

# Program for ICSS 2016

**Saturday June 25<sup>th</sup>**

14:00-18:00

Onsite registration & Sign up

**Sunday June 26<sup>th</sup>**

**Room A**

**Session: Keynote Lecture& Biochemical Sensors and Detection Technologies I**

**Chair: Agnese Sonato**

8:30-9:00

A01: Straintronics: An extremely energy-efficient hardware platform for information technology

**Supriyo Bandyopadhyay**  
Virginia Commonwealth University(VCU),  
USA

9:00-9:30

A02: Ultrafast Dynamics Within Silica-based Materials: Relevance to Nanophotonics and Nanocatalysis

**Abderrazzak Douhal**  
Universidad de Castilla La Mancha  
(UCLM), Spain

9:30-10:00

A03: High speed 3D imaging microscopy, profilometry and vibrometry at the nanoscale

**Ibrahim Abdulhalim**  
Ben Gurion University, Israel

10:00-10:25

A04: Coherent Diffractive Imaging of Single Layer Nano- Microspheres with Extreme Ultraviolet Radiation

**Lap Van Dao**  
Swinburne University of Technology,  
Australia

10:25-10:50

A05: Raman Scattering for chemicals detection at trace levels

**Zhengjun Zhang**  
Tsinghua University, China

10:50-11:05

Session Break

<b>Session: Biochemical Sensors and Detection Technologies II</b>		
<b>Chair: Lap Van Dao</b>		
11:05 -11:30	A06: Novel detection concept in forensic analysis	<b>Jan Halamek</b> University at Albany-SUNY, USA
11:30-11:55	A07: Compact plasmonic lab-on-chip for enhanced biosensing efficiency: fabrication and sensing strategies	<b>Agnese Sonato</b> Laboratorio Nazionale IOM-CNR, Italy
11:55-12:15	A08: Gas sensing using recyclable Ag NRs@HfO <sub>2</sub> SERS substrate	<b>Ma Lingwei</b> Tsinghua University, China
12:15-12:40	A09: Nanostructured Plasmonic Chips for Chemical and Biological Sensing	<b>Anuj Dhawan</b> Indian Institute of Technology Delhi, India
12:40-14:00	Lunch Break	
<b>Session: Energy Materials I Chair: Huaiyu Shao</b>		
14:00-14:25	A10: Graphene-based 3D frameworks for energy storage	<b>Hiroto Nishihara</b> Tohoku University, Japan
14:25-14:50	A11: Fine-controlled sub nano particles in Dendrimer	<b>Kimihisa Yamamoto</b> Tokyo Institute of Technology, Japan
14:50-15:15	A12: Applications of Computational Chemistry to Functional Material Systems	<b>Michihisa Koyama</b> Kyushu University, Japan
15:15-15:40	A13: Enhanced Energy Storage Density and Energy Efficiency of Epitaxial Relaxor-ferroelectric Thin-films	<b>Minh D. Nguyen</b> University of Twente, The Netherlands
15:40-15:55	Session Break	
<b>Session: Micro and Nano Engineering I Chair: Kimihisa Yamamoto</b>		
15:55-16:20	A14: Strained Ge-On-Insulator Substrates toward Optoelectronic Integrated Circuits	<b>Kentarou Sawano</b> Tokyo City University, Japan
16:20-16:45	A15: Laser direct-write methods for inks microprinting	<b>J. Marcos Fernández-Pradas</b> Universitat de Barcelona, Spain
16:45-17:10	A16: Nanotribology of thin functional coatings	<b>Dae-Eun Kim</b> Yonsei University, South Korea
17:10-17:35	A17: Energy harvesting from random vibration	<b>Fei Wang</b> South University of Science and Technology of China, China
18:00	Dinner Social	

<b>Monday June 27<sup>th</sup></b>		
<b>Room B</b>		
<b>Session: General I Chair: Boris Semenov</b>		
8:30-8:55	B01: Compact photonic devices based on graphene	<b>Sangin Kim</b> Ajou University, Korea
8:55-9:20	B02: Wavelength conversion enhancements by double resonances of photonic/plamonic structures	<b>Soon-Hong Kwon</b> Chung-Ang University, Korea
9:20-9:45	B03: Biomedical application of chitin nanofibers for cosmetic, wound healing, skin inflammation and biological adhesive	<b>Kazuo Azuma</b> Tottori University, Japan
9:45-10:10	B04: Pleiotropic effects of chitosan and chitosan-nanofibers on oxidative stress related diseases	<b>Makoto Anraku</b> Sojo University, Japan
10:10-10:25	Session Break	
<b>Session: General II Chair: Sangin Kim</b>		
10:25-10:50	B05: High Throughput Fabrication of Metal Nanoparticle Related Materials by Liquid-Solid Reaction Syatems by Organic Precursor Painting Reduction Method	<b>Yamato Hayashi</b> Tohoku University, Japan
10:50-11:15	B06: Deformation and Fracture Processes in Graphene Materials with Lattice Defects	<b>Boris Semenov</b> Peter the Great St. Petersburg Polytechnic University, Russian
11:15-11:40	B07: Mechanoresponsive Gold Complexes with Tunable Luminescent Properties	<b>Tomohiro Seki</b> Hokkaido University, Japan
11:40-12:05	B08: A biosensor to detect inter-protein interaction and domain-domain interaction	<b>Masahide Terazima</b> Kyoto University, Japan
12:05-12:30	B09: Approaching the Resolution Limit of Nano-gap by Using Focused Ion Beam Chemical Vapour Deposition	<b>Jun Dai</b> Beijing Institute of Technology, China
12:30-14:00	Lunch Break	

