

International Conference on Small Science

December 15-18, 2013

The Red Rock Casino Resort and Spa at Las Vegas Nevada, USA

Dec. 15 Sunday
Meeting Room Charleston B

7:00-8:15

Breakfast

Session: General I

Chair: Tao Pang

8:25-8:50

B01: Modelling the microscopic process of crack initiation in Aluminium subjected to Cyclic Loading

Cher Ming Tan
Nanyang Technological University,
Singapore
P25

8:50-9:15

B02: Small gold clusters with unusual molecular structures and optical properties

Katsuaki Konishi
Hokkaido University, Japan
P27

9:15-9:40

B03: Miniaturized current sensor for smart building application

Cyril Jacquemod
Aix-Marseille University, France
P29

9:40-10:05

B04: Molecular dynamics and phase transitions of polymeric materials: from bulk to attograms of matter

Anatoli Serghei
University Lyon 1, CNRS-UMR 5223,
IMP, France
P31

10:05-10:20

Session Break

Session: Carbon-based Nanomaterials I

Chair: Zhiming Wang

10:20-10:45

B05: Non-simple behavior of simple hydrogen-bonded liquids inside carbon nanotubes

Yoshimichi Nakamura
Hachinohe National College of
Technology, Japan
P33

10:45-11:10

B06: Metal/semiconductor and structure separations of single-wall carbon nanotubes using hydrogel

Takeshi Tanaka
National Institute of Advanced Industrial
Science and Technology (AIST), Japan
P34

11:10-11:35

B07: Charge Manipulation in molecules encapsulated inside single-wall carbon nanotubes

Kazuhiro Yanagi
Tokyo Metropolitan University, Japan
P36

11:35-12:00

B08: Far-infrared absorption of single-walled carbon nanotubes

Toshiya Okazaki
AIST, Japan
P38

12:00-14:00

Lunch Break

Session: Carbon-based Nanomaterials II		Chair: Takeshi Tanaka
14:25-14:50	B09: Hierarchical structures of carbon nanotubes: tuning structure and mechanical properties	Jordan Raney Baylor University, United States P40
14:50-15:15	B10: Spectroscopy of higher exciton states in single-walled carbon nanotubes	Makoto Okano Kyoto University, Japan P41
15:15-15:40	B11: Thermoelectric effects in graphene	Nandkumar-Nelson Sankeshwar Karnatak University, India P43
15:40-16:05	B12: Formation, Stability, Reactivity, and Electronic Property of Nitrogen Defects in Graphene	Yoshitaka Fujimoto Tokyo Institute of Technology, Japan P45
16:05-16:20	Session Break	
Session: General II		Chair: Katsuaki Konishi
16:20-16:45	B13: Plasma: A Transformative Tool for Nanomaterials	Amanda Rider CSIRO Materials Science and Engineering, Australia P46
16:45-17:10	B14: Atomic scale simulations of plasma-surface interactions – the route to understanding carbon nanotube growth, plasma catalysis and plasma medicine	Erik Neyts University of Antwerp, Belgium P47
17:10-17:35	B15: Luminescence Nanothermometry of alkyl-capped Silicon nanoparticles dispersed in squalane	Hamza Hajjaji Institut des nanotechnologies de Lyon, France P49
17:35-17:50	B16: Functional Microparticles from Microfluidics	Yuanjin Zhao Southeast University, China P51
17:50-18:05	B17: Multi-stopband Photonic Crystals Microchip for High-performance Metal Ions Recognition	Fengyu Li Chinese Academy of Sciences, China P53
19:00	Dinner Social	

