2012 Second International Conference on Small Science (ICSS) December 16-19, 2012

Walt Disney World Swan and Dolphin, Orlando FL, USA

Conference Onsite Registration

Swan and Dolphin hotel

14:00 - 18:00 PM

Dec.16

2012 ICSS Dec.17

Monday December 17 8:50 - 9:00 AM	Opening	
Monday December 17	Room A: Session 1	Chair:Håkan Pettersson
9:00 - 9:25 AM	A1:Spin properties in InAs/GaAs quantum dot structures	Jan Beyer Linköping university, Sweden
9:25 - 9:50 AM	A2: Atomic structure and applications of supported, size-selected metal nanoclusters and prospects for super-abundant production	Richard E Palmer University of Birmingham, UK
9:50 - 10:15 AM	A3: High quality Nanodisk Superlattice and its application in novel optoelectronic device	Weiguo Hu Tohoku University, Japan
10:15 - 10:30 AM	SESSION BREAK	
Monday December 17	Room A: Session 2	Chair: Tom Wu
10:30 – 10:55 AM	A4: Challenges for achieving III-Nitride QCLs: Superlattices and Multiple Quantum Wells	Thorvald G Andersson Chalmers University of Technology, Sweden
10:55 - 11:20 AM	A5: Wide band gap oxide semiconductors and semiconducting quantum dots for improved light harvesting in excitonic solar cells	Isabella Concina CNR-IDASC SENSOR Lab, Italy

11:20 - 11:45 AM	A6: Designer Ge Quantum Dots on Si-containing layers for Nanoelectronic and Nanophotonic Devices	Pei-Wen Li National Central University, Taiwan
12:10 - 14:00 AM	LUNCH BREAK	
Monday December 17	Room A: Session 3	Chair: Jan Beyer
14:30 - 14:55 PM	A7: Infrared photodetectors with nanowires and quantum dots	Håkan Pettersson Halmstad University, Sweden
14:55 - 15:20 PM	A8: Structural and magnetic properties of planar magnetic nanowire arrays grown on oxidized step-bunched Si (111)	Igor Shvets University of Dublin, Ireland
15:20 - 15:45 PM	A9: UV light emission and phase selection in ITO nanowires	Tom WU Nanyang Technological University, Singapore
15:45-16:00 PM	SESSION BREAK	
Monday December 17	Room A: Session 4	Chair: Thorvald G Andersson
16:00 - 16:25 PM	A10: Specific-contact- and conduction-channel-resistivity in lateral quasi-1D confined lateral nanowire devices	Vojislav Krstic Trinity College Dublin, Ireland
16:25 - 16:50 PM	A11: Self-crystallization of organic crystals for high performance field-effect transistors on paper substrates	Kazuhito Tsukagoshi National Institute for Materials Science (NIMS), Japan
18:30- 19:30 PM	Poster Session	
19:30 PM	DINNER RECEPTION	
2012 ICSS Dec.18		
Tuesday December 18	Room A: Session 5	Chair: Richard E Palmer
8:30 - 8:55 AM	A12:N-Type Nanocrystalline Diamond Based Materials for Power Device Applications	Adam Khan AKHAN Technologies, Inc. USA
8:55 - 9:20 AM	A13:Atomic-size Effects of the Conductive Filaments Formation and Rupture in Resistance Change Based Memory Devices	Blanka Magyari-Kope Stanford University. USA

