# AFM-19: Program at Glance

**Date: Monday, 22/July/2019**

<table>
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<tr>
<th>Time</th>
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<tr>
<td>2:00pm - 6:00pm</td>
<td>Reg: Registration</td>
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**Date: Tuesday, 23/July/2019**

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| 8:20am - 8:30am | OPC: Opening Ceremony  
              | *Dae Joon Kang, Lijie Grace Zhang*         |
| Grand Ballroom |                                            |
| 8:30am - 10:30am | Plen: Plenary Session               |
| Grand Ballroom |                                            |
| 10:30am - 11:00am | Coffee Break                         |
| Grand Ballroom |                                            |
| 11:00am - 1:00pm | KEY: Keynote Session                 |
| Grand Ballroom |                                            |
| 1:00pm - 2:00pm | Lunch Break                             |
| Grand Ballroom |                                            |
| 2:00pm - 4:00pm | KEY: Keynote Session                 |
| Grand Ballroom |                                            |
| 4:00pm - 4:15pm | Coffee Break                             |
| Grand Ballroom |                                            |
| 4:15pm - 6:00pm | Oral Talks                                |
| Grand Ballroom |                                            |
| 4:15pm - 6:00pm | Oral Talks                                |
| Marvin Center 302 |                                        |

**Date: Wednesday, 24/July/2019**

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Presentations

Plen: Plenary Session:

Time: Tuesday, 23/July/2019: 8:30am - 10:30am · Location: Grand Ballroom
Session Chair: Lijie Grace Zhang,

8:30am - 9:10am
Nanoscale Synthesis and Assembly to Smart Optical Materials
Yadong Yin
University of California, Riverside, CA, 92521, USA

9:10am - 9:50am
Electrochemical Artificial Muscle Yarns And Textiles That Harvest And Store Environmentally Available Energies
Ray H. Baughman
Alan G. MacDiarmid NanoTech Institute, University of Texas at Dallas, Richardson, TX 75080

9:50am - 10:30am
MXenes for Functional Applications
Michel W. Barsoum
College of Engineering, Drexel University

KEY: Keynote Session:

Time: Tuesday, 23/July/2019: 11:00am - 1:00pm · Location: Grand Ballroom
Session Chair: Dae Joon Kang,

11:00am - 11:40am
Low energy bandgap semiconducting materials and their Applications
Hyovoung Lee¹,²
¹Center for Integrated Nanostructure Physics (CINAP), Institute for Basic Science (IBS),
²Department of Chemistry, Sungkyunkwan University
Republic of Korea

11:40am - 12:20pm
Quantum-Sized Metal Nanoparticles Catalyzing the Selective Photon-to-Chemical Energy Conversion
Yugang Sun
Department of Chemistry, Temple University, 1901 North 13th Street, Philadelphia, Pennsylvania 19122, USA
12:20pm - 1:00pm  
**Cell-Matrix Interactions in Cancer and Fibrosis: Multiscale Chemo-Mechanical Models**  
*Vivek Shenoy*  
School of Engineering and Applied Sciences, University of Pennsylvania

1:00pm - 2:00pm  Lunch Break

**KEY: Keynote Session:**

*Time:* Tuesday, 23/July/2019: 2:00pm - 4:00pm *Location:* Grand Ballroom  
*Session Chair:* Yugang Sun,

2:00pm - 2:40pm  
**Goodbye Hospitals: Hello Implantable Nanosensors**  
*Thomas J. Webster*  
Art Zafiropoulo Chair, Department Chair, Chemical Engineering, Northeastern University

2:40pm - 3:20pm  
**Lasers and their Applications in Materials**  
*W Aslam Farooq*  
Department of Physics and Astronomy, King Saud University, Riyadh, KSA.

3:20pm - 4:00pm  
**Our ability to beat cancer cells to death and stop their migration by using hot gold nanorods**  
*El-Sayed, Mostafa A*  
Julius Brown Chair and Regents Professor, Department of Chemistry and Biochemistry, Georgia Tech.