Dec. 16 Monday Meeting Room Charleston A		
7:00-8:15	Breakfast	
Session: Ferroelectric Materials I		Chair: Jan Seidel
8:25-8:50	A01: Conduction in Nanodomains in Lithium Tantalate Single Crystal	Yasuo Cho Tohoku University, Japan P56
8:50-9:15	A02: Inter-coupling between ferroelectricity and magnetism in tetragonal-like doped bismuth ferrites	Chan-Ho Yang KAIST, South Korea P58
9:15-9:40	A03: Study of high aspect ratio lithium niobate waveguides fabricated by optical grade dicing for Acoustics and Photonics	Gwenn Ulliac CNRS - Institut FEMTO-ST, France P59
9:40-10:05	A04: Proof of principle experiments for piezoelectric energy harvesters	Seungbum Hong Argonne National Laboratory, USA P61
10:05-10:20	Session Break	
Session: Ferroelectric Materials II		Chair: Gwenn Ulliac
10:20-10:45	A05: Ferroelastic Domain and Phase Boundary Effects in Piezoceramics	Keith Bowman Illinois Institute of Technology, United States P62
10:45-11:10	A06: Domain walls and phase boundaries - new nanoscale functional elements in complex oxides	Jan Seidel University of New South Wales, Australia P64
11:10-11:35	A07: Order-parameter symmetries of domain walls in ferroelectrics and ferroelastics	Mael Guennou CRP Gabriel Lippmann, Luxembourg P65
11:35-12:00	A08: Domain and domain wall control in nano and mesoscale ferroelectrics and multiferroics	Marty Gregg Queen's University Belfast, UK P66
12:00-14:00	Lunch Break	
Session: Microfluidics and Nanofluidics I		Chair: Noritada Kaji
14:00-14:25	A09: Steric effect enhancing electrokinetic transport in nanofluidics for energy conversion	Ruey-Jen Yang National Cheng Kung University, Taiwan P67
14:25-14:50	A10: Preparation of biopolymer microspheres and its application to bioscience	Gyu Man Kim Kyungpook National University, South Korea P69
14:50-15:15	A11: A potential of light-induced non contact control of droplet in microfluidic platform	Masahiro Motosuke Tokyo University of Science, Japan P71

15:15-15:40	A12: Laser-induced liquid micro-jets for printing complex materials	J. Marcos Fernandez-Pradas Universitat de Barcelona, Spain P73
15:40-16:05	A13: Towards a fully integrated fluorescence detector for microfluidic biochemical analysis	Toshihiro Kamei National Institute of Advanced Industrial Science and Technology, Japan P75
16:05-16:20	Session Break	
Session: Microfluidics and Nanofluidics II		Chair: J. Marcos Fernandez-Pradas
16:20-16:45	A14: Lab-on-a-Chip – Design- & Foundry-Service	Mark Keller HSG-IMIT, Germany P77
16:45-17:10	A15: Microfluidic droplet-based drug permeability assay	Takasi Nisisako Tokyo Institute of Technology, Japan P79
17:10-17:35	A16: Micro and Nanochamber Array Chip for a Single Cell, Nucleus, and Protein Analysis	Noritada Kaji Nagoya University, Japan P81
17:35-18:00	A17: Spontaneous emulsification in microdroplet flow	Akihide Hibara Tokyo Institute of Technology, Japan P83
19:00	Dinner Social	

Dec. 16 Monday Meeting Room Charleston B		
7:00-8:15	Breakfast	
Session: General III		Chair: Yufeng Zhao
8:20-8:45	B18: Photovoltaic characteristics and photoexcited carrier dynamics of multi-layered quantum-dot sensitized solar cells	Taro Toyoda The University of Electro-Communications, Japan P86
8:45-9:10	B19: Universal method for producing long thin nanowires in quantized vortices of superfluid helium	Eugene Gordon Institute of Problems of Chemical Physics, Russian Federation P88
9:10-9:35	B20: The thermopower of metallic nano-strips and its application in local temperature sensing	Shengyong Xu Peking University, China P90
9:35-9:50	B21: Nonlinear optical reorientation behavior in hybrid-aligned dye-doped liquid crystals	Jing Wang Tokyo Institute of Technology, Japan P92
9:50-10:05	B22: Integrated Electrochemical Sensor on Paper Microfluidic Device	Hong Liu Southeast University, China P94
10:05-10:20	Session Break	
Session: Carbon-based Nanomaterials III		Chair: Ilkwon Oh
10:20-10:45	B23: Self-assembling Amino acid and Peptide based Nanohybrid System	Arindam Banerjee Indian Association for the Cultivation of Science, India P96
10:45-11:10	B24: Carbon based materials for energy and hydrogen storage	Yufeng Zhao National Renewable Energy Laboratory, USA P98
11:10-11:35	B25: Multiple exciton generation in carbon nanotubes	Satoru Konabe University of Tsukuba, Japan P99
11:35-12:00	B26: Superconductivity in ultrathin carbon nanotube and nanowire arrays	Rolf Lortz The Hong Kong University of Science & Technology, Hong Kong P100
12:00-14:00	Lunch Break	
Session: Carbon-based Nanomaterials IV		Chair: Donglin Ma