<b>Session: General III Chair: Gen-ichi Konishi</b>		
14:00-14:25	B10: Direct molecular alignment induced by masked photopolymerization with no alignment layer and non-polarized light	<b>Kyohei Hisano</b> Tokyo Institute of Technology, Japan
14:25-14:50	B11: Preparation of a protein-chitin nanofiber complex from crab shells and its application as a reinforcement filler or substrate for biomineralization	<b>Shinsuke Ifuku</b> Tottori University, Japan
14:50-15:15	B12: On-chip picosecond pulses in 2D systems	<b>Alexander S. Mayorov</b> National University of Singapore, Singapore
15:15-15:40	B13: Printed manufacture ultra-integrated multi-analysis devices	<b>Fengyu Li</b> CAS, China
15:40-16:10	Poster Session	
<b>Session: General IV Chair: Kyohei Hisano</b>		
16:10-16:35	B14: New Photofunctional Materials Based on Pyrene Chromophore	<b>Gen-ichi Konishi</b> Tokyo Institute of Technology, Japan
16:35-17:00	B15: Energy-level structure and correlated electron dynamics in quasi-one-dimensional artificial atoms	<b>Tokuei Sako</b> Nihon University, Japan
17:00-17:25	B16: Self-assembly of adenine-silver nanoparticles forms rings resembling the size of cells	<b>Junhua Yu</b> Seoul National University, Korea
17:25-17:50	B17: Ultrasmall far-red emitting polymer dots: structures and photophysics	<b>Satoshi Habuchi</b> King Abdullah University of Science and Technology, Kingdom of Saudi Arabia
18:30	Dinner Social	

**Monday June 27<sup>th</sup>**

**Room C**

**Session: MEMS I Chair: Liantuan Xiao**

8:30-8:55	C01: High Q Piezoelectric Micro-Resonators for Microwave filters	<b>Matthieu Chatras</b> XLIM Research Institute, France
8:55-9:20	C02: Cantilever MEMS devices - measurement tools and measurement objects	<b>Grzegorz Józwiak</b> Wroclaw University of Technology, Poland
9:20-9:45	C03: Optical MEMS sensors such as Micro Doppler sensor, Micro Blood flow sensor, Micro Shear Force Sensor, and their applications	<b>Renshi Sawada</b> kyushu university, Japan
9:45-10:10	C04: MEMS based tuneable filters for IR spectroscopy	<b>Jarek Antoszewski</b> The University of Western Australia, Australia
10:10-10:25	Session Break	
<b>Session: Micro-Nano Photonics Chair: Matthieu Chatras</b>		
10:25-10:50	C05: Laser Induced Fluorescence Modification of Monolaye MoS2 and Its Potential Application	<b>Liantuan Xiao</b> Shanxi University, China
10:50-11:15	C06: 3-dimession nano-structure of trap split based on nonlinear polarization	<b>Yuqiang Jiang</b> CAS, China
11:15-11:40	C07: Infrared near-field microscopy on semi-conductor multilayers and quantum cascade lasers	<b>Yannick De Wilde</b> ESPCI ParisTech-CNRS, France
11:40-12:05	C08: Silicon Photonic Grating-Assisted Vernier Resonators for 3-Port Filter Applications	<b>Robert Boeck</b> University of British Columbia, Canada
12:05-14:00	Lunch Break	

