Self-heating properties and MRI contrast of multifunctional magnetic nanoparticles                                                                 | <b>Yuko Ichiyanagi</b><br>Yokohama National University, Japan<br>Page154                                                     |
| 17:10-17:35PM                                                        | A59: Optical and digital methods for super-resolution microscopy using quantum dot blinking, with extensions to three dimensions                        | <b>Anthony Barsic</b><br>University of Colorado at Boulder, USA                                                              |
| 17:35-18:00PM                                                        | A60: Graphene based biomedical implants and drug delivery                                                                                               | <b>Ramakrishna Podila</b><br>Clemson University, USA                                                                         |
| 18:00-18:25PM                                                        | A61: Development human organ using nanomaterial and stem cells technology                                                                               | <b>Alexander M. Seifalian</b><br>University College London, UK                                                               |
| 19:00PM                                                              | Dinner Social                                                                                                                                           |                                                                                                                              |

| <b>Monday Dec.9</b>                                                              |                                                                                                       |                                                                                                                          |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Room B</b>                                                                    |                                                                                                       |                                                                                                                          |
| 7:00 -8:00 AM                                                                    | Breakfast                                                                                             |                                                                                                                          |
| <b>Session: Nanophotonic Structures and Applications III Chair: Adam Mock</b>    |                                                                                                       |                                                                                                                          |
| 8:00 -8:25 AM                                                                    | B20: Nonlinear plasmonics: a new sight, a new perspective                                             | <b>Jérémy Butet</b><br>Swiss Federal Institute of Technology<br>Lausanne (EPFL), Switzerland<br>Page159                  |
| 8:25-8:50 AM                                                                     | B21: Evidence of V-enhancement of ferromagnetism on ZnO-V2O5 nanoparticles                            | <b>Sion Federico Olive Méndez</b><br>Centro de Investigación en Materiales<br>Avanzados, S. C. Mexico, Mexico<br>Page160 |
| 8:50-9:15 AM                                                                     | B22: Nanoplasmonics: Reaching Out to the Single Molecule                                              | <b>Reuven Gordon</b><br>University of Victoria, Canada<br>Page162                                                        |
| 9:15-9:40 AM                                                                     | B23: Surface plasmon coupled fluorescence in deep-ultraviolet excitation                              | <b>Atsushi Ono</b><br>Shizuoka University, Japan<br>Page163                                                              |
| 9:40-10:05 AM                                                                    | B24: Plasmons in Nanostructured Graphene                                                              | <b>Sanshui Xiao</b><br>Technical University of Denmark, Denmark<br>Page164                                               |
| 10:05-10:20AM                                                                    | Session Break & Poster                                                                                |                                                                                                                          |
| <b>Session: Nanophotonic Structures and Applications IV Chair: Reuven Gordon</b> |                                                                                                       |                                                                                                                          |
| 10:20-10:45AM                                                                    | B25: Electrodynamic modeling of graphene photonic devices                                             | <b>Adam Mock</b><br>Central Michigan University, USA<br>Page166                                                          |
| 10:45-11:10AM                                                                    | B26: Nanophotonics for computing and security applications                                            | <b>Makoto Naruse</b><br>National Institute of Information and<br>Communications Technology, Japan<br>Page168             |
| 11:10-11:35AM                                                                    | B27: Semiconductor Nanowire Arrays for Photovoltaics and Lighting: a Theoretical Assessment           | <b>Bernd Witzigmann</b><br>Kassel University, Germany<br>Page169                                                         |
| 11:35 -12:00PM                                                                   | B28: Ultrafast light induced spontaneous self assembly of Ag nanoparticles on chalcogenide thin films | <b>Kumaran Nair Valsala Dev, Adarsh</b><br>IISER Bhopal, India<br>Page170                                                |
| 12:00-12:25AM                                                                    | B29: Precise control method of interdot distance for optical applications                             | <b>Mitsuru Inada</b><br>Kansai University, Japan<br>Page171                                                              |
| 12:25-14:00                                                                      | Lunch Break                                                                                           |                                                                                                                          |
| <b>Session Porous Materials and Inorganic Nanocrystals II Chair: Kathy Lüdge</b> |                                                                                                       |                                                                                                                          |