14:25-14:50	B27: Interaction between excitons and surface plasmons in carbon nanotubes with gold nanostructures	Seiji Uryu Iwate University, Japan P102
14:50-15:15	B28: Three-Dimensional Carbon Nanostructures for Energy Storage Systems	Ilkwon Oh Korea Advanced Institute of Science and Technology (KAIST), Korea P104
15:15-15:40	B29: Novel Carbon Materials for High-Performance Energy Storage	Yanwu Zhu University of Science and Technology of China, China P105
15:40-16:05	B30: First-principles study of N-doped graphene, graphene nanoribbons, and carbon nanotubes for novel	Yong-Hoon Kim KAIST, Graduate School of EEWS, South Korea P106
16:05-16:20	Session Break	
Session: Carbon-based Nanomaterials V		Chair: Rolf Lortz
16:20-16:45	B31: Mechanical and Electrical Properties Measurement of Carbon Nanocoils	Taiichiro Yonemura Toyohashi University of Technology, Japan P107
16:45-17:10	B32: High performance of multi-walled carbon nanotube polymer actuator	Naohiro Terasawa National Institute of Advanced Industrial Science and Technology, Japan P108
17:10-17:35	B33: Low-temperature synthesis of multifunctional, two-dimensional carbon films	Soon-Yong Kwon Ulsan National Institute of Science and Technology (UNIST), Korea P110
17:35-18:00	B34: A method for characterization of the cross-section shape and size of Nanotubes/Nanowhiskers and studies of the phase transitions routes of C60 nanowhisiker	Richeng Yu Institute of Physics, CAS, China P112
19:00	Dinner Social	

Dec. 16 Monday Meeting Room Charleston C		
7:00-8:15	Breakfast	
Session: Nano/Micro Structure I		Chair: Alessandro Chiolerio

8:25-8:50	C01: Metal/polymer nanocomposites. Synthesis and spatial addressing of metal nanoparticles by photoinduced processes	Lavinia Balan CNRS - IS2M, France P114
8:50-9:15	C02: Fabrication of Micro-patterned substrate by pulsed electric current sintering method	Satoshi Kishimoto National Institute for Materials Science, Japan P115
9:15-9:40	C03: Continuous photolithography process and its applications	Moon Kyu Kwak Kyungpook National University, South Korea P117
9:40-10:05	C04: Strain engineered Si/Ge heterostructures	Kentarou Sawano Tokyo City University, Japan P119
10:05-10:20	Session Break	
Session: Nano/Micro Structure II		Chair: Satoshi Kishimoto
10:20-10:45	C05: High Temperature Oxidation Characteristics of Nano-Multilayered CrAlMgN Thin Films	Sun Kyu Kim University of Ulsan, South Korea P121
10:45-11:10	C06: Inkjet printed nanocomposite materials for electronic applications	Alessandro Chiolerio Istituto Italiano di Tecnologia - Center for Space Human Robotics, Italy P122
11:10-11:35	C07: Photocontrolled molecular arrangement in liquid-crystalline polymer systems	Atsushi Shishido Tokyo Institute of Technology, Japan P124
11:35-12:00	C08: Optical generation of two-dimensional composite periodic photonic lattices in photorefractive crystal	Yan Ling Xue East China Normal University, China P125
12:00-14:00	Lunch Break	
Session: Computational Science I		Chair: Mark Oxley
14:00-14:25	C09: Electronic properties investigation of buried nanoscale oxide interfaces through the modeling of surface-sensitive photoemission spectroscopy	Hui-Qiong Wang Xiamen University, China P127
14:25-14:50	C10: Investigations on the coupling effects on mechanical and thermal properties of a hetero-junction carbon nanotube	Jian-Ming Lu National Applied Research Laboratories (NARL), Taiwan P128
14:50-15:15	C11: Physics of curved nanocarbon cylinders	Hiroyuki Shima University of Yamanashi, Japan P130

15:15-15:40	C12: Hybrid functional calculations of defect complexes in wide band gap semiconductors	Denis Demchenko Virginia Commonwealth University, USA P131
15:40-16:05	C13: Searching for better thermoelectric materials	Jin-Cheng Zheng Xiamen University, China P132
16:05-16:20	Session Break	
Session: Computational Science II		Chair: Jian-Ming Lu
16:20-16:45	C14: Structural mechanics and modelling of carbon nanotubes	Motohiro Sato Hokkaido University, Japan P133
16:45-17:10	C15: Simulation of spatially resolved low-loss and near edge spectra	Mark Oxley Vanderbilt University, United States P134
17:10-17:35	C16: Micromagnetic calculation for microwave-assisted magnetic recording	Terumitsu Tanaka Kyushu University, Japan P136
17:35-18:00	C17: On pair functions for strong correlations	Jason K. Ellis Los Alamos National Laboratory, USA P138
19:00	Dinner Social	

