



Session Title: [MoA1] AlGaN-based UV-LEDs

Date: July 2, 2018 (Monday)

Time: 13:30~15:00

Room: Room A (Ramada Ballroom 1)

MoA1-1

13:30~14:00

[Invited] Performance Improvements in AlGaN-based deep-UV LEDs using AlN/Al Reflectors

Tae Ho Lee, Tae Hoon Park (Korea University, Korea), Hideki Hirayama (RIKEN, Japan), and Tae Geun Kim* (Korea University, Korea)

MoA1-2

14:00~14:30

[Invited] Improvement of Light Extraction Efficiency for AlGaN-based Deep UV LEDs

Changqing Chen*, Hangling Long, Shuai Wang, Jiangnan Dai, Yi Zhang, and Renli Liang (Huazhong University of Science and Technology, China)

MoA1-3

14:30~14:45

Study of Epitaxial Growth and Device Fabrication of AlGaN-based Deep Ultraviolet LED

Jun Zhang, Yi Zhang, Shuai Wang, Jing Wen Chen, Ren Li Liang, Jiang Nan Dai, and Chang Qing Chen* (Huazhong University of Science and Technology, China)

MoA1-4

14:45~15:00

Effect of SiN_x Interlayers on the in-plane Anisotropic Properties of Nonpolar α -plane AlGaN

Yi Zhang, Jun Zhang, and Changqing Chen* (Huazhong University of Science and Technology, China)



Session Title: [MoB1] Flexible and wearable devices I

Date: July 2, 2018 (Monday)

Time: 13:30~15:00

Room: Room B (Ramada Ballroom 2)

MoB1-1

13:30~14:00

[Invited] Biocompatible Sensing Platforms

Ahyeon Koh* (Binghamton University – State University of New York, USA)

MoB1-2

14:00~14:30

[Invited] Hacking Nervous System: Opportunities in Soft Wireless Bioelectronics

W. Kim, R. Liu, and S. Park* (Texas A&M University, USA)

MoB1-3

14:30~15:00

[Invited] Optoelectronics using Quantum-dots/metal-nanoparticles for Transparent and Soft Interactive Devices

Seong Jun Kang* (Kyung Hee University, Korea)



Session Title: [MoC1] Organic semiconductors and colloidal quantum dots I
Date: July 2, 2018 (Monday)
Time: 13:30~15:00
Room: Room C (Ramada Ballroom 3)

MoC1-1

13:30~14:00

[Invited] The Effect of Shape Anisotropy and Materials Composition on the Optical Gain Properties of Colloidal Semiconductor Nanoparticles

Yinthal CHAN* (National University of Singapore, Institute of Materials Research & Engineering, Singapore)

MoC1-2

14:00~14:30

[Invited] 3D-Configurational Organic Field-Effect Transistors via Self-Organization of Organic Semiconductors: Insulating Polymer Blends

Jung Ah Lim* (Korea Institute of Science and Technology, Korea)

MoC1-3

14:30~14:45

Metal-atom Distribution and its Effects on Carrier Transport in Organic Semiconductors

Yoko Tomita* (Shibaura Institute of Technology, Chiba University, Japan), Kohei Kawabata, and Takashi Nakayama (Chiba University, Japan)

MoC1-4

14:45~15:00

Current Antiresonance in Spin-orbit Coupled Double Quantum Dots

G. Giavaras* and Y. Tokura (University of Tsukuba, Japan)



Session Title: [MoD1] Nano-bio-materials and devices

Date: July 2, 2018 (Monday)

Time: 13:30~15:00

Room: Room D (Ramada Ballroom 4)

MoD1-1

13:30~14:00

[Invited] Design of Conductive and Non-biodegradable Hydrogel using Supramolecular Self-assembling Peptide for Brain Probe

Jiyoung Nam and Yong Ho Kim* (Sungkyunkwan University, Korea)

MoD1-2

14:00~14:15

Cell Drug Reaction Measured by Temperature/impedance Sensor

Tae-kyun Yoo, Jun-hee Park, Ji-seung Lee, Chan-hum Park, and Moongyu Jang* (Hallym University, Korea)

MoD1-3

14:15~14:30

High-efficiency Eu³⁺-doped BiF₃ Red-emitting Nanoparticles for Solid-state Lighting and Field Emission Displays

Peng Du and Jae Su Yu* (Kyung Hee University, Korea)

MoD1-4

14:30~14:45

Parameter Controls for Enhanced Peak-to-Valley Current Ratio in MoS₂/MoTe₂ van der Waals Heterostructure

Ngoc Thanh Duong, Seung Ho Bang, Seong Chu Lim*, and Mun Seok Jeong* (Sungkyunkwan University, Korea)

MoD1-5

14:45~15:00

Self-guided Growth of Sub-millimeter-long Vanadium Dioxide Nanowires Driven by Directional Ostwald Ripening

Hye Jin Lee (Ulsan National Institute of Science and Technology, Korea Institute of Science and Technology, Korea), Won Jun Choi (Korea Institute of Science and Technology, Korea), and Jeong Min Baik* (Ulsan National Institute of Science and Technology, Korea)