4:00am - 4:30am  Coffee break
ABB: Advances in Biosensors and Biomaterials

Time: Tuesday, 23/July/2019: 4:30pm - 6:30pm · Location: Grand Ballroom
Session Chair: Prof. Vivek Shenoy,

4:30pm - 4:45pm
Meridian whispering gallery mode sensing with a deformed microdroplet on a superhydrophobic chip surface
Meng Zhang¹, Weifeng Cheng², Zheng Zheng¹, Jiangtao Cheng² and Jiansheng Liu¹
¹School of Electronic and Information Engineering, Beihang University, 37 Xueyuan Rd, Beijing 100083, China. ²Department of Mechanical Engineering, Virginia Polytechnic Institute and State University, 635 Prices Fork Road, Blacksburg, VA 24061, USA.

4:45pm - 5:00pm
Multifunctional pH Responsive Hyaluronic Acid based Nanoparticles for Targeted Combinational Atherosclerosis Therapy
Nihad Cheraga, Zheng Ye, Ning-Cong Sun, Ning-Ping Huang
State Key Laboratory of Bioelectronics, School of Biological Science and Medical Engineering, Southeast University, Nanjing, China

5:00pm - 5:15pm
Novel auto crosslinked chitosan-based microgels for glucose-responsive insulin delivery systems
F. DAMIRI, Y. BACHRA, C. BOUNACIR, A. LAARAIBI, N. KNOUZI, A. BENNAMARA, M. BERRADA
Department of Chemistry, Laboratory of Biomolecules and Organic Synthesis (BIOSYNTHO), Faculty of Sciences Ben M'sik, University Hassan II of Casablanca, Morocco

5:15pm - 5:30pm
Physicochemical properties of collagen films with PLGA nanocapsules inside fabricated by electrospinning with and without crosslinking
Liliana María Agudelo Gómez¹,², Jesús Antonio Carlos Cornelio², Gabriel Jaime Colmenares Roldán¹,², Lina Marcela Hoyos Palacio¹,²
¹Grupo de Investigación en Biología de Sistemas, Escuela de Ciencias de la Salud, Facultad de Medicina Universidad Pontificia Bolivariana, Calle 78B 72A-109 Robleco, Bloque B 5º piso, Medellín, Antioquia, Colombia. ²Grupo de Investigación en Nanotecnología y Materiales, Nanomat, Medellín, Antioquia, Colombia.

5:30pm - 5:45pm
Nanostructured Diatom Biosilica for Photonic and SERS Biosensing Applications
Paul LeDuff¹, Alan X. Wang², Gregory L. Rorrer¹
¹School of Chemical, Biological, and Environmental Engineering, Oregon State University, Corvallis, OR, 97331, ²School of Electrical Engineering and Computer Science, Oregon State University, Corvallis, OR, 97331
5:45pm - 6:00pm
Antibacterial and Aggregation-Induced Imaging Properties of Broad-Spectrum Amphiphilic Cationic Polymers
JING QIAO, May P. Xiong
University of Georgia

6:00pm - 6:15pm
From nature-inspired all-in-one platforms to a versatile family of nanorattles: bio/cat applications of passion fruit-like nano-architectures
Melissa Santi
Istituto Italiano di Tecnologia

6:15pm - 6:30pm
Electrostriction, capacitive susceptibility, and neuromorphic computing in biomembranes
Charles Patrick Collier
Oak Ridge National Laboratory
AC: Advances in Catalysis

Time: Tuesday, 23/July/2019: 4:30pm - 6:15pm · Location: Marvin Center 302

Session Chair: Hyoyoung Lee,

4:30pm - 4:45pm
Rational design of metal cocatalyst on electron lifetime and photocatalytic hydrogen evolution
Ji Yong Choi, Bumjin Park, Hyunjoon Song
Department of Chemistry, Korea Advanced Institute of Science and Technology, Daejeon 34141, Republic of Korea

4:45pm - 5:00pm
Catalytic CO₂ Conversion and photocatalytic reaction of I-deficient BiOI
Chechia Hu, Hui-Xin Huang, and Yi-Feng Lin
Department of Chemical Engineering and R&D center for Membrane Technology Chung Yuan Christian University, Taoyuan 32023 Taiwan

5:00pm - 5:15pm
Copper(I) oxide included colloidal hybrid nanocatalysts for selective photocatalytic carbon dioxide conversion
Chan Kyu (Lim), Hyunjoon (Song)*
Department of Chemistry, KAIST, Daejeon, Korea

5:15pm - 5:30pm
Pt/Ni bimetallic catalysts planted onto TiO₂ nanotube array bed and their electrocatalytic properties
Hongyi Li, Shaojing Liu, Anran Wu, Guannan Zu, Jinshu Wang
¹Grupo Key Laboratory of Advanced Functional Materials, Education Ministry of China School of Materials and Engineering, Beijing University of Technology, Beijing, 100124, P.R. China.

