

2012 Energy Materials Nanotechnology(EMN Fall)

Nov 29-Dec 2, 2012

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

Conference Onsite Registration

Red Rock Casino Resort and Spa

15:00 PM - 18:00 PM

Nov. 28

Thursday Nov. 29 8:20 - 8:30 AM	Opening: Materials&Energy	
Thursday Nov. 29	Room A: Session 1	Chair: Yasusei Yamada
8:30 - 8:55 AM	A1: Thick film permanent magnets applied for miniaturized devices	Masaki Nakano Nagasaki University, Japan
8:55 - 9:20 AM	A2: In-situ Transmission Electron Microscopy Analysis of Switching Mechanism in Resistance Random Access Memories	Yasuo Takahashi Hokkaido University, Japan
9:20 - 9:45 AM	A3: Analysis of demagnetization process of Nd-Fe-B permanent magnets by domain observation using Kerr microscope	Masaaki Takezawa Kyushu Institute of Technology, Japan
9:45 - 10:10 AM	A4: New trends in thin film synthesis of noble metal electrode catalysts	Jose Luis Endrino Abengoa Research S.L, Spain
10:10 - 10:30 AM	SESSION BREAK	
Thursday Nov. 29	Room A: Session 2	Chair: Masaaki Takezawa
10:30 - 10:55 AM	A5: Optical Switching Durability of Switchable Mirrors Based on Mg-Y Alloy Thin Films	Yasusei Yamada National Institute of Advanced Industrial Science and Technology (AIST)
10:55 - 11:20 AM	A6: Collision Synthesis of Fe-based complex oxides by High-Speed Ball-Milling Process	Takeshi Hashishin, Osaka University, Japan

11:20 - 11:45 AM		
11:45 - 14:00 AM	LUNCH BREAK	
Thursday Nov. 29	Room A: Session3	Chair: Zoltan Erdelyi
14:00 - 14:25 PM	A7:Electrochromic Display Devices Using Organic-Metallic Hybrid Polymers	Masayoshi Higuchi National Institute for Materials Science (NIMS), Japan
14:25 - 14:50 PM	A8:Bio-inspired functional materials from nature species	Di Zhang Shanghai Jiao Tong University
14:50 - 15:15 PM	A9:Ligand-protected gold nanoparticles with chirality	Hiroshi Yao University of Hyogo, Japan
15:15 - 15:40 PM	A10:Electrochemical and Photochemical Properties of Amorphous Titanium Oxide Prepared from Peroxo - Titanic Acid Solution	Isao Tsuyumoto Kanazawa Institute of Technology, Japan
15:40-16:00 PM	SESSION BREAK	
Thursday Nov. 29	Room A: Session4	Chair: Isao Tsuyumoto
16:00 - 16:25 PM	A11:T-X Phase Diagram of TNAZ/JUPSES Eutectics, a Molecular Dynamics Study	Xiao Dong Beijing Institute of Technology, China
16:25 - 16:50 PM	A12:Art of Blackness of Butterfly Wing and Inspiration for New Energy Materials	Tongxiang Fan shanghai Jiaotong University, China
16:50 - 17:15 PM	A13:Evaluation of inductor using hybrid core composed of Mn-Zn ferrite and Fe based particle	Shinji Ikeda Toyama National College of Technology, Japan
17:15 - 17:40 PM	A14:Diffusion, solid state reaction and stresses in planar and spherical geometry	Zoltan Erdelyi University of Debrecen, Hungary
17:40 - 18:30 PM	Poster session	
18:30 PM	DINNER RECEPTION	