Session Title: [MoA2] Compound semiconductors

Date: July 2, 2018 (Monday)

Time: 15:30~17:00

Room: Room A (Ramada Ballroom 1)

MoA2-1

15:30~16:00

[Invited] Opportunities of III-V/Si Hybrid Integration for Optical Modulation and Switching

M. Takenaka*, Q. Li, J. Han, and S. Takagi (The University of Tokyo, Japan)

MoA2-2

16:00~16:30

[Invited] Semiconductor Nanowires for Optoelectronic and Energy Applications

H.H. Tan* (The Australian National University, Australia)

MoA2-3

16:30~16:45

Effects of Thermal and Electrical Stress on Defect Generation in InAs

Min Baik (Yonsei University, Korea), Hang-Kyu Kang (Yonsei University, Korea Institute of Science and Technology, Korea), Yu-Seon Kang (Yonsei University, SAMSUNG, Korea), Kwang-Sik Jeong (Yonsei University, Korea), Changmin Lee, Hyounsub Kim (Sungkyunkwan University, Korea), Jin-Dong Song (Korea Institute of Science and Technology, Korea), and Mann-Ho Cho* (Yonsei University, Korea)

MoA2-4

16:45~17:00

Investigation of Optical Properties of InAs/GaSb Multiple Quantum Wells by Photoreflectance Spectroscopy

Somaya Alyamani, Hyun-Jun Jo, Mo Geun So, Jong Su Kim*, Tae Hyeon Ku, Jae Cheol Shin (Yeungnam University, Korea), Sang Jun Lee, Jun Oh Kim (Korea Research Institute of Standards and Science, Korea), Vinita Dahiya, and Sanjay Krishna (Ohio State University, USA)



Session Title: [MoB2] Flexible and wearable devices II

Date: July 2, 2018 (Monday)

Time: 15:30~17:00

Room: Room B (Ramada Ballroom 2)

MoB2-1

15:30~16:00

[Invited] High Performance Mechanically Flexible CMOS Technology for System Moore Integration

Emmanuel Dubois (IEMN CNRS - Institut d'Electronique, de Microélectronique et de Nanotechnologie, France)

MoB2-2

16:00~16:30

[Invited] Large Area, 3D Nanopatterning for Flexible System

Seokwoo Jeon* (KAIST, Korea)

MoB2-3

16:30~16:45

Doped Graphene Layers as Anode and Cathode Electrodes for Semitransparent and Flexible Solar Cells

Chan Wook Jang and Suk-Ho Choi* (Kyung Hee University, Korea)

MoB2-4

16:45~17:00

Hardness Control of Plastic Frameworks to Develop Polyhedral Image Sensor

Hun Soo Jang, Gi-Gwan Kim, Seong Hyeon Kang, Yeongmin Kim, Jung Il Yoo, Seonggwang Yoo, Kun-Kook Kim, Changsoo Jung, and Heung Cho Ko* (Gwangju Institute of Science and Technology, Korea)



ISPSA 2018

The 19th International Symposium on the Physics of Semiconductors and Applications
July 1-5, 2018 / Ramada Plaza Jeju Hotel, Jeju, Korea

Session Title: [MoC2] Organic semiconductors and colloidal quantum dots II
Date: July 2, 2018 (Monday)
Time: 15:30~17:00
Room: Room C (Ramada Ballroom 3)

MoC2-1

15:30~16:00

[Invited] Exploring Solution Processible Solar Cells – Interface & Architecture

Gang Li* (the Hong Kong Polytechnic University, Hong Kong)

MoC2-2

16:00~16:30

[Invited] TBA

In Su Lee (Pohang University of Science and Technology, Korea)

MoC2-3

16:30~16:45

Degradation Mechanism Analysis of Localized Region of Perovskite Films using the Photo Thermal Induced Resonance Technique

Hyang Mi Yu, Hye Min Oh, and Mun Seok Jeong* (Sungkyunkwan University, Korea)

MoC2-4

16:45~17:00

Energy Transfer from CdSe/ZnS Quantum Dots to Organic-Inorganic Mixed Halide Perovskite

Il-Wook Cho, Bom Lee, and Mee-Yi Ryu* (Kangwon National University, Korea)



ISPSA 2018

The 19th International Symposium on the Physics of Semiconductors and Applications
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Session Title: [MoD2] Topological matters I

Date: July 2, 2018 (Monday)

Time: 15:30~17:00

Room: Room D (Ramada Ballroom 4)

MoD2-1

15:30~16:00

[Invited] Emergence of Weyl Semimetals in Topological Phase Transitions

Shuichi Murakami* (Tokyo Institute of Technology, Japan Science and Technology Agency, Japan)

MoD2-2

16:00~16:30

[Invited] Chiral Hinge States and Surface Quantum Anomalous Hall Effect in Ferro-magnetic Axion Insulators

Xi Dai* (Hong Kong University of Science and Technology and Chinese Academy of Science, China)

MoD2-3

16:30~17:00

[Invited] Violation of Ohm's Law as a Signature of the Three-dimensional Weyl Metal