5:30pm - 5:45pm
Preparation, Characterization and CO Oxidation Performance of Ag₂O/γ-Al₂O₃ and (Ag₂O+RuO₂)/γ-Al₂O₃ Catalysts
Antony Ananth, Hyeon-Jin Seo, Rak Hyun Jeong, Jin-Hyo Boo*
Department of Chemistry, Sungkyunkwan University, Suwon 16419, Republic of Korea.

5:45pm - 6:00pm
Mechanistic Study on Metal-Semiconductor Hybrid Nanocatalyst for Photocatalytic Hydrogen Evolution
Ji Yong Choi, Hyunjoon Song*
Department of Chemistry, Korea Advanced Institute of Science and Technology, Daejeon 34141, Republic of Korea

6:00pm - 6:15pm
An efficient protocol for highly selective tetrahydropyranylation/depyranylation of alcohols and phenols using mesoporous polymeric acid catalyst
Lalthazuaka Rokhum
National Institute of Technology Silchar (An institute of National Importance)
Plen: Plenary Session:

**Time:** Wednesday, 24/July/2019: 8:00am - 10:40am · **Location:** Grand Ballroom

**Session Chair:** Ray Baughman,

8:00am - 9:00am

**Dimensional Crossover of Spin Ordering in Artificial Oxide Superlattices**

Woo Seok Choi

Department of Physics, Sungkyunkwan University, Suwon 16419, Republic of Korea

9:00am -10:00am

**Tailored Nanostructures for Photo/Photothermal Energy Conversion Functionalities**

Ho Ghim Wei

National University of Singapore (NUS)

10:30am - 11:00am Coffee break

KEY: Keynote Session:

**Time:** Wednesday, 24/July/2019: 11:00am - 11:40am · **Location:** Grand Ballroom

**Session Chair:** Anthony Guiseppi-Elie,

11:00am - 11:40am

**Conjugated Nanostructured Polyaniline for Emergent Membrane Technologies**

Richard B. Kaner

University of California, Los Angeles, USA
SPPC: Spintronics, Photonics, Polymers and Ceramics

Time: Wednesday, 24/July/2019: 11:40am - 1:00pm · Location: Marvin Center 302
Session Chair: Prof. Imran Shakir,

11:40am - 11:55am
Skyrmion Hosting Cu₂OSe₃ Nanostructures
Priya R. Baral¹, Benoît Truc¹, Wen-Hua Bi¹, Victor Ukleev², J.W. Seo³, Ivica Zivkovic¹, Henrik M. Ronnow¹, Jonathan S. White², Oleg Yazyev¹, Arnaud Magrez¹
¹Institute of Physics, Ecole Polytechnique Fédérale de Lausanne, Switzerland, ²Paul Scherrer Institut, Villigen, Switzerland, ³University of Leuven, Belgium.

11:55am - 12:10pm
Strong and weak coupled fluorophores on DNA based molecular photonic wires for directed energy transfer
S. A. Díaz⁴, S. M. Oliver², D. Mathur¹, D. A. Hastman¹,³, P. D. Cunningham⁴, J. S. Melinger⁴, P. M. Vora², and I. L. Medintz¹
Department of Chemical Engineering and R&D center for Membrane Technology Chung Yuan Christian University, Taoyuan 32023 Taiwan

12:10pm - 12:25pm
A Broadband Absorber Based on One-dimensional Plasmonic Radial Sandwich Structures
Yang, Gui, Mao*, Wang
Institute of Microelectronics of Chinese Academy of Sciences, Beijing, P. R. China