|                                                                  |                                                                                                                              |                                                                                                            |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 14:00-14:25PM                                                    | B30: Cooperative Carbon Monoxide Sorption in Flexible Porous Crystals                                                        | <b>Hiroshi Sato</b><br>Institute for Integrated Cell-Material Sciences, Kyoto University, Japan<br>Page172 |
| 14:25-14:50PM                                                    | B31: Unprecedented thermal stability, pore volumes, and control of pore structures for alumina and titania catalyst supports | <b>Brian F. Woodfield</b><br>Brigham Young University, United States<br>Page173                            |
| 14:50-15:15PM                                                    | B32: Nanoporous materials for carbon dioxide separation                                                                      | <b>Vladimir Zelenak</b><br>P.J. Safarik University in Kosice, Slovakia<br>Page174                          |
| 15:15-15:40PM                                                    | B33: Functional Materials Derived from Porous Hosts                                                                          | <b>Jiesheng Chen</b><br>Shanghai Jiao Tong University, China<br>Page175                                    |
| 15:40-15:55PM                                                    | B34: Synthesis and Fundamental Characterization of Protein-Stabilized Noble Metal Nanoclusters                               | <b>Abby West</b><br>U.S. Army Research Laboratory, United States<br>Page176                                |
| 15:55-16:10PM                                                    | Session Break & Poster                                                                                                       |                                                                                                            |
| <b>Session Quantum Dot Devices III Chair: Brian F. Woodfield</b> |                                                                                                                              |                                                                                                            |
| 16:10-16:35PM                                                    | B35: GaAs(Sb)(N)-capped InAs/GaAs quantum dots: from atomic scale characterization to improved device performance            | <b>Jose Maria Ulloa</b><br>ISOM-Universidad Politecnica de Madrid, Spain<br>Page177                        |
| 16:35-17:00 PM                                                   | B36: Multi-section quantum-dot laser devices - Nonlinear dynamics and noise effects                                          | <b>Kathy Lüdge</b><br>Technische Universitaet Berlin, Germany<br>Page178                                   |
| 17:00 -17:25PM                                                   | B37: Nanophotonic droplet: a novel optical device consists of autonomously-coupled quantum dots                              | <b>Naoya Tate</b><br>The University of Tokyo, Japan<br>Page180                                             |
| 17:25 -17:50PM                                                   | B38: Harnessing quantum light with photonic wire antennas                                                                    | <b>Julien Claudon</b><br>CEA, INAC, SP2M, France<br>Page181                                                |
| 17:50 -18:15PM                                                   | B39: Electro-elastic manipulation of single particles and excitons in self-assembled quantum dots                            | <b>Brian. D. Gerardot</b><br>Heriot-Watt University, United Kingdom<br>Page182                             |
| 18:15 -18:40PM                                                   | B40: Sources of highly indistinguishable single photons with semiconductor quantum dots under resonant excitation.           | <b>Carole Diederichs</b><br>CNRS - LABORATOIRE PIERRE AIGRAIN, France<br>Page183                           |
| 19:00                                                            | Dinner Social                                                                                                                |                                                                                                            |

| <b>Monday Dec.9</b>                                                |                                                                                                                    |                                                                                                   |
|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>Room C</b>                                                      |                                                                                                                    |                                                                                                   |
| 7:00-8:00                                                          | Breakfast                                                                                                          |                                                                                                   |
| <b>Session Photovoltaic Materials III Chair: Michael S. Arnold</b> |                                                                                                                    |                                                                                                   |
| 8:00-8:25 AM                                                       | C21: Light Propagation Direction Conversion for Enhanced Light Absorption in Thin-film Solar Cells                 | <b>Ikuo Suemune</b><br>Hokkaido University, Japan<br>Page184                                      |
| 8:25-8:50 AM                                                       | C22: Capacitance spectroscopy a method to reveal information on the electronic structure of thin film solar cells. | <b>Johan Lauwaert</b><br>Ghent University, Belgium<br>Page186                                     |
| 8:50-9:15 AM                                                       | C23: Emerging sustainable thin film photovoltaic technologies: kesterite-based solar cells                         | <b>Andrew Fairbrother</b><br>FUNDACIO INSTITUT RECERCA ENERGIA CATALUNYA (IREC), Spain<br>Page187 |
| 9:15-9:40 AM                                                       | C24: Scattering Nanostructures for Angle Selective Light Management in Thin Film Photovoltaics                     | <b>Brian Roberts</b><br>University of Michigan, United States<br>Page188                          |
| 9:40-10:05 AM                                                      | C25: Towards Quantum Dot Solar Cell Industrialization: High Efficiency Cells and Flexible Thin Film Cells          | <b>Katsuaki Tanabe</b><br>University of Tokyo, Japan<br>Page190                                   |