9:20 - 9:45 AM	A14: Junctionless Poly-Si Device Technology	Tiao-Yuan Huang National Chiao Tung University,Taiwan
9:45 - 10:10 AM	A15: Functional Ordered Mesoporous Materials for Energy Storages	Jinwoo Lee Pohang University of Science and Technology, Korea
10:10 - 10:30 AM	SESSION BREAK	
Tuesday December 18	Room A: Session 6	Chair: Chao-Sung LAI
10:30 - 10:55 AM	A16: Molecular selective photocatalysis of crystalline TiO ₂ particles and their nanocomposites with mesoporous silica: decomposition of alkylphenols and alkylanilines	Kei Inumaru Hiroshima University, Japan
10:55 - 11:20 AM	A17: Nanostructured carbon supports for fuel cell electrocatalysts	Maria Jesús Lázaro Consejo Superior de Investigaciones Cientificas, Spain
11:20 - 11:45 AM	A18: Fabrication of Pd-DNA and Pd-CNT Hybrid Nanostructures for Hydrogen Sensors	Satoshi Ohara Osaka University, Japan
11:45 AM – 12:10	A19: Nanoscale characterization of the electomechanical properties of collagenous tissue	Brian Rodriguez University College Dublin Ireland
12:10 - 14:00 AM	LUNCH BREAK	
Tuesday December 18	Room A: Session 7	Chair: Blanka Magyari-Kope
14:00 - 14:25 PM	A20:Kelvin probe force microscopic study of nanoscale interlayers in double junction organic solar cells	Qiquan Qiao South Dakota State University, USA
14:25 - 14:50 PM	A21: Multi-Bits Flash Memory with Au and Gadolinium Oxide Nano-Crystals Embedded	Chao-Sung LAI Chang Gung University , Taiwan
14:50 - 15:15 PM	A22:Ab initio study on electron transport through single molecular junctions and its application to nano-scale devices	Tomofumi Tada University of Tokyo, Japan
15:15 – 15:40 PM	A23: Crystalline rare earth oxides on SI for the integration of alternative semiconductors on SI wafers	Gang Niu IHP, Germany
15:40-16:00 PM	SESSION BREAK	

Tuesday December 18	Room A: Session 8	Chair: Jinwoo Lee
16:00 - 16:25 PM	A24: Epoxy nanocomposites reinforced with carbon nanotube and graphene	Amit K. Chakraborty National Institute of Technology Durgapur, India
16:25 - 16:50 PM	A25: Direct Growth of Graphene Nanoribbons for Large Scale Device Fabrication	Yuegang Zhang Lawrence Berkeley National Laboratory, USA
16:50 - 17:15 PM	A26: Transparent and conducting graphene thin films and graphene-RNA nanocomposites	Giovanni Fanchini The University of Western Ontario,Canada
17:15 – 17:40 PM	A27: Effect of Shape on Magnetic Properties of Self-Assembled FePt Nanocrystals	Telem Simsek Hacettepe University, Turkey
19:30 PM	DINNER	
	2012 ICSS Dec.19	
Wednesday December 19	Room A: Session 9	Chair: Sharath Sriram
8:30 - 8:55 AM	A28:Nanoscale effects in high performance piezoelectric thin films	Madhu Bhaskaran RMIT University, Australia
8:55 – 9:20 AM	A29: Investigation on the tensile properties and behaviors of a graphene with zigzag-oriented symmetric-tilted dislocation: Molecular dynamics simulation study	Jian-Ming Lu National Center for High-Performance Computing
	Simulation Stady	(NCHC),Taiwan
9:20 - 9:45 AM	A30: Functional Fabric Micro/nanomaterials with Multi-Structures	Yong Zhao Beihang University, China
9:20 - 9:45 AM 9:45 - 10:10 AM	A30: Functional Fabric Micro/nanomaterials with	Yong Zhao
	A30: Functional Fabric Micro/nanomaterials with Multi-Structures A31:Fabrication of ordered micro-nano hierarchically structured films using physical deposition process and	Yong Zhao Beihang University, China Naoto Koshizaki National Institute of Advanced Industrial Science and Technology

Program Schedule: Room A – 2012 International Conference on Small Science

10:30 - 10:55 AM	A32: Understanding the Physical and Dynamic Properties of Molecules on Au(111) through First Principle Calculations	Shixuan Du Institute of Physics, CAS
10:55 - 11:20 AM	A33: Ultra-Low Power CMOS Device Design using Nanometer-Scale Transistors	Meng-Hsueh Chiang National Ilan University, Taiwan
11:20 - 11:45 AM	A34:Irregular Nano Structured Organic Light Emitting Diode	Kyung Cheol Choi KAIST, Republic of Korea
11:45 - 12:10 PM	A35:Electric field dependent surface-enhanced Raman scattering	Sharath Sriram RMIT University, Australia
	Closing	