Dec. 17 Tuesday Meeting Room Charleston A		
7:00-8:15	Breakfast	
Session: Nanobiology		Chair: Yasuhide Ohno
8:10-8:35	A18: Layer-by-Layer coated Microcarriers as Drug-Delivery-System: a new Approach for the Treatment of Chronic Inflammations	Uta Reibetanz University of Leipzig, Germany P140
8:35-9:00	A19: Multifunctional Organic Electronic Devices for On Chip Cell Manipulation	Peilin Chen Research Center for Applied Sciences, Academia Sinica, Taiwan P142
9:00-9:25	A20: Single cell transfection with single molecule precision using a nanopore	Volker Kurz University of Notre Dame, USA P143
9:25-9:50	A21: Rare-earth doped Y ₂ O ₃ nanophosphors for biological cathodoluminescence imaging	Hirohiko Nioka Osaka University, Japan P145
9:50-10:05	A22: Lipid Layer Functionalization of LbL-Microcarriers – Mimic a Cell for Drug Delivery	Martin Göse Institute of Medical Physics and Biophysics, Germany P147
10:05-10:20	Session Break	
Session: Nanoscale Devices I		Chair: Volker Kurz
10:20-10:45	A23: Stochastic Resonance in a Molecular Redox Circuit	Takuya Matsumoto Osaka University, Japan P149
10:45-11:10	A24: Radiation Response of Carbon Nanoelectronics	Cory Cress Naval Research Laboratory, USA P151
11:10-11:35	A25: Highly Stable and Reliable Carbon Nanotube Field Emitters for Digital X-ray Sources	Yoon-Ho Song Electronics and Telecommunications Research Institute (ETRI), Korea P152
11:35-12:00	A26: High Density and Low Power Design of Nanowire CMOS	Meng-Hsueh Chiang National Ilan University, Taiwan P154
12:00-14:00	Lunch Break	
Session: Nanoscale Devices II		Chair: Yanlin Song
14:25-14:50	A27: Two-Dimensional Semiconductors for Nanoelectronics - Is This the Future or	Frank Schwierz Technische Universitaet Ilmenau,

	Wishful Thinking?	Germany P157
14:50-15:15	A28: Cumulative Intermixing in Molecular Beam Epitaxy Grown InGaN/GaN Quantum-Disk Nanowires	Boon Ooi King Abdullah University of Science & Technology (KAUST), Saudi Arabia P159
15:15-15:40	A29: Integration of molecular functions into Si-based tunneling device	Yutaka Wakayama National Institute for Materials Science, Japan P162
15:40-16:05	A30: Nano/micropatterning of semiconductor substrates by anisotropic chemical etching and anodic etching combined with sphere photolithography	Hidetaka Asoh Kogakuin University, Japan P164
16:05-16:20	Session Break	
Session: Nanoscale Devices III		Chair: Boon Ooi
16:20-16:45	A31: Electrical properties of organic-inorganic hybrid layered systems	Vanna Torrisi University of Catania, Italy P166
16:45-17:10	A32: Applications of Nanoparticles in Printed Electronics and Photonics	Yanlin Song Institute of Chemistry, CAS, China P168
17:10-17:35	A33: Amorphous In-Ga-Zn-O Channel-Based Thin-Film-Transistor Memory Devices	Shi-Jin Ding Fudan University, China P170
17:35-18:00	A34: CMOS Technology Beyond 20 nm	Gilles Jacquemod University Nice Sophia Antipolis, France P172
19:00	Dinner Social	