2012 Energy Materials Nanotechnology(EMN Fall)

Friday Nov.30	Room A: Session5	Chair: I M Dharmadasa
8:30 - 8:55 AM	A15:Organic system for distributed feedback laser ans wavelength monitoring optical sensor on films	Yuji Oki Kyushu University, Japan
8:55 - 9:20 AM	A16:Phototriggered Self-micromanufacturing Using Photoresponsive Organic Films	Takashi Ubukata Yokohama National University, Japan
9:20 - 9:45 AM	A17:Giant megnetoresistance in semiconductors	Xiaozhong Zhang Tsinghua University, China
9:45 - 10:10 AM	A18:Role of cathode buffer layer in organic solar cells	Takeaki Sakurai University of Tsukuba, Japan
10:10 - 10:30 AM	SESSION BREAK	
Friday Nov.30	Room A: Session6	Chair: Shinji Ikeda
10:30 - 10:55 AM	A19:Quantum Dots and Quantum Well Islands for Energy Conversion	Itaru Kamiya Toyota Technological Institute, Japan
10:55 - 11:20 AM	A20:Planer bit patterned media fabricated by ion beam irradiation	Takeshi Kato Nagoya University, Japan
11:20 - 11:45 AM	A21:Thin film photovoltaic solar cells with nano-rod type materials grown by electroplating	I M Dharmadasa Sheffield Hallam University, UK
11:45 - 14:00 AM	LUNCH BREAK	
Friday Nov.30	Room A: Session7	Chair:Xiangwei Zhao
14:00 - 14:25 PM	A22:Magnetic properties controlled by electric field for Low power magnetic memory	Jingsheng Chen National University of Singapore, Singapore
14:25 - 14:50 PM	A23:Mechanisms of improved charge transfer by thin metal oxide films	Yongli Gao University of Rochester, USA

14:50 - 15:15 PM	A24:Non-stoichiometric manganese oxides for oxygen storage applications	Teruki Motohashi Hokkaido University, Japan
15:15 - 15:40 PM	A25: Non-stoichiometry effect and phonon scattering in TiS ₂ based compounds	Emmanuel Guilmeau CRISMAT Laboratory, France
15:40-16:00 PM	SESSION BREAK	
Friday Nov.30	Room A: Session8	Chair:Hiroshi Yao
16:00 - 16:25 PM	A26:From chiral meta-molecule to chiral meta-interface	Satoshi Tomita Nara Institute of Science and Technology, Japan
16:25 - 16:50 PM	A27:Flexoelectrical enhancement of anisotropic photo-induced current in morphotropic phase boundary	Chan-Ho Yang Korea Advanced Institute of Science and Technology (KAIST), South Korea
16:50 - 17:15 PM	A28:Advanced Materials for low cost Na-ion batteries	Teofilo Rojo CIC Energigune, Parque Tecnológico, Spain
17:15 - 17:40 PM	A29:Self assembled photonic crystal materials for bioanalysis	Xiangwei Zhao Southeast University, China
19:30 PM	DINNER	

2012 Energy Materials Nanotechnology(EMN Fall)		
Saturday Dec.1	Room A: Session9	Chair:Daisuke Kan
8:30 - 8:55 AM	A30:Texturing process of crystalline silicon solar cells	Yoji Saito Seikei Univ. Japan
8:55 - 9:20 AM	A31:Novel preparation of Al alloy composites without heat treatment	Tokujiro Yamamoto Utsunomiya University, Japan
9:20 - 9:45 AM	A32:Microcavities comprising magneto-optic and electro-optic defects for thin film optical isolators and spatial light modulators	Taichi Goto MIT, USA
9:45 - 10:10 AM	A33:Hybrid electro-optic polymer waveguide modulators for ultra-low power communications and interconnections	Yasufumi Enami Hiroshima University, Japan
10:10 - 10:30 AM	SESSION BREAK	