<b>Session: Energy Materials II Chair: Arife Yurdakul</b>		
14:00-14:25	C09: Onboard and Stationary Hydrogen Energy Storage in Nanostructured Mg-based Materials	<b>Huaiyu Shao</b> Kyushu University, Japan
14:25-14:50	C10: Chiral Polymer-based Nanofiber Webs for Nanoenergy Harvesting and Dynamic Pressure Sensing	<b>Kap Jin Kim</b> Kyung Hee University, Korea
14:50-15:15	C11: ZnO-based Nanoelectrodes for Dye-sensitized Solar Cell Application	<b>Chaoyang Li</b> Kochi University of Technology, Japan
15:15-15:40	C12: Cu <sub>2</sub> ZnSnS <sub>4</sub> -based photocatalysts for hydrogen generation from water	<b>Lawrence YoonSuk Lee</b> The Hong Kong Polytechnic University, Hong Kong
15:40-16:10	Poster Session	
<b>Session: Micro and Nano Engineering II Chair: Lawrence YoonSuk Lee</b>		
16:10-16:35	C13: Nano-Scale Engineering of Hard and Tough Zirconia Based Ceramics	<b>Arife Yurdakul</b> Dumlupinar University, Turkey
16:35-17:00	C14: Mesenchymal stem cell differentiation on nano pattern fabricated by femtosecond laser	<b>Takao Hanawa</b> Tokyo Medical and Dental University, Japan
17:00-17:25	C15: Femtosecond laser micro- and nanoengineering of 3D environments for cancer cell study	<b>Felix Sima</b> Romania/RIKEN-SIOM Joint Research Unit, Japan
17:25-17:50	C16: Modification of functional surface for wetting behavior in solid and liquid interface	<b>Young-Rae Cho</b> Pusan National University, Korea
18:30	Dinner Social	

**Tuesday June 28<sup>th</sup>**

**Room B**

**Session: Optical and Luminescent Materials Chair: Francis Malit**

9:00-9:25	B18: Classical and Quantum Light Generation with Nitride-based Semiconductor Nanostructures	<b>Yong-Hoon Cho</b> Korea Advanced Institute of Science and Technology (KAIST), Korea
9:25-9:50	B19: Direct imaging and chemistry of defect structures within SiAlON lattices and their effects on luminescence properties	<b>Hilmi Yurdakul</b> Dumlupinar University (DPU), Turkey
10:15-10:30	Session Break	
<b>Session: MEMS II Chair: Yong-Hoon Cho</b>		
10:30-10:55	B20: Thick film permanent magnets for MEMS	<b>Masaki Nakano</b> Nagasaki University, Japan
10:55-11:20	B21: Design and Characterization of Electrically-Sensitive Capacitance to Voltage Converter (CVC) for Parameter Extraction of Microelectromechanical Systems (MEMS) Capacitive Accelerometer	<b>Francis Malit</b> Technological Institute of the Philippines, Quezon City, Philippines
11:20-11:45	B22: High Power RF MEMS Switches	<b>Hosein Zareie</b> Urmia University of Medical Sciences, Iran
11:45-12:10	B23: Biomimetic MEMS/NEMS sensors inspired by marine life	<b>Ajay Giri Prakash Kottapalli</b> Nanyang Technological University, Singapore
12:10-12:35	B24: Resonant MEMS mirrors for optical and laser scanning applications	<b>Thomas Von Wantoch</b> Fraunhofer Institute for Silicon Technology ISIT, Germany
12:35-14:00	Lunch Break	

<b>Session: General V Chair: Toshihiro Hirai</b>		
14:00-14:25	B25: Accelerating inkjet towards immediate 3D printing	<b>Moshe Einat</b> Ariel University, Israel
14:25-14:50	B26: ENVIRONMENTAL BARRIER COATINGS (EBC) FOR SILICON-BASED CERAMIC COMPOSITES	<b>Nasrin Al Nasiri</b> Imperial College London, UK
14:50-15:15	B27: Skyrmion dynamics studied by time-resolved electron microscopy	<b>Rajeswari Jayaraman</b> École Polytechnique Fédérale de Lausanne (EPFL), Switzerland
15:15-15:40	B28: Characterization of nanomaterials using filed-flow fractionation	<b>Haruhisa Kato</b> National Institute of Advanced Industrial Science and Technology (AIST), Japan
15:40-15:55	Session Break	
<b>Session: General VI Chair: Moshe Einat</b>		
15:55-16:20	B29: Soft dielectric gels as electro active materials	<b>Toshihiro Hirai</b> Shinshu University, Japan
16:20-16:45	B30: Construction of luminescent silver nanodots for probing and imaging	<b>Sungmoon Choi</b> Seoul National University, Korea
16:45-17:10	B31: Construction of porous molecular materials via designed hydrogen bonding network	<b>Ichiro Hisaki</b> Osaka University, Japan
18:00	Dinner Social	



