

Program for EMN Las Vegas Meeting 2016

Monday Oct.10th

14:00-18:00

Onsite Registration & Sign up

Tuesday Oct. 11th

Room: Napa D

07:50-08:00

Opening Ceremony

Session: Active Matter I

Chair: Yogeshwar Sahai

8:25-8:50

D01: High energy lithium-ion capacitors

Jim P. Zheng
Florida State University, USA

8:50-9:15

D02: Anode materials for OLEDs:
F-doped ZnO

Hyung-Ho Park
Yonsei University, Korea

9:15-9:40

D03: Role of bio-waste materials for
fabrication of high performance energy
storage devices

Ram K. Gupta
Pittsburg State University, USA

9:40-10:05

D04: Fabrication of Silicon-Graphene
Composites from Colloidal Mixture of
Silicon Sludge Waste and Graphene
Oxide for Lithium Ion Batteries

Hee Dong Jang
Korea Institute of Geoscience and Mineral
Resources/University of Science and
Technology

10:05-10:20

Session Break

Session: Fuel Cells

Chair: Ram K. Gupta

10:20-10:45

D05: Pore-structural analysis of
coarse-dense dual catalyst layer for
proton exchange membrane fuel cells

Sung-Chul Yi
Hanyang University, Korea

10:45-11:10

D06: Development of Cost-Effective
Materials for Direct Alkaline Fuel Cells

Yogeshwar Sahai
The Ohio State University, USA

11:10-11:35

D07: Proton transfer in fuel cell using
biopolymer electrolyte

Yasumitsu Matsuo
Setsunan University, Japan

11:35-12:00

D08: Characterizing Polymer Electrolyte
Membranes for Fuel Cell Applications

Xiaoming Ren
U.S.Army Research Laboratory, USA

12:00-12:25

D09: Graphene as Electrode Active
Materials for Supercapacitor
Applications

Dongfang Yang
National Research Council Canada, Canada

12:30-13:30

Lunch Break

Tuesday Oct.11

Room: Napa D

Session: Nanomagnetism I

Chair: Matthias Opel

13:30-13:55	D10: Structural and Magnetic Correlations in Emergent materials	Amitesh Paul Technische Universität München, Germany
13:55-14:20	D11: Studies of atomic scale magnetism on a complex surface for future spintronics devices	Barbara A. Jones IBM Research - Almaden, USA
14:20-14:45	D12: On General-purpose Quantum Parallel Computing: What could be the role of Spintronics?	Cheng Hsiao Wu Missouri University of Science and Technology, USA
14:45-15:10	D13: Antiferromagnetic spin correlation and exchange coupling in IrMn/NiFe films and nanodots	Lucia Del Bianco University of Ferrara, Italy
15:10-15:35	D14: Tunnel Magneto-resistance Using Ferromagnetic Ordered Alloys	Mikihiko Oogane Tohoku University, Japan
15:35-15:50	Session Break	
Session: Nanomagnetism II		
Chair: Lucia Del Bianco		
15:50-16:15	D15: Static Magnetic Proximity Effects and Spin-Hall Magnetoresistance in Pt/Y3Fe5O12 and inverted Y3Fe5O12/Pt bilayers	Matthias Opel Walther-Meißner-Institut, Germany
16:15-16:40	D16: Some novel spin-wave effects in magnetic nanostructures revealed by micromagnetic modeling	Ming Yan Shanghai University, China
16:40-17:05	D17: Spin dynamics on ferromagnetic nitride thin films	Shinji Isogami Fukushima National College of Technology, Japan
17:05-17:30 Online Presentation	D18: Voltage-controlled magnetization switching in spintronic devices	Weigang Wang University of Arizona, USA
18:00	Dinner Social	