12:25pm - 12:40pm
Thermal Property and Molecular Dynamics of Liquid Crystalline Polymers
Gi Tae Park, Jong Won Kim, Jin-Hae Chang*
Department of Polymer Science and Engineering, Kumoh National Institute of Technology, Gumi 39177, Korea

12:40pm - 12:55pm
Plasma characterization of polyvinylchloride and methyl methacrylate polymers used in manufacturing of water and food containers using Laser Induced Breakdown Spectroscopy
W.A. Farooq¹, Awatef. S. Al-Johani¹, M. S. Alsalhi1, Walid Tawfiq², R. Qindeel¹
¹Department of Physics and Astronomy College of Science King Saud University Riyadh Saudi Arabia, ²Department of Environmental Applications, NILES National Institute of Laser, Cairo University Cairo, Egypt

12:55pm - 1:10pm
Contemplating charge transport by modeling of DNA nucleobases based nano structures
Rajan Vohra, Ravinder Singh Sawhney, Kunwar Partap Singh
Guru Nanak Dev University, Amritsar, India | Guru Nanak Dev University, Amritsar, India

1:00pm - 2:00pm Lunch Break
MCEC: Multifunctional Composite Materials, Energy Storage and Conversion Devices

Time: Wednesday, 24/July/2019: 11:40am - 1:00pm · Location: Grand Ballroom
Session Chair: Ghim Wei Ho,

11:40am - 11:55am
A Long Cycle-Life and High-Rate Magnesium-Ion Battery Anode Enabled by Self-Healing through Near-Room-Temperature Solid-Liquid Phase Transition
Lin Wang¹, Sam Welborn¹ and Eric Detsi¹,²,*
¹Department of Materials Science & Engineering, University of Pennsylvania, Philadelphia PA, 19104-6272, USA. ²Vagelos Institute for Energy Science and Technology (VIEST), Philadelphia, PA 19104, USA

11:55pm - 12:10pm
Enhancement of the performance of solar water splitting based on high-density single-crystal Fe₂O₃ nanowire-array fabricated by stress-induced atomic-diffusion method
Pei Pei, Yiyuan Xie, Yuhki Toku, Yang Ju
Department of Micro-Nano Mechanical Science and Engineering, Graduate School of Engineering, Nagoya University, Nagoya 464-8603, Japan.

12:10pm - 12:25pm
Triboelectric Direct Current Generation based on Charge-conveying System
Minki Kang, Hong-Joon Yoon, Sang-Woo Kim*
School of Advanced Materials Science and Engineering, Sungkyunkwan University (SKKU), Suwon 16419, Republic of Korea

12:25pm - 12:40pm
Fabrication and characterization of magnetic drug-loaded osteoinductive Fe₃O₄/CaCO₃ hybrid microspheres system
Jingyi Xue¹, Jiahong Lv¹, Wei Wang², Xiaolei Li¹, Qianli Li¹, Lin Zhuang², Yue Xu¹
¹Department of Orthodontics, Guanghua School of Stomatology, Hospital of Stomatology, Sun Yat-sen University, Guangdong Provincial Key Laboratory of Stomatology, Guangzhou, China. ²School of Physics, State Key Laboratory of Optoelectronic Materials and Technologies, Guangdong Provincial Key Laboratory of Photovoltaics Technologies, Institute for Solar Energy Systems, Sun Yat-sen University, Guangzhou, China

12:40pm - 12:55pm
Photo-patternable SU8-C Nanostructures Composites
Maryam Majidian, Claudio Grimaldi, Laszlo Forro, Arnaud Magrez
Institute of Physics, Ecole Polytechnique Fédérale de Lausanne, Switzerland.
12:55pm - 1:10pm
Synthesis of magnetic CaCO₃ microspheres for bone regeneration
Mingjie Zhang, Han Lin, Xiaolei Li, Qianli Li, Lin Zhuang, Yue Xu
Department of Orthodontics, Guanghua School of Stomatology, Hospital of Stomatology, Guangdong Provincial Key Laboratory of Stomatology, Sun Yat-sen University, Guangzhou, 510055, People's Republic of China

1:00pm - 2:00pm  Lunch Break

Time: Wednesday, 24/July/2019: 2:00pm - 6:00pm · Location: 302
Session Chair: W.A.Farooq,

2:00pm - 2:15pm
Design of multifunctional composites and their multi-material additive manufacturing
Therriault, Dermanaki Farahani
Laboratory of Multiscale Mechanics, Mechanical Engineering Department, Polytechnique Montreal, C.P. 6079 Succ. Centre-ville, Montreal, QC, Canada, H3C 3A7.