| 10:05-10:20 AM                                                     | Session Break & Poster                                                                                             |                                                                                                   |
| <b>Session Photovoltaic Materials IV Chair: Katsuaki Tanabe</b>    |                                                                                                                    |                                                                                                   |
| 10:20-10:45 AM                                                     | C26: Charge transport in quantum dot solids                                                                        | <b>Seung Jae Baik</b><br>Hankyong National University, South Korea<br>Page192                     |
| 10:45-11:10 AM                                                     | C27: Quantum dot sensitized solar cells using group IV semiconductor nanoparticles                                 | <b>Kazunori Koga</b><br>Kyushu University, Japan<br>Page193                                       |
| 11:10-11:35 AM                                                     | C28: Photocatalysis of titanium dioxide nanoparticles and their solar applications                                 | <b>Yalin Lu</b><br>University of Science and Technology, China<br>Page195                         |
| 11:35-12:00PM                                                      | C29: Scanning Tunneling Microscopy of III-V Semiconductor Nanowires for Photovoltaics                              | <b>Rainer Timm</b><br>Lund University, Sweden<br>Page196                                          |
| 12:00-12:25 PM                                                     | C30: Using Semiconducting Carbon Nanotubes as the Primary Light Absorbing Materials of Solar Cells.                | <b>Michael S. Arnold</b><br>University of Wisconsin-Madison, United States<br>Page198             |

|                                                                   |                                                                                                                |                                                                                                                                         |
|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 12:25-14:00 PM                                                    | Lunch Break                                                                                                    |                                                                                                                                         |
| <b>Session Spin Electronics Devices III    Chair: Rainer Timm</b> |                                                                                                                |                                                                                                                                         |
| 14:00-14:25 PM                                                    | C31: Intrinsic and extrinsic magnetoresistance and magnetoelectroluminescence in organic semiconductor devices | <b>Markus Wohlgenannt</b><br>The University of Iowa, USA<br>Page199                                                                     |
| 14:25-14:50 PM                                                    | C32: Transport properties in heterostructures based on the helimagnet and skyrmion lattices                    | <b>Rui Zhu</b><br>South China University of Technology,<br>China                                                                        |
| 14:50-15:15 PM                                                    | C33: Spin excitations in diluted magnetic quantum wells                                                        | <b>Florent Perez</b><br>Institut des NanoSciences de Paris -CNRS,<br>France                                                             |
| 15:15-15:40 PM                                                    | C34: Granular structures in semiconductor-ferromagnetic systems as promising materials for spintronics         | <b>Irina Fedorchenko</b><br>Kurnakov Institute of General and<br>Inorganic Chemistry Russian Academy of<br>Sciences, Russian Federation |
| 15:40-16:05 PM                                                    | C35: Half metallic complex oxide LSMO and its application in multiferroic and organic spintronic components    | <b>Sayani Majumdar</b><br>University of Turku & Aalto University<br>School of Science, Finland<br>Page204                               |
| 16:05-16:30 PM                                                    | C36: Spin Hall magnetoresistance in magnetic insulator   metal heterostructures                                | <b>Hiroyasu Nakayama</b><br>Tohoku University, Japan<br>Page205                                                                         |
| 16:30-16:40 PM                                                    | Session Break & Poster                                                                                         |                                                                                                                                         |
| <b>Session General VI    Chair:</b>                               |                                                                                                                |                                                                                                                                         |
| 16:40-17:05 PM                                                    | C37: Nonlinear electron transport in THz fields, and THz nonlinear optics                                      | <b>Dmitry Turchinovich</b><br>Max Planck Institute for Polymer Research,<br>Germany                                                     |
| 17:05-17:30 PM                                                    | C38: Physical deposition of nanocomposite thin film containing semiconductor nanocrystals                      | <b>Seishi Abe</b><br>Research Institute for Electromagnetic<br>Materials, Japan                                                         |
| 17:30-17:55 PM                                                    | C39: Terahertz response properties of carbon nanotubes and nanotube-based composite materials                  | <b>Sergey Maksimenko</b><br>Institute for nuclear Problems, Belarusian<br>State University                                              |
| 17:55-18:20 PM                                                    | C40: Structural analysis of MOVPE grown InGaAs quantum dots in a GaP matrix                                    | <b>Christopher Prohl</b><br>Technische Universität Berlin, Germany<br>Page209                                                           |
| 19:00                                                             | Dinner Social                                                                                                  |                                                                                                                                         |

| <b>Tuesday Dec.10</b>                                      |                                                                                                                               |                                                                                          |