Wednesday Oct. 12		
Room: Napa D		
Session: Keynote Talk		Chair: Kuntal Roy
8:15-8:50	D19: Voltage-controlled exchange bias: A building block for ultra-low power memory and logic device applications	Christian Binek University of Nebraska-Lincoln, USA
Session: Quantum wells and Quantum dots		Chair: Kuntal Roy
8:50-9:15	D20: Carbon nanotube transport spectroscopy – where spin meets valley	Andreas K. Hüttel University of Regensburg, Germany
9:15-9:40	D21: Single spin dynamics in an optically active quantum dot and the measurement of third order spin correlators	Fuxiang Li Los Alamos National Lab, USA
9:40-10:05	D22: Quantum theory for laser-driven spin current in multiferroics	Masahiro Sato Japan Atomic Energy Agency, Japan
10:05-10:20	Session Break	
Session: Spintronic Devices I		Chair: Christian Binek
10:20-10:45	D23: Challenges and solutions for nanosecond STT-MRAM	Dmytro Apalkov Samsung Electronics, USA
10:45-11:10	D24: Spintronics: Recent developments and future perspectives on ultra-low-energy, area-efficient, and ultra-fast spin-devices and spin-circuits	Kuntal Roy Purdue University, USA
11:10-11:35	D25: Ultrafast spin injection in semiconductors	Marco Battiato Vienna University of Technology, Austria
11:35-12:00	D26: Novel materials for antiferromagnetic spintronics	Markus Meinert Bielefeld University, Germany
12:00-12:25	D27: Perpendicular STT-MRAM chips for embedded memories: from eFlash to SRAM	Huanlong Liu Headway Technologies, Inc, USA
12:30 – 13:45	Lunch Break	
Session: Keynote Talk II		Chair: Kwang S. Kim

13:45-14:20	D28: DNA-assisted Self-Assembly of Multiferroic Nanocomposites	Gopalan Srinivasan Oakland University, USA
Session: Spintronic Devices II Chair: Kwang S. Kim		
14:20-14:45	D29: Graphene spintronics with ferromagnetic metal and insulator	Satoshi Haku Keio University, Japan
14:45-15:10	D30: STT-MRAM and MTJ/CMOS Hybrid NV-logic for Low Power Systems	Tetsuo Endoh Tohoku University, Japan
15:10-15:25	Session Break	
Session: Spintronic Devices III Chair: Gopalan Srinivasan		
15:25-15:50	D31: Intrinsic Angular Momentum and Stability	John Wallace Casting Analysis Corp, USA
15:50-16:15	D32: Graphene Spintronics	Kwang S. Kim Ulsan National Institute of Science and Technology (UNIST), Korea
16:15-16:40	D33: Manipulating magnetic domain walls using strain	Andrew Rushforth University of Nottingham, UK
16:40-17:05	D34: Magnetization switching and domain wall motion induced by current-induced torque in perpendicularly magnetized materials	Tomohiro Koyama The University of Tokyo, Japan
18:00	Dinner Social	

Wednesday Oct.12

Room: Huntingdon

Session: Advances in Experimental Evidences About Spintronics I

Chair: Thomas Silva

8:25-8:50	H01: One-Dimensional Edge States with Giant Spin Splitting in a Bismuth Thin Film studied by spin-resolved ARPES	Akari Takayama University of Tokyo, Japan
8:50-9:15	H02: Spin-orbit torques in ferromagnetic heterostructures	Can Onur Avcı Massachusetts Institute of Technology, USA
9:15-9:40	H03: Spin-torque oscillator driven by thermal gradients	Igor Barsukov University of California, Riverside, USA
9:40-10:05	H04: Sudden restoration of the band ordering associated with the ferromagnetic phase transition in a semiconductor	Iriya Muneta Tokyo Institute of Technology, Japan
10:05-10:20	Session Break	

Session: Advances in Experimental Evidences About Spintronics II **Chair: Akari Takayama**

10:20-10:45	H05: Power consumption in spin Hall devices: the exception of the Corbino geometry	Jean-Eric Wegrowe Ecole Polytechnique, Universit' e Paris-Saclay, France
10:45-11:10	H06: Novel spectroscopic method to measure spin-charge transduction in unpatterned ferromagnetic multilayers	Thomas Silva National Institute of Standards and Technology, USA
11:10-11:35	H07: Multiferroic Polar Metals	Shiming Lei Pennsylvania State University, USA
11:35-12:00	H08: Electromagnetic mapping from spin decoherence to time reversal symmetry breaking	Jean Heremans Virginia Tech, USA
12:00-12:25	H09: Condensation of spin excitations in two dimensions	Leonid V. Kulik Russian Academy of Sciences, Russia
12:30-13:30	Lunch Break	

Session: Active Matter II

Chair: Xiao ming Ren

13:20-13:55 Keynote Talk	H10: The key role of the carbon surface properties in developing high performance batteries and supercapacitors	Cathie Vix-Guterl CNRS(The National Center for Scientific Research), France
13:55-14:20	H11:	Seong Chan JUN Yonsei University, Seoul, Korea