Heon-Jung Kim* (Daegu University, Korea)



Session Title: [TuA1] GaN-based materials and applications

Date: July 3, 2018 (Tuesday)

Time: 10:30~12:00

Room: Room A (Ramada Ballroom 1)

TuA1-1

10:30~11:00

[Invited] NEMO5: Multi-Scale, Multi-Physics, Atomistic Modeling of Superlattice LEDs and Global Impact on nanoHUB.org

Gerhard Klimeck*, Junzhe Geng, KuangChung Wang, Prasad Sarangapani, and Tillmann Kubis (Purdue University, USA)

TuA1-2

11:00~11:15

Linearly Polarized Photoluminescence of Anisotropically Strained c-plane GaN Grown on Stripe-Shaped Cavity-Engineered Sapphire Substrate

J. Kim, D. Moon, S. Lee, D. Lee, D. Yang, Y. Park*, and E. Yoon* (Seoul National University, Korea)

TuA1-3

11:15~11:30

The Growth of Discrete GaN Array with Micro Size using Sapphire Nanomembrane

S. Lee, D. Moon, D. Choi, H. Lim, Y. Park*, and E. Yoon* (Seoul National University, Korea)

TuA1-4

11:30~11:45

Growth and Optical Characterization of a Three-fold Symmetric III-nitride Quantum Dot at the Apex of Pyramidal Structure

Hwan-Seop Yeo, Kwanjae Lee, Sunghan Choi, Min-Ho Choi, Jong-Hoi Cho, Young Chul Sim, Yongho Song, and Yong-Hoon Cho* (KAIST, Korea)

TuA1-5

11:45~12:00

Fabrication of Nano-cavity Patterned Sapphire Substrates and their Application to the Growth of GaN

Donghyun Lee, Jehong Oh, Seungmin Lee, Giwoong Kim, Jongmyeong Kim, Jeonghwan Jang, Daeyoung Moon, Yongjo Park, and Euijoon Yoon* (Seoul National University, Korea)



ISPSA 2018

The 19th International Symposium on the Physics of Semiconductors and Applications
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Session Title: [TuB1] Flexible and wearable devices III

Date: July 3, 2018 (Tuesday)

Time: 10:30~12:00

Room: Room B (Ramada Ballroom 2)

TuB1-1

10:30~11:00

[Invited] Microscale, Implantable Optoelectronic Devices for Optical Neural Interfaces

Xing Sheng* (Tsinghua University, China)

TuB1-2

11:00~11:30

[Invited] Two Dimensional Materials for Human Interactive Wearable Electronics

Jong-Hyun Ahn* (Yonsei University, Korea)

TuB1-3

11:30~12:00

[Invited] Wearable Textile-driven Energy Harvesting Device

Jin Pyo Hong* (Hanyang University, Korea)



ISPSA 2018

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Session Title: [TuC1] Sensors and applications I

Date: July 3, 2018 (Tuesday)

Time: 10:30~12:00

Room: Room C (Ramada Ballroom 3)

TuC1-1

10:30~11:00

[Invited] Smart and Connected Bioelectronics for Persistent Human-Machine Interfaces

W. Hong Yeo* (Georgia Institute of Technology, Emory University, USA)

TuC1-2

11:00~11:30

[Invited] Transient Electronics

Suk-Won Hwang* (Korea University, Korea)

TuC1-3

11:30~12:00

[Invited] TBA

Jeongsoo Hong (Nagoya Institute of Technology, Japan)



Session Title: [TuD1] Topological matters II

Date: July 3, 2018 (Tuesday)

Time: 10:30~12:00

Room: Room D (Ramada Ballroom 4)

TuD1-1

10:30~11:00

[Invited] Quasiparticle Interference and Impurity Resonances in Type II Weyl Semimetal WTe_2

Euyheon Hwang* (Sungkyunkwan University, Korea)

TuD1-2

11:00~11:30

[Invited] Nodal Line Semimetals with Z_2 Monopole Charge

Junyeong Ahn (Seoul National University, Korea), Youngkuk Kim (Sungkyunkwan University, Korea), and Bohm-Jung Yang* (Seoul National University, Korea)

TuD1-3

11:30~11:45

Searching for Semimetallic Carbon Allotropes in Mixed sp^2 - sp^3 Bonding Networks

Ha-Jun Sung, W.-H. Han (KAIST, Korea), Sunghyun Kim (Imperial College London, UK), In-Ho Lee (Korea Research Institute of Standards and Science, Korea), and K. J. Chang (KAIST, Korea)

TuD1-4

11:45~12:00

From ab-initio Calculations towards Topological Insulators Nanostructures by Ion Beam Sputtering Deposition

S. Ferreira-Teixeira*, A. L. Pires, and A. M. Pereira (University of Porto, Portugal)



Session Title: [TuB2] Antiferromagnetic spintronics

Date: July 3, 2018 (Tuesday)

Time: 15:00~16:30

Room: Room B (Ramada Ballroom 2)

TuB2-1

15:00~15:30

[Invited] Spin Torque Switching and Magnetoresistive Detection in Antiferromagnets