Dec. 17 Tuesday
Meeting Room Charleston B

7:00-8:15	Breakfast	
Session: General IV		Chair: Don Futaba
8:10-8:35	B35: Cellular uptake and cytotoxicity studies of water soluble amine terminated silicon quantum dots using confocal laser scanning microscopy	Yimin Chao University of East Anglia, United Kingdom P175
8:35-9:00	B36: Temperature and Time Dependent Optical Properties of Nanoassemblies Based on CdSe/ZnS Quantum Dots and Functionalized Dye Molecules: Ensemble and Single Object Detection	Eduard Zenkevich National Technical University of Belarus, Belarus P177
9:00-9:25	B37: Ab initio determination of local coupling interaction between quantum dots and photons in arbitrary nanostructures	Xue-Hua Wang Sun Yat-sen University, China P179
9:25-9:50	B38: Medical Diagnosis and Therapeutic Drug Monitoring Using Microfluidic Devices	Manabu Tokeshi Hokkaido University, Japan P181
9:50-10:05	B39: Geometric effects on domain wall conductance: the need for atomic scale studies	Rama K. Vasudevan Oak Ridge National Laboratory, USA P183
10:05-10:20	Session Break	
Session: Carbon-based Nanomaterials VI		Chair: Katsunori Wakabayashi
10:20-10:45	B40: High-performance carbon-nanotube thin-film devices for flexible electronics applications	Yutaka Ohno Nagoya University, Japan P185
10:45-11:10	B41: Super-Growth Carbon Nanotubes: Moving from laboratory to Industry	Don Futaba National Institute of Advanced Industrial Science and Technology, Japan P187
11:10-11:35	B42: Mechanical resonators made of graphene and carbon nanotubes	Johannes Guettinger ICFO, Spain P188
11:35-12:00	B43: Nanocarbon/Te nanowires composites for flexible thermoelectric materials	Heesuk Kim Korea Institute of Science and Technology (KIST), Korea P189

12:00-14:00	Lunch Break	
Session: Carbon-based Nanomaterials VII		Chair: Kwang Soo Kim
14:25-14:50	B44: Multilayer Graphene Wires Obtained by Annealing Sputtered Amorphous Carbon, and their Transfer on Tungsten Plugs and Carbon Nanotubes Plugs for Carbon Interconnects	Motonobu Sato AIST, Japan P190
14:50-15:15	B45: Electronic response of graphene to a terahertz radiation pulse	Kenichi Ishikawa University of Tokyo, Japan P192
15:15-15:40	B46: Controllable growth of graphene without catalyst and its application	Dongxia Shi Institute of Physics, CAS, China P194
15:40-16:05	B47: Nanoscale and edge effects on the electronic properties of graphene	Katsunori Wakabayashi National Institute for Materials Science (NIMS), Japan P195
16:05-16:20	Session Break	
Session: Carbon-based Nanomaterials VIII		Chair: Kenichi Ishikawa
16:20-16:45	B48: AC Transport Properties of Carbon Nanotubes	Daisuke Hirai The University of Tokyo, Japan P197
16:45-17:10	B49: Remarkable oxygen reduction catalytic capacity of Pt nanoclusters and nanodendrites in genomic-DNA/reduced-graphene-oxide hybrid materials	Kwang Soo Kim Pohang University of Science and Technology, Korea P199
17:10-17:35	B50: Hydrogen Termination of Phosphorous Co-Doped Nanocrystalline Diamond and its Implication on N-type Doping	Adam Khan AKHAN Technologies, Inc. USA P201
17:35-18:00	B51: Chemically Converted Graphene: Functionalization and Nanocomposites	Dongxue Han Changchun Institute of Applied Chemistry, CAS, China P203
19:00	Dinner Social	

Dec. 17 Tuesday
Meeting Room Charleston C

7:00-8:15	Breakfast	
Session: Nano/Micro Structure III		Chair: Juan Eduardo Escrig Murua