2:15pm - 2:30pm
Preparation and Properties of An Eco-friendly Polyurethane Conductive Composite Coating Modified with MWCNTs
Fangfang Wang¹, Lajun Feng ¹,²,*, Ali Lei¹
¹School of Materials Science and Engineering, Xi’an University of Technology, China, ²Key Laboratory of Corrosion and Protection of Shaanxi Province, China.

2:30pm - 2:45pm
Evaluation of long-term behavior of CFRP tendons in prestressed near surface mounted reinforcement girder
Hee Beom Park, Woo-tai Jung, Jong-sup Park, and Jae-Yoon Kang
Department of Infrastructure Safety Research, Korea Institute of Civil Engineering and Building Technology, Goyang, Republic of Korea.

2:45pm - 3:00pm
A re-centering deformation-amplified SMA damper for mitigating seismic response of structures
Hongnan Li
State Key Laboratory of Coastal and Offshore Engineering, Dalian University of Technology, Dalian 116023, China

3:00pm - 3:15pm
Auxetic Composite Made of Three-dimensional Fiber Structure for Impact Protection
Hong Hu, Lin Zhou, Jifang Zeng
Institute of Textiles and Clothing, The Hong Kong Polytechnic, University, Hung Hom, Hong Kong.
3:15pm - 3:30pm
Colorless and Transparent Copolyimide Nanocomposite Films for Flexible Display Substrates
Jong Won Kim, Jin-Hae Chang*
Department of Polymer Science and Engineering, Kumoh National Institute of Technology, Gumi 39177, Korea.

3:30pm - 3:45pm
Injectable and hemostatic composite hydrogel of N, O-carboxymethyl chitosan/oxidized chondroitin sulfate for wound dressing
Hongbin (Li), Feng (Cheng), Xingjing (Wei), Xiaotong Yi, Jinmei (He)*
School of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin, Heilongjiang 150010, China

3:45pm - 4:00pm
DGEBA Epoxy Based Polymer Nano Composites: A study on mechanical, Thermal, Morphological, Chemical properties
Manoj Kumar Shukla1*, Archana Misra2, Moksh Shukla3, Kavita Srivastava4 and Deepak Srivastava5*

4:00pm - 4:15pm
Structure, dielectric, ferroelectric and piezoelectric properties of KNN- based perovskite ceramics
E.D. Politova1, G.M. Kaleva1, A.V. Mosunov1, S. Yu. Stefanovich1, D.A. Kiselev2,
1L.Ya.Karpov Institute of Physical Chemistry; Vorontsovo pole, 10, Moscow 105064, Russia, 2National University of Science and Technology “MISiS”, Leninskii pr. 4, Moscow, Russia

4:15pm - 4:30pm
Layered Double Hydroxides Functionalized with Organic Chromophores Utilized for Stamping of Polymer Profiles
Zăvoianu1, Șerban1, Pavel1, Bacalum1, Vlad2, Bîrjega2
1University of Bucharest, Faculty of Chemistry, Department of Organic Chemistry, Biochemistry & Catalysis, Blv. Regina Elisabeta No. 4-12, S3, 030018, Bucharest, ROMANIA, 2National Institute for Lasers, Plasma and Radiation Physics, 409 Atomistilor Str., 77125 Bucharest-Magurele, ROMANIA.