|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <b>Room A</b>                                              |                                                                                                                               |                                                                                          |
| 7:00-8:00 AM                                               | Breakfast                                                                                                                     |                                                                                          |
| <b>Session Quantum Dot Devices IV Chair: Philippe Wyss</b> |                                                                                                                               |                                                                                          |
| 8:00-8:25 AM                                               | A62: Optoelectronic Response of Metal-Semiconductor Hybrid Nanodots Floating Gate                                             | <b>Seiichi Miyazaki</b><br>Nagoya University, Japan<br>Page212                           |
| 8:25-8:50 AM                                               | A63: Rapid Calcination Process for Dye-Sensitized Solar Cells by Atmospheric-Pressure Nitrogen Plasma Jet                     | <b>I-Chun Cheng</b><br>National Taiwan University, Taiwan<br>Page213                     |
| 8:50-9:15 AM                                               | A64: Modulation Dynamics of Nanostructure Semiconductor Lasers                                                                | <b>Frédéric Grillot</b><br>Institut Mines-Telecom - Telecom ParisTech, France<br>Page214 |
| 9:15-9:40 AM                                               | A65: Magnetic field dependence of quantum dot spin qubit entanglement decay                                                   | <b>Katarzyna Roszak</b><br>Wrocław University of Technology, Poland<br>Page215           |
| 9:40-10:05 AM                                              | A66: Individual cobalt and manganese ions in selenides and tellurides quantum dots                                            | <b>Wojciech Pacuski</b><br>University of Warsaw, Poland<br>Page216                       |
| 10:05-10:20 AM                                             | Session Break                                                                                                                 |                                                                                          |
| <b>Session General VII Chair: Richard Lunt</b>             |                                                                                                                               |                                                                                          |
| 10:20-10:45 AM                                             | A67: Light harvesting in crystalline silicon nanoarchitectures for photovoltaics and photonics                                | <b>Philippe Wyss</b><br>Helmholtz Zentrum Berlin, Germany<br>Page217                     |
| 10:45-11:00 AM                                             | A68: Surface microstructuring as an alternative to coated optics for industrial applications                                  | <b>Aliaksandra Ivinskaya</b><br>Technical University of Denmark, Denmark<br>Page218      |
| 11:00-11:15 AM                                             | A69: Transition metal and molecular oxides as highly efficient charge selective interlayers in polymer optoelectronic devices | <b>Leonidas C. Palilis</b><br>University of Patras, Greece<br>Page220                    |
| 11:15-11:40 AM                                             | A70: Si Single-Electron Transistor based on Multiple Islands and Its Applications                                             | <b>Anri Nakajima</b><br>Hiroshima University, Japan<br>Page221                           |
| 11:40-12:05 PM                                             | A71: Theoretical aspects of rare earth materials for energy applications                                                      | <b>Durga Paudyal</b><br>Iowa State University, United States                             |
| 12:05-12:30 PM                                             | A72: II-VI based DMS materials - from materials properties to magnetic properties                                             | <b>Marek Godlewski</b><br>Instytut Fizyki Polskiej Akademii Nauk, Poland                 |
| 12:30-14:00 PM                                             | Lunch Break                                                                                                                   |                                                                                          |
| 14:00                                                      | Afternoon Seaworld Social                                                                                                     |                                                                                          |

| <b>Tuesday Dec.10</b>                                             |                                                                                                                      |                                                                                       |
|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Room B</b>                                                     |                                                                                                                      |                                                                                       |
| 7AM:00-8:00AM                                                     | Breakfast                                                                                                            |                                                                                       |
| <b>Session Photovoltaic Materials V    Chair: Ahmed El-Shafei</b> |                                                                                                                      |                                                                                       |
| 8:00-8:25 AM                                                      | B41: Materials challenges in ultra-thin CdTe PV solar cells                                                          | <b>Andrew J. Clayton</b><br>Glyndwr University, United Kingdom<br>Page225             |
| 8:25-8:50 AM                                                      | B42: Diagnostics of magnetron sputtering deposition processes of Cu <sub>2</sub> ZnSnS <sub>4</sub>                  | <b>Koichi Sasaki</b><br>Hokkaido University, Japan<br>Page227                         |
| 8:50-9:15 AM                                                      | B43: Back contact improvement for evaporated CZTS solar cells s                                                      | <b>Hongtao Cui</b><br>The University of New South Wales,<br>Australia                 |
| 9:15-9:40 AM                                                      | B44: Carbon nanotubes and their application in organic-inorganic hybrid solar cells                                  | <b>Viney Saini</b><br>University of Arkansas at Little Rock,<br>United States         |