Takahiro Moriyama* (Kyoto University, Japan)

TuB2-2

15:30~16:00

[Invited] Antiferromagnetic Domain Wall Dynamics in GdFeCo Ferrimagnets

Kab-Jin Kim* (KAIST, Korea)

TuB2-3

16:00~16:15

Theoretical Study of Strain-assisted Synthetic Anti-ferromagnetic Free Layer based Magnetic Tunnel Junction Switching

S. Noh, D. H. Kang, and M. Shin* (KAIST, Korea)

TuB2-4

16:15~16:30

Antiferromagnetic Magnonic Crystals with Alternating Dzyaloshinskii-Moriya Interaction

Seung-Jae Lee and Kyung-Jin Lee* (Korea University, Korea)



Session Title: [TuC2] Sensors and applications II

Date: July 3, 2018 (Tuesday)

Time: 15:00~16:30

Room: Room C (Ramada Ballroom 3)

TuC2-1

15:00~15:30

[Invited] Electrostatically-Assembled Composite Materials for 3D-Printed Strain Pressure Sensor Devices

Sunho Jeong* (Korea Research Institute of Chemical Technology, Korea)

TuC2-2

15:30~16:00

[Invited] Pressure Sensors based on Capacitor and Transistor Devices with Printed Silver Nanowire Buckling Structures

Yongtaek Hong*, Yoonshik Joo*, and Jaeyoung Yoon* (Seoul National University, Korea)

TuC2-3

16:00~16:15

Fabrication and Mechanoluminescence Properties of CaZnOS with Layer Structure for Visualization of Stress

Zhijun Zhang, Shaolin Zhang, Jung Woo Shin, and Woochul Yang* (Dongguk University, Korea)

TuC2-4

16:15~16:30

Novel Multi-Level-Cell Resistive Random Access Memory based Reconfigurable Physical Unconcealable Functions

Gyo Sub Lee and Hyunsu Ju* (Korea Institute of Science and Technology, University of Science and Technology, Korea)



Session Title: [TuD2] 2D materials and heterostructures I

Date: July 3, 2018 (Tuesday)

Time: 15:00~16:30

Room: Room D (Ramada Ballroom 4)

TuD2-1

15:00~15:30

[Invited] Ultrafast Graphene Light Emitters

Young Duck Kim* (Kyung Hee University, Korea) and James Hone (Columbia University, USA)

TuD2-2

15:30~16:00

[Invited] Electronic Interferometer on GaAs/AlGaAs 2DEG

Hyungkook Choi* (Chonbuk National University, Korea)

TuD2-3

16:00~16:15

Highly Enhanced Photoresponsivity of Monolayer WSe₂ Photodetector with Nitrogen-doped Graphene Quantum Dots

Duc Anh Nguyen, Hye Min Oh*, Ngoc Thanh Duong, Seung Ho Bang, Seok Jun Yoon, and Mun Seok Jeong* (Sungkyunkwan University, Korea)

TuD2-4

16:15~16:30

Temperature Induced Crossing in the Optical Bandgap of Mono and Bilayer MoS₂ on SiO₂

Yongchul Kim, Youngsin Park (Ulsan National Institute of Science and Technology, Korea), Namme Kim (Soongsil University, Korea), Yongcheol Jo, Seung W. Lee, Woochul Yang, Hyunsik Im* (Dongguk University, Korea), and Geunsik Lee* (Ulsan National Institute of Science and Technology, Korea)



Session Title: [TuB3] Spin-orbit torque
Date: July 3, 2018 (Tuesday)
Time: 16:50~18:20
Room: Room B (Ramada Ballroom 2)

TuB3-1

16:50~17:20

[Invited] Control Ferromagnets at Room Temperature without External Magnetic Field

Kaiyou Wang* (CAS, University of Chinese Academy of Science, China)

TuB3-2

17:20~17:35

Complementary Spin Logic Operations

Seung-heon Chris Baek, Kyung-Woong Park (KAIST, SK Hynix Inc., Korea), Kyung-Jin Lee (Korea University, Korea), and Byong-Guk Park* (KAIST, Korea)

TuB3-3

17:35~17:50

Enhanced Spin-orbit Torque by Engineering Pt Resistivity in Pt/Co/AIOx Structures

Jae Wook Lee, Young-Wan Oh, and Byong-Guk Park* (KAIST, Korea)

TuB3-4

17:50~18:05

Manipulation of Domain Wall Motion Controlled by Spin-orbit Torque in Magnetic Tunnel Junctions and its Synaptic Behavior

SeungMo Yang, Jinhung Choi, Wonsup Shin, and JinPyo Hong* (Hanyang University, Korea)

TuB3-5

18:05~18:20

An Accurate Analytical Method of Harmonic Hall Voltage Measurement for Spin-orbit Torque

Seok Jin Yun (Korea University, KAIST, Korea), Eun-Sang Park, Kyung-Jin Lee, and Sang Ho Lim* (Korea University, Korea)



Session Title: [TuC3] Sensors and applications III

Date: July 3, 2018 (Tuesday)