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Dec. 16

2012 ICSS Dec.17		
Monday December 17 8:50 - 9:00 AM	Opening	
Monday December 17	Room B: Session 1	Chair: Qing Zhang
9:00 - 9:25 AM	B1:Plasmas meet Plasmonics – From Macro to Nano	Amanda E. Rider Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia
9:25 - 9:50 AM	B2: Fabrication of sophisticated perylene-based two-dimensional multicomponent nanoarchitectures thought hydrogen bond mediated molecular self assembly	Fabien Silly CEA Saclay, France
9:50 - 10:15 AM	B3: Self-Assembled Monolayer in Organic Electronics	Fatemeh Gholamrezaie Eindhoven University of Technology,The Netherlands
10:15 - 10:30 AM	SESSION BREAK	
Monday December 17	Room B: Session 2	Chair: Vladimir Ukraintsev
10:30 - 10:55 AM	B4: Hierarchical Metal Oxides Nanostructures: Function Oriented Design and Morphology Control	Ge Wang University of Science and Technology Beijing, China

10:55 - 11:20 AM	B5: Development of functional oxide nanoparticles	Keigo Suzuki Murata Manufacturing Co., Ltd. Japan
12:10 - 14:00 AM	LUNCH BREAK	
Monday December 17	Room B: Session 3	Chair: Fabien Silly
14:30 - 14:55 PM	B6: The World of Nanotechnology is Three-Dimensional	Vladimir Ukraintsev DCG Systems, Inc. USA
14:55 - 15:20 PM	B7: Inkjet printing applied to electron devices: from ink formulation to practical applications	Alessandro Chiolerio Italian Institute of Technology, Italy
15:20 - 15:45 PM	B8:Molten Salt-Assisted Self Assembly: A New Approach for the Synthesis of Mesoporous Thin Films	Ömer Dag Bilkent University,Turkey
15:45-16:00 PM	SESSION BREAK	
Monday December 17	Room B: Session 4	Chair: Amanda Rider
16:00 - 16:25 PM	B9:To be determined	Jing Guo University of Florida, USA
16:25 - 16:50 PM	B10:Mass spectroscopic investigation into catalytic reaction of methane and ethanol under thermal CVD synthesis of single-walled carbon nanotube	Shuhei Inoue Hiroshima University, Japan
16:50 - 17:15 PM	B11: Mica ¾ a promising material for 'nano' studies	Qing Zhang Nanyang Technological University, Singapore
18:30- 19:30 PM	Poster Session	
19:30 PM	DINNER RECEPTION	
2012 ICSS Dec.18		
Tuesday December 18	Room B: Session 5	Chair:Sarah S Staniland
8:30 - 8:55 AM	B12:Aptamer technology on the micro- and nano-scale for smart materials, biosensing, and therapeutics	Maria C. DeRosa Carleton University,Canada

8:55 - 9:20 AM	B13:Colloidal Hybrid Materials Incorporating Magnetic Nanoparticles for Biomedical Application	Kiyofumi Katagiri Hiroshima University, Japan
9:20 - 9:45 AM	B14:Low-Power wireless microphone transceiver based on analog to time conversion for cochlear implant application	Gilles Jacquemod Université Nice Sophia Antipolis, Sophia Antipolis, France
9:45 - 10:10 AM	B15:Fabrication of Single DNA Array for Genetic Analysis	Jingjiao Guan The Florida State University, USA
10:10 - 10:30 AM	SESSION BREAK	
Tuesday December 18	Room B: Session 6	Chair: Irina Smolina
10:30 - 10:55 AM	B16: Micro- and nano-systems for single-cell and single-biomolecule analysis	Harold Craighead Cornell University, USA
10:55 - 11:20 AM	B17: PNA-DNA nanostructure for single cell identification	Irina Smolina Boston University, USA
11:20 - 11:45 AM	B18: Toward nanopore-based DNA sequencing: DNA extraction, separation, manipulation and detection at the single DNA _olecule level	Noritada Kaji Nagoya University, Japan
12:10 - 14:00 AM	LUNCH BREAK	
Tuesday December 18	Room B: Session 7	Chair: Harold Craighead
14:00 - 14:25 PM	B19: Biotransformations at the microreactor scale	Polona Znidarsic-Plazl University of Ljubljana, Slovenia
14:25 – 14:50 PM	B20: Neutron-Activatable Holmium-Containing Mesoporous Silica Nanoparticles as a Potential Radionuclide Therapeutic Agent for Ovarian Cancer	Xiuling Lu University of Connecticut, USA
14:50 – 15:15 PM	B21: From Biomineralisation in Magnetic Bacteria to the Biomimetic Synthesis of Magnetic Nanoparticles and Arrays	Sarah S Staniland University of Leeds, UK
15:15 – 15:40 PM	B22: Liquid deposition approaches towards complex mesoporous films	David Grosso Université Pierre et Marie Curie, France