| 9:40-10:05 AM                                                     | B45: Quantum-dot microdisk lasers: device structures and performances                                                | <b>Ming-Hua Mao</b><br>National Taiwan University, Taiwan                             |
| 10:05-10:20 AM                                                    | Session Break                                                                                                        |                                                                                       |
| <b>Session Photovoltaic Materials VI    Chair: Hongtao Cui</b>    |                                                                                                                      |                                                                                       |
| 10:20-10:45 AM                                                    | B46: Efficient Monolithic Solid-state Mesoscopic Solar Cells Based on Full Printing technology                       | <b>Hongwei Han</b><br>Huazhong University of Science and Technology, China<br>Page231 |
| 10:45-11:10 AM                                                    | B47: Molecular Engineering of Novel Panchromatic Sensitizers for Dye-sensitized Solar Cells Exceeding 10% Efficiency | <b>Ahmed El-Shafei</b><br>North Carolina State University, United States<br>Page232   |
| 11:10-11:35 AM                                                    | B48: Excitonic Photovoltaics: Limits and Unique Opportunities                                                        | <b>Richard R. Lunt</b><br>Michigan State University, United States                    |
| 11:35-12:00 PM                                                    | B49: X-ray photoelectron spectroscopy study of CuInSe <sub>2</sub> thin film passivated by trioctylphosphine sulfide | <b>Jiun-Haw Lee</b><br>National Taiwan University, Taiwan<br>Page235                  |
| 12:00-12:25 PM                                                    | B50: New integration approaches for large-scale, highly arrayed nanostructures for photovoltaic applications         | <b>Gon Namkoong</b><br>Old Dominion University, United States<br>Page236              |
| 12:25-14:00 PM                                                    | Lunch Break                                                                                                          |                                                                                       |
| 14:00                                                             | Afternoon Seaworld Social                                                                                            |                                                                                       |

| <b>Tuesday Dec.10</b>                           |                                                                                                                                                |                                                                                                        |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Room C</b>                                   |                                                                                                                                                |                                                                                                        |
| 7:00-8:00AM                                     | Breakfast                                                                                                                                      |                                                                                                        |
| <b>Session General VIII Chair: Wen-Hsien Li</b> |                                                                                                                                                |                                                                                                        |
| 8:00-8:25 AM                                    | C41: Noble Metal Nanoparticles Supported on Titania                                                                                            | <b>Xim Bokhimi</b><br>Universidad Nacional Autonoma de Mexico, Mexico<br>Page238                       |
| 8:25-8:50 AM                                    | C42: Influences of nanoscale indium fluctuation in the InGaN quantum well LED to the carrier transport, radiation efficiency, and droop effect | <b>Yuh-Renn Wu</b><br>National Taiwan University, Taiwan<br>Page239                                    |
| 8:50-9:15 AM                                    | C43: Probing the energy materials with neutron and x-ray scatterings                                                                           | <b>Wen-Hsien Li</b><br>National Central University, China<br>Page240                                   |
| 9:15-9:40 AM                                    | C44: Self-Assembled Hybrid Polymer-Nanocrystal Heterostructures and Nano-Plasmonic Shield for Polymer-LED Enhancement                          | <b>Sylvain G.Cloutier</b><br>Ecole de technologie superieure, Canada<br>Page241                        |
| 9:40-10:05 AM                                   | 45: Spintronic properties of graphene/magnetic metal interface                                                                                 | <b>Seiji Sakai</b><br>Advanced Science Research Center, Japan<br>Atomic Energy Agency, Japa<br>Page242 |
| 10:05-10:20 AM                                  | Session Break                                                                                                                                  |                                                                                                        |
| 10:20-10:45 AM                                  | C46: New Opportunities in microwave electronics with ferromagnetic nanostructures                                                              | <b>Bijoy K.Kuanr</b><br>University of Colorado at Colorado Springs, USA<br>Page244                     |
| 10:45-11:10 AM                                  | C47: Silicon nanowire solar cells for the application to the third generation photovoltaics                                                    | <b>Yasuyoshi Kurokawa</b><br>Tokyo Institute of Technology, Japan<br>Page245                           |
| 11:10-11:35 AM                                  | C48: Generating Power From Fabrics                                                                                                             | <b>David Carroll</b><br>Wake Forest University, USA<br>Page247                                         |
| 11:35-12:00PM                                   | C49: Nano structured electrode material for advanced lithium ion batteries                                                                     | <b>Sevi Murugavel</b><br>University of Delhi, India<br>Page248                                         |
| 14:00                                           | Afternoon: Seaworld Social                                                                                                                     |                                                                                                        |