Time: 16:50~18:20

Room: Room C (Ramada Ballroom 3)

TuC3-1

16:50~17:20

[Invited] Capacitive Type Fingerprint Sensor for Biometrics Application

Seung Hee Lee, Guk-Jin Jeon (KAIST, Korea), Hongchae Kim (TRAIS, Korea), Il-Suk Kang (Korea Advanced Nano fab Center, Korea), and Sang-Hee Ko Park* (KAIST, Korea)

TuC3-2

17:20~17:50

[Invited] Visco-Poroelastics: New Strategy for Ultrasensitive Electronic Skin

Do Hwan Kim* (Hanyang University, Korea)

TuC3-3

17:50~18:05

Effect of Doping on Gas Sensing Properties of GaN Nanorods

Reddeppa Maddaka, Byung-Guon Park, Hoang Hai Nguyen, Jong-beom Lim, Thi Kim Phung Nguyen, Moon-Deock Kim* (Chungnam National University, Korea), Jae-Eung Oh (Hanyang University, Korea), and Song-Gang Kim (Joongbu University, Korea)

TuC3-4

18:05~18:20

Effect of Hydrogen Plasma Treatment on Downward Band Bending Energy of InN Nanorods: NO_x Gas Sensing Properties

Byung-Guon Park, Reddeppa Maddaka, Hoang Hai Nguyen, Jong-beom Lim, Thi Kim Phung Nguyen, Moon-Deock Kim* (Chungnam National University, Korea), Jae-Eung Oh (Hanyang University, Korea), and Song-Gang Kim (Joongbu University, Korea)



Session Title: [TuD3] 2D materials and heterostructures II

Date: July 3, 2018 (Tuesday)

Time: 16:50~18:20

Room: Room D (Ramada Ballroom 4)

TuD3-1

16:50~17:20

[Invited] Electronic Properties of Incommensurate 2D Crystals

Mikito Koshino* (Osaka University, Japan)

TuD3-2

17:20~17:50

[Invited] Integrated Freestanding 2D Transition Metal Dichalcogenites

G. Lerondel* (University of Technology of Troyes, France & Sungkyunkwan University, Korea)

TuD3-3

17:50~18:05

Ferroelectric Oxide-dichalcogenide Heterostructural Memristors

Hye-Jin Jin, Woo Young Yoon, Su Hyoun Kwon, and William Jo* (Ewha Womans University, Korea)

TuD3-4

18:05~18:20

Resistive Switching of Unique *n-n* and *p-n* Diode Hetero-junctions with 2D Materials/Nb:SrTiO₃

Woo Young Yoon, Hye-Jin Jin, and William Jo* (Ewha Womans University, Korea)



Session Title: [WeA1] Spintronics
Date: July 4, 2018 (Wednesday)
Time: 10:30~12:00
Room: Room A (Ramada Ballroom 1)

WeA1-1

10:30~11:00

[Invited] Observation of 3D Magnetic Structure and its Control

Sooseok Lee, Hee-Sung Han, Namkyu Kim (Ulsan National Institute of Science and Technology, Korea), Mi-Young Im (Lawrence Berkeley National Laboratory, USA), and Ki-Suk Lee* (Ulsan National Institute of Science and Technology, Korea)

WeA1-2

11:00~11:15

Effect of Isovalent Doping on the Magnetic Properties of ZnMnO Diluted Magnetic Semiconductors

Z. A. Yunusov, Sh. U. Yuldashev*, S. J. Lee, Y. H. Kwon, H. C. Jeon, and T. W. Kang (Dongguk University, Korea)

WeA1-3

11:15~11:30

Unidirectional Magnetoresistance in CoGd-ferrimagnet/Pt-heavy Metal Bilayers Across the Magnetization Compensation Point

Soogil Lee*, Jae-Wook Lee, Jeong-Mok Kim (KAIST, Korea), Sanghoon Kim (University of Ulsan, Korea), Nyun Jong Lee, Seung-Young Park (Korea Basic Science Institute, Korea), Byong-Guk Park, and Kab-Jin Kim (KAIST, Korea)

WeA1-4

11:30~11:45

Asymmetric Hall Effect Induced by Canted State in Epitaxial Co/Pt

Jeongchun Ryu* (Tohoku University, Japan & KAIST, Korea), Can Onur Avci (MIT, USA), Makoto Kohda (Tohoku University, Japan), Geoffrey S. D. Beach (MIT, USA), and Junsaku Nitta (Tohoku University, Japan)

WeA1-5

11:45~12:00

Transverse Spin Nernst Magnetoresistance in Heavy Metal/ferromagnet Bilayer

Dong-Jun Kim, Jeong-Mok Kim, Chul-Yeon Jeon, Jong-Guk Choi, Jae Wook Lee (KAIST, Korea), Srivathsava Surabhi, Jong-Ryul Jeong (Chungnam National University, Korea), Kyung-Jin Lee (Korea University, Korea), and Byong-Guk Park* (KAIST, Korea)



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Session Title: [WeC1] Plasmonics, meta-materials and optoelectronics I

Date: July 4, 2018 (Wednesday)