8:50-9:15	C18: What we can learn about the atomic scale structure of carbon nanomaterials from diffraction experiments?	Andrzej Burian University of Silesia, Poland P206
9:15-9:40	C19: Single-Crystalline Arrays of Si nanowires: interface characterization and defect passivation efficiency analyzed by electron spin resonance	Mihaela Jivanescu KU Leuven, Belgium P208
9:40-10:05	C20: Noble Metal Nanoparticles on Silicon for Nano/Micro Structure Formation	Shinji Yae University of Hyogo, Japan P210
10:05-10:20	Session Break	
Session: Nano/Micro Structure IV		Chair: Mihaela Jivanescu
10:20-10:45	C21: Segregation phenomena in nanoscopic systems studied by aberration-corrected HRTEM	Darius Pohl IFW Dresden, Germany P212
10:45-11:10	C22: Characterization techniques for periodic micro/nano structures based on moire fringes	Qinghua Wang National Institute of Advanced Industrial Science and Technology (AIST), Japan P214
11:10-11:35	C23: Interface structure and electric characteristics of HfO ₂ -based MIS devices: dipole formation at direct-contact HfO ₂ /Si interface	Noriyuki Miyata National Institute of Advanced Industrial Science and Technology (AIST), Japan P216
11:35-12:00	C24: Magnetic properties of nanowires and nanotubes	Juan Eduardo Escrig Murua Universidad de Santiago de Chile, Chile P218
12:00-14:00	Lunch Break	
Session: Nano/Micro Structure V		Chair: Qinghua Wang
14:25-14:50	C25: Nanocatalysis – identifying active sites in heterogeneous catalysis	Uwe Burghaus North Dakota State University, USA P220
14:50-15:15	C26: TiO ₂ -based photocatalyst for advanced water purification	Giuliana Impellizzeri CNR-IMM, Italy P221
15:15-15:40	C27: UV-curable nanocasting technique to prepare bio-mimetic super-hydrophobic non-fluorinated polymeric surfaces for advanced anticorrosive coatings	Jui-Ming Yeh Chung Yuan Christian University, Taiwan P223

15:40-16:05	C28: Flexible spintronics based on rolled-up nanomembranes	Christian Mueller Technische Universität Chemnitz, Germany P224
16:05-16:20	Session Break	
Session: Functional Oxides Nanostructures		Chair: Christian Mueller
16:20-16:45	C29: Growth of 3D Flower/Grass-like Metal Oxide Nano Architectures Based on Catalyst Assisted Oxidation	Yang Ju Nagoya University, Japan P225
16:45-17:10	C30: Synthesis of Tailor-made Ceria Nanocubes by Organic-ligand-assisted Hydrothermal Reaction	Satoshi Ohara Osaka University, Japan P226
17:10-17:35	C31: Functionalization of SnO ₂ Nanowire Chemical Gas Sensors with Nanoparticles	Sang Sub Kim Inha University, Korea P227
17:35-17:50	C32: Preparation of oxide nanostructures for unexpected properties	Guangshe Li Fujian Institute of Research on the Structure of Matter, CAS, China P228
19:00	Dinner Social	

Dec. 18 Wednesday Meeting Room Charleston A		
7:00-8:15	Breakfast	
Session: Nanoscale Device IV		Chair: Evan Reed
8:10-8:35	A35: Highly transparent and flexible Ag nanowire-polymer composite electrode	Chang Su Kim Korea Institute of Materials Science, Korea P231
8:35-9:00	A36: Thermometry at the Nanoscale	Fernando Palacio CSIC - Universidad de Zaragoza, Spain P232
9:00-9:25	A37: Graphene field-effect transistor for biological sensing applications	Yasuhide Ohno Osaka University, Japan P233
9:25-9:50	A38: Direct-write deposition with a focused electron beam Principle and Applications for Nanomagneto logic	Heinz D. Wanzenboeck Vienna University of Technology, Austria P235
9:50-10:05	A39: Homojunction pn diode using tin oxide nanocrystalline thin film deposited via sputtering	Joseph Um Seoul National University of Science and Technology, Korea P237
10:05-10:20	Session Break	
Session: Nanoscale Devices V		Chair: Heinz D. Wanzenboeck
10:20-10:45	A40: Tunable wetting and color in porous 3D photonic crystals	Ian Burgess Wyss Institute, United States P239
10:45-11:10	A41: First-Principles Study on Oxidation Process of 4H-SiC	Tomoya Ono Osaka University, Japan P240
11:10-11:35	A42: Emergent Piezoelectricity and Electromechanics of Monolayer and Few-Layer Materials	Evan Reed Stanford University, USA P242
11:35-12:00	A43: Reliability of ZnO-based oxide field-effect transistors for advanced flat-panel displays	Jae Kyeong Jeong Inha University, South Korea P243
12:00-12:25	A44: ALD-grown Rare Earth Oxides: Effective Passivation of the Germanium Channel in MOS devices	Ole Bethge Vienna University of Technology, Austria P244
12:25-14:00	Lunch Break	
14:00	Afternoon Red Rock Social	
Dec. 18 Wednesday Meeting Room Charleston B		