4:30pm - 4:45pm
Field Application of Prestressed Near-Surface-Mounted Carbon-Fiber-Reinforced-Polymer Tendon for Concrete Bridge
Woo-tai Jung
Korea Institute of Civil engineering and building Technology
4:45pm - 5:00pm
Electron transfer mechanism of carbon dots and nickel mesoporous silica nanoparticles for fluorescent detection probe
Yilin Yu, Xiaolei Li, Lin Zhuang
Department of Prosthodontics, Guanghua School of Stomatology, Hospital of Stomatology, Guangdong Provincial Key Laboratory of Stomatology, Sun Yat-sen

5:00pm - 5:15pm
PdSe2: a Pentagonal Layered Material Bridging the Gap between 2D and 3D Materials
Liangbo Liang, Kai Xiao, Alexander A. Puretzky, Giang Nguyen, An-Ping Li, David B. Geohegan, Bobby G. Sumpter,
Oak Ridge National Laboratory

5:15pm - 5:30pm
Lignin as a raw material of activated carbon for supercapacitor electrodes
Zulamita Zapata-Benabithe, Giovanna Diossa, Chris D. Castro, Germán Quintana
Grupo de Energía y Termodinámica, Facultad de Ingeniería Química, Universidad Pontificia Bolivariana, Medellín 050031, Colombia, Grupo Pulpa y Papel, Facultad de Ingeniería Química, Universidad Pontificia Bolivariana, Circular 1No 70-01, Medellín 050031, Colombia

5:30pm - 5:45pm
Preparation of hyperbranched polymers of oxidized lignin modified with triazine for removal of heavy metals
Viviana Gómez, Zulamita Zapata-Benabithe, Jorge Valásquez, Germán Quintana, Grupo Pulpa y Papel, Facultad de Ingeniería Química, Universidad Pontificia Bolivariana, Circular 1No 70-01, Medellín 050031, Colombia, Grupo de Energía y Termodinámica, Facultad de Ingeniería Química, Universidad Pontificia Bolivariana, Circular 1No 70-01, Medellín 050031, Colombia, Grupo Pulpa y Papel, Facultad de Ingeniería Química, Universidad Pontificia Bolivariana, Circular 1No 70-01, Medellín 050031, Colombia, Grupo Pulpa y Papel, Facultad de Ingeniería Química, Universidad Pontificia Bolivariana, Circular 1No 70-01, Medellín 050031, Colombia

5:45pm - 6:00pm
Extremely tough and versatile cyclic peptide nanopolymers
Manoj Kolel-Veetil and Kenan P. Fears
Chemistry Division, US Naval Research Laboratory, Washington DC 20375
**LDNT: Low Dimensional, Nano and 2d Materials and Thin Films**

*Time: Wednesday, 24/July/2019: 2:00pm - 6:30pm · Location: Grand Ballroom*

**Session Chair: Dae Joon Kang and Imran Shakir,**

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**2:00pm - 2:15pm**

**Molecular Organometallic Resists for EUV (13.5 nm) Lithography**

Brian (Cardineau), Michael (Murphy), Robert L. (Brainard)*

Colleges of Nanoscale Science and Engineering, SUNY Polytechnic Institute; Albany NY 12203

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**2:15pm - 2:30pm**

**Electric-field control of magnetism in multiferroic heterostructures**

Y. G. Zhao¹, A. T. Chen¹, Y. Ba¹, Y. Liu¹, P. S. Li¹,², S. Zhang¹,², X. F. Han³, J. W. Cai³, D. T. Pierce⁴, John Unguris⁴, X. X. Zhang⁵, and C. W. Nan⁶

¹Department of Physics and State Key Laboratory of Low-Dimensional Quantum Physics, Tsinghua University, Beijing 100084, China, ²College of Mechatronics and Automation, National University of Defense Technology, Changsha 410073, China, ³Beijing National Laboratory for Condensed Matter Physics, Chinese Academy of Sciences, Beijing 100190, China, ⁴Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, Maryland 20899, USA, ⁵Physical Science and Engineering Division, King Abdullah University of Science and Technology, Thuwal 23955-6900, Kingdom of Saudi Arabia, ⁶School of Materials Science and Engineering and Key Laboratory of Advanced Materials (MOE), Tsinghua University, Beijing 100084, China.

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**2:30pm - 2:45pm**

**Bioinspired gradient micro- and nanostructured surfaces with controllable wettability**

Yongmei Zheng

Beihang University, Xueyuan Road 37, Haidain District, Beijing, 100191, China.