Time: 10:30~12:00

Room: Room C (Ramada Ballroom 3)

WeC1-1

10:30~11:00

[Invited] Anomalous Optoelectronic Properties of Hybrid Halide Perovskites as Probed by Wavelength-dependent Nonlinear Optical Spectroscopy

J. I. Jang* (Sogang University, Korea) and M. G. Kanatzidis (Northwestern University, USA)

WeC1-2

11:00~11:30

[Invited] Tin Rich Perovskite Solar Cell with Optimal Band Gap

Yang Yang* (Zhejiang University, China)

WeC1-3

11:30~12:00

[Invited] TBA

Gon Namkoong (Old Dominion University, USA)



Session Title: [WeD1] 2D materials and heterostructures III

Date: July 4, 2018 (Wednesday)

Time: 10:30~12:00

Room: Room D (Ramada Ballroom 4)

WeD1-1

10:30~11:00

[Invited] TBA

Wonbong Choi (University of North Texas, USA)

WeD1-2

11:00~11:15

Photo-doping of Graphene Enhanced by Stable Perovskite and Hole Transfer Layer

Sang Hoon Kim, Sergey Menabde, and Min Seok Jang* (KAIST, Korea)

WeD1-3

11:15~11:30

Self-energy and Quasiparticle Spectral Function in Black Phosphorene

I.V. Sankar and Euyheon Hwang* (Sungkyunkwan University, Korea)

WeD1-4

11:30~11:45

A New Phosphorus Allotrope with Tunable Direct Band Gap and High Mobility

Woo Hyun Han* (KAIST, Korea), Sunghyun Kim (Imperial College London, UK), In-Ho Lee (Korea Research Institute of Standards and Science, Korea), and Kee Joo Chang (KAIST, Korea)

WeD1-5

11:45~12:00

Selective Growth of Monolayer-bilayer Graphene Patterns on Oxygen and Ar Plasma Pre-treated Cu Surface

M. D. S. L. Wimalananda, J. K. Kim, and J. M. Lee* (Sunchon National University, Korea)



Session Title: [WeA2] Energy harvesting and storage I

Date: July 4, 2018 (Wednesday)

Time: 15:00~16:30

Room: Room A (Ramada Ballroom 1)

WeA2-1

15:00~15:30

[Invited] Microwatt Silicon Thin-films Thermoelectric Harvesters

Jean-François Robillard (Institut d'Electronique, de Microélectronique et de Nanotechnologie, France)

WeA2-2

15:30~16:00

[Invited] TBA

Moongyu Jang (Hallym University, Korea)

WeA2-3

16:00~16:15

Inorganic 2-D Transition Metal Dichalcogenides Charge Transport Layers for MAPbI₃ Perovskite Solar Cells

Bora Kim, Nguyen Duc Anh, Dae Young Park, Hye Ryung Byun, and Mun Seok Jeong* (Sungkyunkwan University, Korea)

WeA2-4

16:15~16:30

Photo-induced Alteration of Band Bending in Perovskite Halide Photovoltaic Materials

Hye Ri Jung, Bich Phuong Nguyen, and William Jo* (Ewha Womans University, Korea)



Session Title: [WeC2] Plasmonics, meta-materials and optoelectronics II

Date: July 4, 2018 (Wednesday)

Time: 15:00~16:30

Room: Room C (Ramada Ballroom 3)

WeC2-1

15:00~15:30

[Invited] Graphene based Active Metadevices

Teun-Teun Kim* (Sungkyunkwan University, Korea)

WeC2-2

15:30~16:00

[Invited] Mid-infrared Tunable Plasmonics in Graphene

M. S. Jang* (KAIST, Korea)

WeC2-3

16:00~16:15

Efficiency Enhancement in Flexible Photovoltaic Cell via Plasmonic Metal Nanoparticles

Sanjeev Gautam*, Amardeep Bharti, and Navdeep Goyal (Panjab University, India)

WeC2-4

16:15~16:30

Polariton Condensates in Spatially Modulated Excitation

Daegwang Choi, Min-Sik Kwon, Byoung Yong Oh, Su-Hyun Gong (KAIST, Korea), Hang Kyu Kang, Sooseok Kang, Jin Dong Song (Korea Institute of Science and Technology, Korea), Hyungsoon Choi, and Yong-Hoon Cho* (KAIST, Korea)



Session Title: [WeD2] 2D materials and heterostructures / Quantum information
Date: July 4, 2018 (Wednesday)
Time: 15:00~16:30
Room: Room D (Ramada Ballroom 4)

WeD2-1

15:00~15:30

[Invited] TBA

Anindya Das (Indian Institute of Science, India)

WeD2-2

15:30~15:45

Monolayer MoS₂ on Sub-100-nm SiO₂/Si: Interface-Interference-Mediated Absorption Enhancement

E. Kim (Ewha Womans University, Korea), J.-W. Cho (Kyung Hee University, Korea), T. T. T. Nguyen (Ewha Womans University, Korea), S.-K. Kim (Kyung Hee University, Korea), S. Yoon, and D.-W. Kim* (Ewha Womans University, Korea)