15:40-16:00 PM	SESSION BREAK	
Tuesday December 18	Room B: Session 8	Chair: Xiuling Lu
16:00 – 16:25 PM	B23: Biological/Bio-Inspired Multi-gradient Surfaces with Smart Dynamic Wettability	Yongmei Zheng Beihang University,China
16:25 – 16:50 PM	B24: Nanoclustering design for hybrid nanocellulosomes: High enhancement of cellulolytic enzyme activity by clustering on nanoscaffolds	Mitsuo Umetsu Tohoku University, Japan
16:50 – 17:15 PM	B25: Growth and integration of graphene nanoribbon by rapid-heating plasma chemical vapor deposition	Toshiaki Kato Tohoku University, Japan
17:15 – 17:40 PM	B26: To be determined	Clifford L. Henderson Georgia Institute of Technology, USA
17:40 – 18:05 PM	B27:First-principles Studies on Proton Transfer Mechanisms in Cytochrome c Oxidase	Katsumasa Kamiya University of Tsukuba, Japan
19:30 PM	DINNER	
	Closing	

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Monday December 17 8:50 - 9:00 AM	Opening	
Monday December 17	Room C: Session 1	Chair:Guiren Wang
9:00 - 9:25 AM	C1: Simulating Spatially Resolved Electron Energy Loss Near Edge Structure in the Scanning Transmission Electron Microscope.	Mark Oxley Vanderbilt University, USA
9:25 - 9:50 AM	C2: Multiple-Probe Scanning Probe Microscopes for Nanosystems Research	Tomonobu Nakayama National Institute for Materials Science, Japan
9:50 - 10:15 AM	C3: Laser control of metallic nanoparticles for reversible or permanent color marking	Nathalie Destouches University of Lyon - University Jean Monnet, France
10:15 - 10:30 AM	SESSION BREAK	
Monday December 17	Room C: Session 2	Chair: Igor Plazl
10:30 - 10:55 AM	C4: Chemical analysis with sub-Å resolution: The power and challenges of aberration-corrected scanning transmission electron microscopy	Robert Klie University of Illinois , USA

10:55 - 11:20 AM	C5: Microplasma patterning of surfaces for biotechnology and lab-on-a-chip applications	Sameer Al-Bataineh University of South Australia, Australia
11:20 – 11:45 AM	C6: Plasmonic Raman imaging and analysis at nanometer spatial resolution	Takaaki YANO Tokyo Institute of Technology,Japan
12:00 - 14:00 AM	LUNCH BREAK	
Monday December 17	Room C: Session 3	Chair: Robert Klie
14:00 - 14:25 PM	C7: Micro/Extended-Nano Fluidics on Microchip and its Application to Chemistry and Biomedicine	Takehiko Kitamori The University of Tokyo, Japan
14:25 - 14:50 PM	C8: Liquid/Gas and Liquid/Liquid Interfaces in Micro/Nanofluidic Systems	Akihide Hibara The University of Tokyo, Japan
14:50 - 15:15 PM	C9: Electrokinetically driven turbulent mixing in microfluidics with low Reynolds number Fang Yang	Guiren Wang University of South Carolina, USA
15:15 - 15:40 PM	C10: Ferroelectric-domain based acoustic resonators built on PPT structures	Gwenn Ulliac Gwenn Ulliac, Institut FEMTO-ST, France
15:40-16:00 PM	SESSION BREAK	
Monday December 17	Room C: Session 4	Chair: Thomas Fromherz
16:00 - 16:25 PM	C11: Transport Phenomena and Kinetics at the Microreactor Scale	Igor Plazl University of Ljubljana,Slovenia
16:25 - 16:50 PM	C12:Theoretical study of multi-electron wave packet dynamics in semiconductor nano-structures	Kenji Shiraishi University of Tsukuba, Japan