Saturday Dec.1	Room A: Session10	Chair: Xiaozhong Zhang
10:30 - 10:55 AM	A34: Thickness-dependent structure-property relationships in coherently grown SrRuO ₃ epitaxial thin films	Daisuke Kan Kyoto University, Japan
10:55 - 11:20 AM	A35: Ageing effects of Magnetocaloric Materials	Olivier Toulemonde ICMCB-cnrs, UPR 9048, France
11:20 - 11:45 AM	A36: Microscale local detection and characterization of defects in silicon solar cells	Pavel Tomanek Brno University of Technology, Czech Republic
11:45 - 14:00 AM	LUNCH BREAK	
Saturday Dec.1	Room A: Session11	Chair: Xianfeng Li
14:00 - 14:25 PM	A37: Development of polymer-grafted nanoparticles from synthesis to application for polymer-nanoparticle composites	Toshihiko Arita Tohoku University, Japan
14:25 - 14:50 PM	A38: Hierarchically Assembled Al-doped ZnO Grown by Pulsed Laser Deposition for Photovoltaic Applications	Paolo Gondoni Politecnico di Milano, Italy
14:50 - 15:15 PM	A39: Metal spintronic devices for information storage and transfer	Hyunsoo Yang National University of Singapore, Singapore
15:15 - 15:40 PM	A40: Polarization properties in aperture-less type scanning near-field optical microscopy	Takayuki Ishibashi Nagaoka University of Technology, Japan
15:40-16:00 PM	SESSION BREAK	
Saturday Dec.1	Room A: Session12	Chair: Hyunsoo Yang
16:00 - 16:25 PM	A41: Membranes separator for vanadium flow battery	Xianfeng Li Dalian Institute of Chemical Physics, Chinese Academy of Science
16:25 - 16:50 PM	A42: Magnetophotonics and Their Applications	Mitsuteru Inoue Toyohashi University of Technology, Japan
16:50 - 17:15 PM	A43: Preparation of Biomimetic Multi-Functional Surface by using Self-Organization Process	Yuji Hirai Tohoku University, Japan

17:15 - 17:40 PM	
19:00 PM	Conference Banquet

2012 Energy Materials Nanotechnology(EMN Fall)		
Sunday Dec.2	Room A: Session13	Chair: Paolo Gondoni
8:30 - 8:55 AM	A44:The Impact of a New Bond Order Potential Modeling Approach on Energy, Materials and Nanotechnology Research	Xiaowang Zhou Sandia National Laboratories, USA
8:55 - 9:20 AM	A45:Crystallinity and composition dependence of resistance switching in manganite films: A study by impedance spectroscopy	Toshihiro Nakamura Kyoto University, Japan
9:20 - 9:45 AM	A46:Quantum Monte Carlo Methods	Tao Pang University of Nevada, Las Vegas, USA
9:45 - 10:10 AM	A47:Development of all-solid-state lithium rechargeable battery using quasi-solid-state electrolytes containing room temperature ionic liquid	Atsushi Unemoto Tohoku University
10:10 - 10:35 AM	A48: Vanadium Flow battery: from materials to system integration	Huamin Zhang Dalian Institute of Chemical Physics, CAS,China
	Closing	

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Thursday Nov. 29 8:20 - 8:30 AM	Opening: Energy&Nanotechnology	
Thursday Nov. 29	Room B: Session 1	Chair:Tong Lin
8:30 - 8:55 AM	B1: Band engineering in graphene for future electronics	Kazuhito Tsukagoshi National Institute for Materials Science (NIMS), Japan
8:55 - 9:20 AM	B2: Liquid State Ammonia as Hydrogen Storage Material	Takayuki Ichikawa Hiroshima University, Japan
9:20 - 9:45 AM	B3: Recent Developments on Graphene Based Polymer Nanocomposites and their Applications	A.Yogananda Visvesvaraya Technological University, India
9:45 - 10:10 AM	B4: Rational design advanced nanostructured electrode materials for superior lithium-ion batteries	Jun Liu, Xiangtan University, China
10:10 - 10:30 AM	SESSION BREAK	
Thursday Nov. 29	Room B: Session 2	Chair:A.Yogananda
10:30 - 10:55 AM	B5: Two Dimensional Nanostructures As Energy Storage Materials	Dinesh Rangappa Visvesvaraya Technological University, India