WeD2-3

15:45~16:15

[Invited] Coherence and Indistinguishability of Single Photons Emitted from Nitrogen Impurity Centers in GaAs

Michio Ikezawa*, Liao Zhang, Ruoxi Wang, Ryota Fukushima (University of Tsukuba, Japan), and Yoshiki Sakuma (National Institute for Materials Science, Japan)

WeD2-4

16:15~16:30

Integration of Quantum Light Sources on a Si Chip

Je-Hyung Kim* (Ulsan National Institute of Science and Technology, Korea & University of Maryland, USA), Shahriar Aghaeimeibodi, Christopher J. K. Richardson, Richard P. Leavitt (University of Maryland, USA), Dirk Englund (Massachusetts Institute of Technology, USA), and Edo Waks (University of Maryland, the National Institute of Standards and Technology, USA)



Session Title: [WeA3] Energy harvesting and storage II

Date: July 4, 2018 (Wednesday)

Time: 16:50~18:20

Room: Room A (Ramada Ballroom 1)

WeA3-1

16:50~17:20

[Invited] III-Nitride Nanowire based Piezoelectric Generators for Supplying Nomad Microelectronic Devices

N. Gogneau*, N. Jamond (Université Paris-Saclay, France), P. Chrétien, F. Houzé (Université Paris-Sud et UPMC, France), L. Lu, M. Morassi, N. Jegenyés, E. Lefeuvre, F. Julien, and M. Tchernycheva (Université Paris-Saclay, France)

WeA3-2

17:20~17:50

[Invited] Facile Synthesis of Metal Oxide Nanostructures with Versatile Morphologies for High-performance Supercapacitors

Jae Su Yu*, Goli Nagaraju, and S. Chandra Sekhar (Kyung Hee University, Korea)

WeA3-3

17:50~18:05

Battery-free Electronic Smart Toys: A Step toward the Commercialization of Sustainable Triboelectric Nanogenerators

Arunkumar Chandrasekhar and Sang-Jae Kim* (Jeju National University, Korea)

WeA3-4

18:05~18:20

Synthesis and Characterization of Multiple Cation Rb(MAFA) Perovskite Single Crystals

Hyojung Kim, Hye Ryung Byun, Chul Ho Park, and Mun Seok Jeong* (Sungkyunkwan University, Korea)



Session Title: [WeC3] Plasmonics, meta-materials and optoelectronics III

Date: July 4, 2018 (Wednesday)

Time: 16:50~18:20

Room: Room C (Ramada Ballroom 3)

WeC3-1

16:50~17:20

[Invited] Development and Key Technologies of GaN-on-Si LEDs

J. Kim* (Hanyang University, Korea)

WeC3-2

17:20~17:50

[Invited] TBA

Jae-Hyun Ryou (University of Houston, USA)

WeC3-3

17:50~18:05

Extended whispering Gallery Polariton Condensate from GaN Single Hexagonal Wire at Room Temperature

Hyun Gyu Song, Sunghan Choi, Min Sik Kwon, Kie Young Woo, ChungHyun Park, and Yong-Hoon Cho* (KAIST, Korea)

WeC3-4

18:05~18:20

Direct Observation of Quantum Tunneling Charge Transfers between Molecules and Semiconductors for SERS

Jayoeng Kim (Ewha Womans University, Korea), Nam-Jung Kim, Jun-Beom Park (Seoul National University, Korea), Hyemin Kim (Ewha Womans University, Korea), Gyu-Chul Yi (Seoul National University, Korea), and Seokhyun Yoon* (Ewha Womans University, Korea)

WeC3-5

18:05~18:20

[Invited] Tip-Enhanced Raman Spectroscopy (TERS)

Yung Doug Suh* (Korea Research Institute of Chemical Technology and SungKyunKwan University, Korea)



ISPSA 2018

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Session Title: [WeD3] Quantum information I

Date: July 4, 2018 (Wednesday)

Time: 16:50~18:20

Room: Room D (Ramada Ballroom 4)

WeD3-1

16:50~17:20

[Invited] Spin Qubits in Silicon MOS Quantum Dots

C. H. Yang* and A. S. Dzurak (The University of New South Wales, Australia)

WeD3-2

17:20~17:50

[Invited] The Quantum Dot Hybrid Qubit: A Spin Qubit with Tunable Coupling to Electric Fields

Mark A. Eriksson* (University of Wisconsin-Madison, USA)

WeD3-3

17:50~18:20

[Invited] Holonomic Quantum Control of Geometric Spin Qubits in Diamond

Hideo Kosaka* (Yokohama National University, Japan)



Session Title: [ThA1] Si and group IV semiconductors

Date: July 5, 2018 (Thursday)

Time: 09:00~10:30

Room: Room A (Ramada Ballroom 1)

ThA1-1

09:00~09:30

[Invited] Functional Designs of Si Photovoltaics and Transparent Photoelectrics

Joondong Kim*, Malkeshkumar Patel, Hong-Sik Kim, and Mohit Kumar (Incheon National University, Korea)