14:20-14:45	H12: Orthogonal band gap engineering of UiO-66 frameworks through active control of defects	Kurt Lejaeghere Ghent University, Belgium
14:45-15:10	H13: Novel carbon based nanocomposites for energy storage and catalytic application	Xiaohui Guo Northwest University, China
15:10-15:50	Poster & Session Break	
Session: Big Data I		Chair: Radek Holy
15:50-16:15	H14: monolithic 3D-IC technology for big-data processing	Chih-Chao Yang National Nano Device Laboratories (NDL), Hsinchu, Taiwan
16:15-16:40	H15: Statistical analysis for post randomization method	Chien-Hua Wu Chung-Yuan Christian University, ROC, Taiwan
16:15-16:40	H15: Statistical analysis for post randomization method	Shu-Mei Wan Lunghwa University of Science and Technology, ROC
16:40-17:05	H16: Semantic Document Exchange for E-Business with User-Autonomous Document-Sense Making	Guangyi Xiao Hunan University, China
17:05-17:30	H17: Framework for Handling Personal Data	Yuri Nakagawa The University of Tokyo, Japan
18:00	Dinner Social	

Thursday Oct.13
Room: Huntingdon

Session: Theoretic understanding on Spin Phenomena I Chair: Henri-Jean Drouhin

8:50-9:15	H18: Surface State Photoelectrons in Weyl Semimetals	David Schmeltzer The City College of New York, USA
9.15-9:40	H19: Abstract Semiconductor Structure Converting Environmental Heat into Usable Energy	Eliade Stefanescu Center of Advanced Studies in Physics, Institute of Mathematics "Simion Stoilow" of the Romanian Academy, Romania
9:40-10:05	H20: Spin-currents and spin-orbit torques at Pt/[Ni,Co] spin-orbit split active interfaces	Henri Jaffrès Unit éMixte de Physique CNRS-Thales, France
10:05-10:20	Session Break	

Session: Theoretic understanding on Spin Phenomena II Chair: Eliade Stefanescu

10:20-10:45	H21: Anomalous Tunnel Hall Effect: Orbital Chirality and Giant Universal Asymmetry	Henri-Jean Drouhin Ecole Polytechnique, France
10:45-11:10	H22: Spin Seebeck power generation toward energy harvesting	Hiromi Yuasa Kyushu university, Japan
11:35 - 13:55	Lunch Break	

Session: Theoretic understanding on Spin Phenomena III Chair: Ilya Kaplan

13:55-14:20	H23: Structural Change and Dynamics of Magnetic Skyrmions	Junichi Iwasaki University of Tokyo, Japan
14:20-14:45	H24: Engineering magnetoelectric coupling at room temperature in perovskite oxides	Saurabh Ghosh Vanderbilt University and Oak Ridge National Lab, USA
14:45-15:10	H25: Role of interfaces in spin current dissipation and generation	Zhe Yuan Beijing Normal University, China
15:10-15:35	H26: Mechanical generation of spin and spin current	Mamoru Matsuo Japan Atomic Energy Agency, Japan
15:35-15:50	Session Break	

Session: Theoretic understanding on Spin Phenomena IV Chair: Saurabh Ghosh

15:50-16:15	H27: The Pauli exclusion principle and some still unsolved problems in its substantiation	Ilya Kaplan National Autonomous University of Mexico, Mexico
16:15-16:40	H28: Electric Field Control of Magnetism: Towards Ultralow Energy Memory Devices	Nicholas Kioussis California State University Northridge, USA
16:40-17:05	H29: A Bernasconi model for constructing ground-state spin systems and lowest autocorrelation binary sequence	Anatolii Leukhin Mari State University, Russia
18:00	Dinner Social	