**Tuesday June 28<sup>th</sup>**

**Room C**

**Session: Optical and Luminescent Materials Chair: Vladimir Privman**

9:00-9:25	C17: Physics and applications of ballistic graphene Josephson junctions	<b>Jonathan Prance</b> Lancaster University, UK
9:25-9:50	C18: Interface effects on acceptor silicon spin qubits	<b>José Carlos G<sup>a</sup> Abadillo-Uriel</b> Instituto de Ciencia de Materiales de Madrid (ICMM), Spain
9:50-10:15	C19: Two-dimensional Molybdenum Trioxide for Applications in Electronics	<b>Sivacarendran Balendhran</b> RMIT University, Australia
10:15-10:30	Session Break	
<b>Session: Biochemical Sensors and Detection Technologies III Chair: Jonathan Prance</b>		
10:30-10:55	C20: Signal and Information Processing with Biomolecules: Enzyme-Catalyzed Reactions and Their Cascades for Multi-Input Biosensing and Biocomputing	<b>Vladimir Privman</b> Clarkson University, USA
10:55-11:20	C21: Electrochemical and optical biosensing based on nanobiomaterials	<b>Ilia Kurochkin</b> M.V. Lomonosov Moscow State University, Russia
11:20-11:45	C22: A Microfluidic Chip for Detecting Protein Phosphorylation in Cells	<b>Iuliana Lazar</b> Virginia Tech, USA
11:45-12:05	C23: Near- and far- field optical response of zig-zag silver nanorods for SERS	<b>Jianghao Li</b> Tsinghua University, China
12:05-12:30	C24: DNA-based high multiplex detection methods	<b>Barisic Ivan</b> AIT Austrian Institute of Technology GmbH, Austria
12:30-12:55	C25: DNA electrochemical sensor Obtained by "layer by layer" deposition of "viologen" -thymine derivatives and oligo-adenines on mesoporous TiO <sub>2</sub> films	<b>Carmen-Simona Asaftei</b> University of Applied Sciences, Germany
12:55-14:00	Lunch Break	

<b>Session: Micro and Nano Engineering III    Chair: Noriyuki Sonoyama</b>		
14:00-14:25	C25: Digital X-ray sources based on carbon nanotube electron emitters	<b>Yoon-Ho Song</b> Electronics & Telecommunications Research Institute (ETRI) / Univ. of Science & Technology (UST), Republic of Korea
14:25-14:50	C26: Fabrication of Gold Nanoparticles into 1D and 2D Structures with Amyloidogenic Protein of Alpha-Synuclein and Their Applications	<b>Seung R. Paik</b> Seoul National University, Korea
14:50-15:15	C27: Photo-design of metal nanoparticles and metal/polymers nanoassemblies	<b>Lavinia Balan</b> CNRS, France
15:40-15:55	Session Break	
<b>Session: Energy Materials III    Chair: Seung R. Paik</b>		
15:55-16:15	C28: Development of Indoline Dyes in Dye-sensitized Solar Cells	<b>Masaki Matsui</b> Gifu University, Japan
16:15-16:40	C29: Electrochemical property of binary metal oxide conversion anode synthesized from Layered double hydroxides and its reaction mechanism	<b>Noriyuki Sonoyama</b> Nagoya Institute of Technology, Japan
16:40-17:05	C30: Optimization of Li <sub>4</sub> Ti <sub>5</sub> O <sub>12</sub> based material as high performance electrode for energy storage devices	<b>Jae Hyun Kim</b> Daegu Gyeongbuk Institute of Science & Technology(DGIST), Korea
17:05-17:30	C31: Redox reactions in lithium ion battery positive electrode materials by X-ray Compton scattering	<b>Kosuke Suzuki</b> Gunma University, Japan
18:00	Dinner Social	

**Monday June 27th**

**17:10-17:50**

**Poster Session**

P1: Novel nickel iron phosphide (NIP) nanoparticles for photocatalytic hydrogen generation	<b>Chui-Shan Tsang</b> The Hong Kong Polytechnic University, Hong Kong
P2: Hierarchical spherical activated carbon with high performance for ultracapacitors	<b>Kwang Chul Roh</b> Korea Institute of Ceramic Engineering and Technology, Republic of Korea
P3: The Magnetic Levitated Loading of the Dipole Trap for Cesium Atom	<b>Jie Ma</b> Shanxi University, China
P4: Flexible and Controllable Photoluminescence Enhancement of Monolayer MoS <sub>2</sub> through Continuous-wave Laser Irradiation	<b>Chengbing Qin</b> Shanxi University, China
P5: Solution-Processed Flexible Transparent Electrodes for Organic Solar Cell Applications	<b>Jae-Wook Kang</b> Chonbuk National University, Korea
P6: Thermal drift optimization technique for silicon microgyroscope	<b>Jian Zhou</b> Nanjing University of Science and Technology, China
P7: Cross-linked Thermoplastic Polyurethane Electrospun Nanoweb with Improved Piezocapacitive Sensor Performance	<b>Mi Kyong Yoo</b> Kyung Hee University, Republic of Korea
P8: Electrospun Poly (lactic acid) Nanofiber Web Based Piezoelectric Sensors for Vital Signal Monitoring	<b>Yu Jin Ahn</b> Kyung Hee University, Korea
P9: Optical and lasing properties of micrometer-sized simple oxides: MgO and ZnO	<b>Uchino Takashi</b> Kobe University, Japan