ThA1-2

09:30~10:00

[Invited] Ultra-thin and Single Crystal Si and Ge Wafers for Next Generation Photovoltaics

Jihun Oh* (KAIST, Korea)

ThA1-3

10:00~10:15

Experimental Investigation of the Properties of Aluminum Graphene Nano Composites

Fazli Yazdan, Naveed Ullah*, M. Naeem Khan, and Ashfaq Khan (University of Engineering and Technology, Pakistan)

ThA1-4

10:15~10:30

Influence of Si Intermixing on Optical Properties of Ge-on-Si

Chulwon Lee (KAIST, Korea), Bugeun Ki (Yonsei University, Korea), Yang-Seok Yoo, Min-Ho Jang, Seung-Hyuk Lim, Jong-Hoi Cho, Hyun-Gyu Song (KAIST, Korea), Jungwoo Oh (Yonsei University, Korea), and Yong-Hoon Cho* (KAIST, Korea)



Session Title:	[ThB1] Compound semiconductors / Energy harvesting and storage
Date:	July 5, 2018 (Thursday)
Time:	09:00~10:30
Room:	Room B (Ramada Ballroom 2)

ThB1-1

09:00~09:30

[Invited] Toward the Performance Enhancement of Semitransparent Ultra-thin CIGSe Solar Cells

J. H. Park* (Korea Institute of Energy Research, Korea), M. Saifullah, J.-S. Cho, and J. H. Yun (Korea Institute of Energy Research, University of Science and Technology, Korea)

ThB1-2

09:30~09:45

Nanorod Array Structure through Nano-mold Process for AVR Display

Je Won Kim* (Namseoul University, Korea)

ThB1-3

09:45~10:15

[Invited] Towards Highly Efficient Photoelectrolysis Systems: InGaN-based Nanowires on Conductive Substrates

Mohamed Ebaid, Jung-Wook Min, Huafan Zhang, Chao Zhao, Tien Khee Ng, Hicham Idriss, and Boon S. Ooi* (King Abdullah University of Science and Technology, Saudi Arabia)

ThB1-4

10:15~10:30

Towards GaN Hybrid Heterostructure Photoanodes for Photoelectrochemical Water Splitting Devices

Santosh S Patil, Mostafa A. Hassan, Muhammad A. Johar, and Sang-Wan Ryu* (Chonnam National University, Korea)



Session Title: [ThC1] Plasmonics, meta-materials and optoelectronics IV

Date: July 5, 2018 (Thursday)

Time: 09:00~10:30

Room: Room C (Ramada Ballroom 3)

ThC1-1

09:00~09:30

[Invited] Theory and Applications of Plasmon Enhanced Luminescence Upconversion

Won Park* (University of Colorado, USA)

ThC1-2

09:30~10:00

[Invited] Highly Compliant Guided-Mode Resonance 1D and 2D Gratings for Sensing Applications

Jeong-Bong Lee* (The University of Texas at Dallas, USA)

ThC1-3

10:00~10:15

Experimental Verification of High-performance Linear Polarizer using Stacked 1D Subwavelength Gratings

Jehwan Hwang (Korea Research Institute of Standards and Science, Hanyang University, Korea), Boram Oh (Korea Research Institute of Standards and Science, Korea & Indiana University–Purdue University Indianapolis, USA), Eun Kyu Kim (Hanyang University, Korea), Yeongho Kim, Jun Oh Kim, Won Chegal, Sang-Woo Kang (Korea Research Institute of Standards and Science, Korea), David Czaplewski (Argonne National Laboratory, USA), Jong Eun Ryu (Indiana University–Purdue University Indianapolis, USA), Jiangfeng Zhou (University of South Florida, USA), Augustine Urbas, Zahyun Ku* (Wright-Patterson Air Force Base, USA), and Sang Jun Lee* (Korea Research Institute of Standards and Science, Korea)

ThC1-4

10:15~10:30

Adaptive Multispectral Detection using IR Transmission Spectra through Quasi-3D Circular Coaxial Aperture Array

Jiyeon Jeon (Korea Research Institute of Standards and Science, Sejong University, Korea), Deok-Kee Kim (Sejong University, Korea), Jun Oh Kim, Won Chegal (Korea Research Institute of Standards and Science, Korea), Jiangfeng Zhou (University of South Florida, USA), Augustine Urbas, Zahyun Ku* (Wright-Patterson Air Force Base, USA), and Sang Jun Lee* (Korea Research Institute of Standards and Science, Korea)



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Session Title: [ThD1] Quantum information II

Date: July 5, 2018 (Thursday)

Time: 09:00~10:30

Room: Room D (Ramada Ballroom 4)

ThD1-1

09:00~09:30

[Invited] Coherent Quantum Control and Magnetism on Atoms on Surfaces

Taeyoung Choi* (Ewha Womans University, Korea)

ThD1-2

09:30~10:00

[Invited] High-fidelity and Scale-up of Quantum Gates in Spin-based Quantum Computing with Quantum Dots

Seigo Tarucha* (University of Tokyo, Japan)

ThD1-3

10:00~10:30

[Invited] TBA

Enrico Prati (The National Research Council, Italy)