10:55 - 11:20 AM	B6: Randomly-oriented Electrospun Nanofiber Webs and their Mechanical-to-electrical Energy Conversion	Tong Lin Deakin University, Australia
11:20 - 11:45 AM		
11:45 - 14:00 AM	LUNCH BREAK	
Thursday Nov. 29		
Room B: Session 3		Chair: Everett Carpenter
14:00 - 14:25 PM	B7: The UV light photodetector and gas sensor of oxide nanowire Schottky barrier	Gang Cheng Henan University, China
14:25 - 14:50 PM	B8: Basic research for drastic power saving memory & logic using TbFeCo nano-wire	Hiroyuki Awano Toyota Technological Institute, Japan
14:50 - 15:15 PM	B9: ZnO and In ₂ O ₃ based dilute magnetic semiconducting nanomaterials: synthesis, structural and magnetic properties	J. Manjanna, Kuvempu University, India
15:15 - 15:40 PM	B10: Fuel cell performance and degradation behaviors of RuSe cathode catalysts	Xuan Cheng, Xiamen University, China
15:40-16:00 PM	SESSION BREAK	
Thursday Nov. 29		
Room B: Session 4		Chair: Hiroyuki Awano
16:00 - 16:25 PM	B11: Development and characterization of nanocrystalline magnetoelectric Multiferroic Materials	Arun Singh Jamia Millia Islamia, Central University, India
16:25 - 16:50 PM	B12: Nanocomposite alternatives to rare-earth permanent magnets	Everett Carpenter Virginia Commonwealth University, USA
16:50 - 17:15 PM		
17:15 - 17:40 PM		
17:40 - 18:30 PM	Poster session	
18:30 PM	DINNER RECEPTION	

2012 Energy Materials Nanotechnology(EMN Fall)

Friday Nov.30	Room B: Session 5	Chair: Takaaki Tsuruoka
8:30 - 8:55 AM	B13: α - Phase layered hydroxides, types, applications and their nanohybrids	Mohammad Yeganeh Ghotbi Malayer University, Iran
8:55 - 9:20 AM	B14: Microwave-assisted ionic liquid solvothermal rapid reduction of graphene oxide for energy materials	Ying-Kui Yang Hubei University, China
9:20 - 9:45 AM	B15: Semiconductor Nanomembranes: Sheet Science and Technology	Shelley A Scott, University of Wisconsin-Madison, USA
9:45 - 10:10 AM	B16: Applications of nanogap-tuned infrared optical nanoantennas with broadband resonance	Tadaaki Nagao National Institute for Materials Science (NIMS), Japan
10:10 - 10:30 AM	SESSION BREAK	
Friday Nov.30	Room B: Session 6	Chair: Ying-Kui Yang
10:30 - 10:55 AM	B17: Controlled Self-Assembly of Metal-Organic Frameworks on Metal Nanoparticles for Efficient Synthesis of Hybrid Nanostructures	Takaaki Tsuruoka Konan University, Japan
10:55 - 11:20 AM	B18: Novel nanocurvature effect and athermal activation effect on carbon nanotube as induced by electron beam irradiation	Xianfang Zhu Xiamen University, China
11:20 - 11:45 AM		
11:45 - 14:00 AM	LUNCH BREAK	
Friday Nov.30	Room B: Session 7	Chair: Yong X. Gan
14:00 - 14:25 PM	B19: Self-assembled gold nanocomposites for bio-recognition and microbial fuel cell	Xuemei Wang Southeast University, China

14:25 - 14:50 PM	B20:Co-electrodeposition of carbon nanotubes with chromium	Wei Zhang Dalian University of Technology, China
14:50 - 15:15 PM	B21: Heating methods and materials for hyperthermia - from medical equipment to nanotechnology	Yasushi Takemura Yokohama National University, Japan
15:15 - 15:40 PM	B22: High Resolution Synchrotron X-ray microtomography for Investigation of Local Deformation and Fracture in Materials	Masakazu Kobayashi Toyohashi University of technology, Japan
15:40 - 16:00 PM	SESSION BREAK	
Friday Nov.30	Room B: Session 8	Chair: Yuichi NAKAMURA
16:00 - 16:25 PM	B23:Photoelectrochemical energy conversion using nanostructured electrodes	Yong X. Gan California State Polytechnic University, Pomona, USA
16:25 - 16:50 PM	B24:Introduction of Photonic Crystal into Dye-sensitized Solar cells utilising a naturally-occurring dye	Sachiko Matsushita Tokyo Institute of Technology, Japan
16:50 - 17:15 PM	B25:a review of the energy-related material (doped ceria) in the solid oxide fuel cell field.	Zhi-Peng Li National Institute of Standards and Technology (NIST), USA
17:15 - 17:40 PM		
19:30 PM	DINNER	