7:00-8:15	Breakfast	
Session: Nano/Micro Structure VI		Chair: Donglin Ma
8:25-8:50	B52: Electronic Transport in Graphene Structures	A.C. Sharma The M.S. University of Baroda, India P247
8:50-9:15	B53: Novel AlPO ₄ nanocomposite glass for new optical functionality	Rihong Li Shanghai Institute of Optics and Fine Mechanics, CAS, China P248
9:15-9:40	B54: Corner lithography as a versatile 3D nanofabrication technique	Niels Tas University of Twente, The Netherlands P249
9:40-10:05	B55: Luminescent Silver Nanodots and Their Applications in Probing and Imaging	Junhua Yu Seoul National University, South Korea P251
10:05-10:20	Session Break	
Session: General V		Chair: A.C. Sharma
10:20-10:45	B56: Synthesis of Photochromic Zinc-Silicon-Oxide nano particle	Shuhei Inoue Hiroshima University, Japan P252
10:45-11:10	B57: Quantitative insights into nanomagnetism with a subnanometer resolution by spin-polarized scanning tunneling spectroscopy	Soo-Hyon Phark Max-Planck-Institute of Microstructure Physics, Germany P254
11:10-11:35	B58: Rationally Designing Nanostructures for Energy-related (Solar Cell and Catalysis) Applications	Donglin Ma Institut national de la recherche scientifique (INRS), Canada P256
11:35-12:00	B59: DNA Sequencing with Nano-sensors formed from Graphene and Silicene	Ralph H. Scheicher Uppsala University, Sweden P258
12:00-14:00	Lunch Break	
14:00	Afternoon Red Rock Social	

Dec. 18 Wednesday
Meeting Room Charleston C

7:00-8:15	Breakfast	
Session: General		Chair: Seiji Uryu
8:25-8:50	C33: Catalytic growth of chiral and bilateral carbon nanostructures	Hidetsugu Shiozawa University of Vienna, Austria P261
8:50-9:15	C34: Recent Progress Applications of Super-Growth Carbon Nanotubes	Takeo Yamada National Institute of Advanced Industrial Science and Technology (AIST), Japan P263
9:15-9:40	C35: Carbon nanofiber-Pt composites as low cost counter electrode for dye sensitized solar cells	Hytham Elbohy South Dakota State University, USA P265
9:40-10:05	C36: Graphene Photonics and Optoelectronics	Zhipei Sun Aalto University, Finland P266
10:05-10:30	C37: Bioinspired Photonic Nanomaterials	Zhongze Gu Southeast University, China P268
10:30-10:55	C38: Supramolecular Adducts of Squaraine and Protein for Noninvasive Tumor Imaging and Photothermal Therapy <i>In Vivo</i>	Hao Wang National Center for Nanoscience and Technology, China P270
12:00-14:00	Lunch Break	
14:00	Afternoon Red Rock Social	

International Conference on Small Science

December 15-18, 2013

The Red Rock Casino Resort and Spa at Las Vegas Nevada, USA

Tuesday
December 17

Poster Review

P1: Developing luminescent silver nanodots for cellular/molecular staining	Sungmoon Choi Seoul National University, South Korea P271
P2: Characterization of micro flip-chip ABL structure for high power IC devices	Junsung Ma Seoul National University of Science and Technology, South Korea P272
P3: Photo-bias Instability of Solution Processed Zinc Tin Oxide Thin Film Transistors with Varying Zn:Sn Composition Ratio	Yoon Jang Kim Seoul National University, South Korea P274
P4: Deformation Analysis of Crosslinked Liquid-Crystalline Polymer Films by Means of Surface Labeled Gratings	Norihisa Akamatsu Tokyo Institute of Technology, Japan P276
P5: Quantitative surface strain analysis of bending PDMS film by surface labeled grating method	Wataru Tashiro Tokyo Institute of Technology, Japan P277
P6: Photomodulation of elastic properties in crosslinked liquid-crystalline polymers	Jun-ichi Mamiya Tokyo Institute of Technology, Japan P278
P7: Molecular Alignment Induced by Photopolymerization with Intensity Spatial Gradient	Kyohei Hisano Tokyo Institute of Technology, Japan P279
P8: Alignment Control of Anisotropic Dye Molecules by Dynamic Photopolymerization	Miho Aizawa Tokyo Institute of Technology, Japan P280
P9: A Multi-stopband Photonic Crystals Microchip for High-performance Metal Ions Recognition based on Fluorescent Detection	Yu Huang Chinese Academy of Science, China P281
P10: 3D Network Nanowire devices for DNA analysis	Takao YASUI Nagoya University, Japan P283

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