16:50 - 17:15 PM	C13: Optimizing the Performance of Dye-Sensitized Solar Cells Composed of Nanowire Arrays	Kirk J.Ziegler University of Florida, USA
18:30- 19:30 PM	Poster Session	
19:30 PM	DINNER RECEPTION	
	2012 ICSS Dec.18	
Tuesday December 18	Room C: Session 5	Chair:Yuri B. Melnichenko
9:00 - 9:25 AM	C14: Ultrastructural studies of cork cells	Rita Teixeira Universidade Técnica de Lisboa, Portugal
9:25 - 9:50 AM	C15: Droplet Microfluidics for Manufacturing and Analytical Applications	Takasi Nisisako University of California, USA
9:50 - 10:15 AM	C16: Non-linear Analysis of the Micro Nickel Spring for Application in Micro-relay	Xuhan Dai Shanghai Jiao Tong University, China
10:15 - 10:30 AM	SESSION BREAK	
Tuesday December 18	Room C: Session 6	Chair: Rita Teixeira
10:30 - 10:55 AM	C17: Development of a fluorescent molecular probe for heavy metal ion analysis in aquatic samples	Hisashi Satoh Hokkaido University, Japan
10:55 - 11:20 AM	C18: Submicrometer Spherical Particles Fabrication by Pulsed Laser Melting of Nanoparticle Dispersed in Liquid	Yoshie Ishikawa Kagawa University, Japan
11:20 - 11:45 AM	C19: Submicron structuring of glass materials by enhanced laser ablation	Daniel Nieto University of Santiago de Compostela, Spain
12:10 - 14:00 AM	LUNCH BREAK	
Tuesday December 18	Room C: Session 7	Chair: Takasi Nisisako

14:00 - 14:25 PM	C20: Mechanism of Charge Transport in UV-Illuminated Silicon Nitride Films	Kiyoteru Kobayashi Tokai University, Japan
14:25 – 14:50 PM	C21: Atomicaly resolved properties and scaling effects in mesoscopic conductors	Abdou Hassanien Electronics and photonics research institute, AIST,Tsukuba, IbaraKi, Japan
14:50 – 15:15	C22:Molecular peculiarities in silica pores	Istvan Halasz PQ Corporation Research and Development Center, USA
15:15 - 15:40 PM	C23:Phase Behavior and Dynamics of Confined Fluids in Porous Materials	Yuri B. Melnichenko Oak Ridge National Laboratory, USA
15:40 – 16:00 PM	SESSION BREAK	
Tuesday December 18	Room C: Session 8	Chair: Kiyoteru Kobayashi
16:00 - 16:25 PM	C24: Action potentials propagate in membrane in the form of electromagnetic pulses	Shengyong Xu Peking University,China
16:25 - 16:50 PM	C25:Extraordinary optical transmission through stacked continuous silver films with nano-dimple arrays	Sung-Min Lee KAIST, Korea
16:50 - 17:15 PM	C26:Theoretical study for High Quality ReRAM Stack with Al ₂ O ₃ O Vacancy Barrier Layer	MoonYoung Yang university of Tsukuba, Japan
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17:15 – 17:40	C27: Lithography perspectives, limitations and solutions for patterning sub-22nm devices	Sébastien Pauliac CEA-Leti, France