2012 Energy Materials Nanotechnology(EMN Fall)

Saturday Dec.1	Room B: Session 9	Chair: Ayse Turak
8:30 - 8:55 AM	B26:Effect of multiple substitution on the properties of Ca ₃ Co ₄ O ₉ thermoelectric cobaltite	Yuichi NAKAMURA Toyohashi University of Technology, Japan
8:55 - 9:20 AM	B27:Nano-Structured Metal Oxides and Graphenes for Fuel Cell and Battery Applications	Jian Xie, Indiana University Purdue University Indianapolis (IUPUI), USA

9:20 - 9:45 AM	B28:Top-illuminated organic solar cell with stable power conversion efficiency	Jiun-Haw Lee National Taiwan University, Taiwan
9:45 - 10:10 AM	B29:Using soft x-rays to characterize and understand interfaces in energy conversion devices	Clemens Heske University of Nevada, Las Vegas, USA
10:10 - 10:30 AM	SESSION BREAK	
Saturday Dec.1	Room B: Session 10	Chair: Clemens Heske
10:30 - 10:55 AM	B30:Solution processed nanostructures for advanced organic photovoltaics	Ayse Turak, McMaster University, Canada
10:55 - 11:20 AM	B31:Molecular Level Description of Physical and Chemical Properties of Nanoporous Materials with Applications to Energy Storage	Rodion Belosludov Tohoku University
11:20 – 11:45 AM	B32:Nanoscale Surface Modification for Stabilization of Li-ion Electrodes	Chunmei Ban Scientist at National Renewable Energy Lab
11:45 - 14:00 AM	LUNCH BREAK	
Saturday Dec.1	Room B: Session 11	Chair:Zonghai Chen
14:00 - 14:25 PM	B33:Catalyst Design at the Subnanometer to Nanometer Scale: Optimizing Function via Cluster Size, Composition, and Support	Stefan Vajda Argonne National Laboratory, USA
14:25 - 14:50 PM	B34:Preparation and application of Cu electrodes and porous CuO films via novel precursor-based ink and paste solution routes	Yun-Hyuk Choi Seoul National University
14:50 - 15:15 PM	B35:Fe intercalated decoupling of graphene	Jinwook Chung Pohang University of Science and Technology
15:15 - 15:40 PM	B36: Scanning nonlinear dielectric microscopy nano science and technology	Yasuo Cho Tohoku University, Japan
15:40 - 16:00 PM	SESSION BREAK	
Saturday Dec.1	Room B: Session 12	Chair: Yun-Hyuk Choi
16:00 - 16:25 PM	B37: Directional Emission from Whispering Gallery Mode Microlasers and On-Chip Quantum Optics	Stephan Reitzenstein Technische Universität Berlin, Germany

16:25 - 16:50 PM	B38:Synthesis of Alkanethiolate-Capped Pd Nanoparticle Catalysts with High Regioselectivity	Young-Seok Shon California State University Long Beach, USA
16:50 - 17:15 PM	B39:Nano-structured Materials for Advanced Lithium-Ion Batteries: A Candidate for Sustainable Energy Utilization	Zonghai Chen Argonne National Laboratory, USA
17:15 - 17:40 PM		
19:00 PM	Conference Banquet	

2012 Energy Materials Nanotechnology(EMN Fall)

Sunday Dec.2	Room B: Session 13	Chair: Everett Carpenter
8:30 - 8:55 AM	B40:New Analytical Solutions for Nano Contact Problems	Farzaneh Sharafbafi DG R&D and Training Planning
8:55 - 9:20 AM	B41:Joule heat welding of metallic nanowires for creating new functions	Hironori Tohmyoh Tohoku University, Japan
9:20 - 9:45 AM	B42:Exploitation on Energy & Stability Based on Some Organic Anions	Zhiming Zhou Beijing Institute of Technology, China
9:45 - 10:10 AM	B43:Graphene manipulation for energy-conversion devices	Liangti Qu Beijing Institute of Technology, China
10:10 - 10:30 AM	SESSION BREAK	
10:30 - 10:55 AM		
10:55 - 11:20 AM	closing	