Thursday Oct.13

Room: Napa D

Session: Spintronic Devices IV

Chair: Daniel Bürgler

8:25-8:50	D35: Magnonic Holographic Memory	Alexander Khitun University of California, Riverside, USA
8:50-9:15	D36: Nano-spintronic devices from materials scientific perspectives	Atsufumi Hirohata University of York, UK
9:15-9:40	D37: Towards ferroelastic functionalities for straintronics	Bohdan Kundys Strasbourg Institute of Materials Physics and Chemistry, France
9:40-10:05	D38: Dynamical Systems Design for Spintronic Devices and its Applications	Kazuki Nakada Hiroshima City University, Japan
10:05-10:20	Session Break	
Session: Organic Spintronics		Chair: Atsufumi Hirohata
10:20-10:45	D39: Asymmetric hybridization-induced intramolecular spin polarization of TPT molecules chemisorbed on Fe/W(110) films and Co/Cu(111) nanoislands	Daniel Bürgler Peter Grünberg Institute, Germany
10:45-11:10	D40: Spin-pump-induced spin transport in thermally-evaporated pentacene films	Eiji Shikoh Osaka City University, Japan
12:00-13:30	Lunch Break	
Session: Big Data II		Chair: Chien-Hua Wu
13:30-13:55	D41: Big Data Classification to Predict the Risk of Hospitalization by implementing the Statistical Prediction Models	Sreekanth Rallapalli Botho University, Africa
13:55-14:20	D42: IT Infrastructure of Cloud Computing and Fog Computing	Yongli Zhao Beijing University of Posts and Telecommunications, China
14:20-14:45	D43: Analysis of data domains with respect to data purity	Radek Holy Czech Technical University, Prague
14:45-15:10	D44: An organization of computational intelligence for Big Data system	Maryam Yammahi The George Washington university, USA; UAE University, UAE
15:10-15:35	D45: Building a collaborative platform for big data users	Zhen Zhao Comcast, USA
15:35-15:50	Session Break	
18:00	Dinner Social	

Tuesday Oct. 11th**Room: Huntingdon****Session: DNA I****Chair: Mehmet Ozsoz**

8:50-9:15	H30: Ultrafast Dynamics in UV-Photoexcited DNA Building Blocks: From H-Bridged Base Pairs to Base-Stacking Interactions	Friedrich Temps Christian-Albrechts-Universität zu Kiel, Germany
9:15-9:40	H31: Automated Generation of RNA Ring Scaffolds	Eckart Bindewald Frederick National Laboratory for Cancer Research
9:40-10:05	H32: The Role of Structure Dynamics in RNA-based Nanostructure Modeling	Wojciech Kasprzak Frederick National Laboratory for Cancer Research, USA

10:05-10:20

Session Break

Session : DNA II**Chair: Friedrich Temps**

10:20-10:45	H33: NMR Structural Insights into Interactions of Triangulenium-based Fluorescence Probe with G-quadruplex	Janez Plavec National Institute of Chemistry, Slovenia
10:45-11:10	H34: DNA-Based Proteomics for Biomarker Discovery: SOMAscan and Diagnostics	Larry Gold SomaLogic Inc., USA
11:10-11:35	H35: Electrochemical microRNA Detection as Cancer Biomarker	Mehmet Ozsoz Gediz University, Turkey
11:35-12:00	H36: Characterizing Polymer Electrolyte Membranes for Fuel Cell Applications	Tahereh Tohidi Moghadam Tarbiat Modares University, Iran

12:00-13:30

Lunch Break

Wednesday Oct.12**Poster Session(15:10-15:50)**

P01	Direct production of hydroxy fatty acids from glucose using metabolic engineering of Escherichia coli	Yujin Cao Qingdao Institute of Bioenergy and Bioprocess Technology, Chinese Academy of Sciences, Qingdao, China
P02	Microbial Production of Amino Acid Modified Spider Dragline Silk Protein	Haibo Zhang Qingdao Institute of Bioenergy and Bioprocess

		Technology, Chinese Academy of Sciences, Qingdao, China
P03	Sustainable utilization of natural material lignocellulose to prepare furan derivatives	Dexin Feng Qingdao Institute of Bioenergy and Bioprocess Technology, Chinese Academy of Sciences, Qingdao, China
P04	High-Performance Flexible MnO ₂ Solid-State Supercapacitors	Ming-Jay Deng National Synchrotron Radiation Research Center, Hsinchu, Taiwan
P05	Pt-Supported on a Few Layered Graphene as a High-Performance DMFC Catalyst	Hankwon Chang Korea Institute of Geoscience and Mineral Resources/University of Science and Technology
P06	Sustainable battery power system for electric vehicles	Yingchun Yuan University of Wisconsin, Milwaukee, USA