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**2:45pm - 3:00pm**

**Crystal growth, Structural Properties, and Molecular Dynamics in Perovskite -Type (C2H5NH3)2ZnCl4 Crystals**

Seong Eun Jang¹,³, Mi Jung Kim¹,³, Ae Ran Lim¹,²,*

¹Analytical Laboratory of Advanced Ferroelectric Crystals, Jeonju University, Jeonju 55069, South Korea, ²Department of Science Education, Jeonju University, Jeonju 55069, South Korea, ³Department of Carbon Fusion Engineering, Jeonju University, Jeonju 55069, South Korea

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**3:00pm - 3:15pm**

**Quasi-Solid-State Single-Atom Transistor**

Fangqing Xie¹, Andreas Peukert¹, Thorsten Bender¹, Christian Obermair¹, Florian Wertz¹, Philipp Schmieder¹, and Thomas Schimmel¹,²,³

¹Institute of Applied Physics, Karlsruhe Institute of Technology (KIT), Campus South, 76131 Karlsruhe, Germany, ²Institute of Nanotechnology, KIT, Campus North, 76344 Eggenstein-
3:15pm - 3:30pm
Piezoelectric acoustic sensor based on two dimensional MoS$_2$
Hyoung Taek Kim, Ahrum Sohn, Jae Hwan Jung, Sang-Woo Kim*
School of Advanced Materials Science and Engineering, Sungkyunkwan University (SKKU), Suwon 16419, Republic of Korea

3:30pm - 3:45pm
Solution Processing of Functional Hybrid Inorganic Macromolecules
Mengwen Yan, Kelly G. Walter, Audrey Crom, Jeremy I. Feldblyum
Chemistry Department, The University at Albany, SUNY, Albany, NY, 12222

3:45pm - 4:00pm
Photoluminescence Trend in Carbon Quantum Dots
Jose Luis Casas Espinola
Instituto Politecnico Nacional

4:00pm - 4:15pm
Resistance Switching in a Single ZnO Nano-Wire
Kausik S Das$^1$, Benjamin Barnes$^{1,2}$, Eguono Wayne Omagamre$^1$
$^1$Department of Natural Sciences, University of Maryland Eastern Shore, Princess Anne, MD, USA, $^2$Department of Chemistry, University of Maryland College Park, College Park, MD, USA.

4:15pm - 4:30pm
Constructing transferrable electronics on functionalized graphene
Keith Whitener, Woo Lee, Jeremy Robinson, Paul Sheehan
Naval Research Laboratory

4:30pm - 4:45pm
A METHOD TO FABRICATE HIGH RESOLUTION AFM TIPS USING NANOSCALE CHEMICAL TEMPLATING TECHNIQUE
Maha M Khayyat
Saudi Arabia

4:45pm - 5:00pm
Charge Transfer Dynamics controlled by the band alignment at ZnPc-MoS2 Interface: Monolayer vs Bulk
Tika Kafle, Bhupal Kattel, Wai-Lun Chan
University of Kansas
5:00pm - 5:15pm
Pulsed Anodic Arc Discharge for the Synthesis of Carbon Nanomaterials
Carles Corbella, Sabine Portal, Denis B. Zolotukhin, Luis Martinez, Li Lin, Madhusudhan N. Kundrapu, Michael Keidar
George Washington University

5:15pm - 5:30pm
2D thermoelectric materials: Role of the lattice thermal conductivity
Udo Schwingenschlogl
King Abdullah University of Science and Technology (KAUST), Physical Science and Engineering Division (PSE), Thuwal 23955-6900, Saudi Arabia

5:30pm - 5:45pm
Control of metal-insulator transition temperature in VO2 thin films by strain modification via various buffer layers
Heungsoo Kim, Nicholas A. Charipar, Alberto Piqué
Naval Research Laboratory

5:45pm - 6:00pm
Phase transition-based Terahertz and Infrared Devices
Nicholas Charipar, Heungsoo Kim, Ray Auyeung, Scott Mathews, Kristin Charipar, Alberto Piqué
Naval Research Laboratory

6:00pm - 6:15pm
Exciton emissions in quasi onedimensional layered KP15
Nan Tian, Danmin Liu, Yongzhe Zhang and Guoqing Zhang
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