

[MoA1] OFET I
Date / Time July 2 (Mon.), 2018 / 11:00-12:10

Place Room A (#101+102)

Session Chair Jiyoul Lee (Pukyung Nat'l Univ., Korea)
Yutaka Wakayama (NIMS, Japan)

MoA1-I1 (Invited)

11:00-11:25

Solid-State Electrolyte-Gated Insulator for Low-Voltage and High Performance Organic Field-Effect Transistors

 Benjamin Nketia-Yawson and Yong-Young Noh
Dongguk Univ., Korea
MoA1-O2

11:25-11:40

Investigations into The Correlation between Thin Film Morphology, Contact Resistance and Photoresponse in Conjugated Polymer Based Field Effect Transistors

 Kshitij Bhargava, Nidhi Yadav, Shalu Chaudhary, and Vipul Singh
Indian Inst. of Tech. Indore, India
MoA1-O3

11:40-11:55

Split-Gate Ambipolar Organic Thin-Film Transistors and Circuits

 Hocheon Yoo and Jae-Joon Kim
POSTECH, Korea
MoA1-O4

11:55-12:10

No Strain No Gain: Strain Tunable Single Crystal Organic Field Effect Transistors

 Andrey A. Bardin¹, Genta Kawaguchi², and Hiroshi M. Yamamoto²
¹Russian Academy of Sciences, Russia, ²CIMoS, Japan

[MoB1] OPV I

Date / Time July 2 (Mon.), 2018 / 11:00-12:20

Place Room B (#106)

Session Chair Jung-Yong Lee (KAIST, Korea)
Barry Thompson (Univ. of Southern California, USA)

MoB1-I1 (Invited)

11:00-11:25

Non-Fullerene Acceptors - Molecular Origin of Photostability and Its Impact on Solar Cell Performance

Ji-Seon Kim

Imperial College London, UK

MoB1-I2 (Invited)

11:25-11:50

High-Efficiency Photovoltaic Cells with Semi-Crystalline and Wide Optical Band Gap Polymers

Seo-Jin Ko¹, Quoc Viet Hoang², Han Young Woo³, Won Suk Shin², and Jin Young Kim⁴

¹Univ. of California Santa Barbara, USA, ²KRICT, Korea, ³Korea Univ., Korea, ⁴UNIST, Korea

MoB1-O3

11:50-12:05

Ternary Solar Cells Featuring Enhanced Open Circuit Voltage, Power Conversion Efficiency and Stability

Chuanfei Wang, Xianjie Liu, Slawomir Braun, and Mats Fahlman

Linköping Univ., Sweden

MoB1-O4

12:05-12:20

Impact of Device Polarity on The Photovoltaic Performance of Polymer Solar Cells

Mengmeng Li and Rene Janssen

Eindhoven Univ. of Tech., The Netherlands

[MoC1] 2D Materials I
Date / Time July 2 (Mon.), 2018 / 11:00-12:05

Place Room C (#107)

Session Chair Sergey Kubatkin (Chalmers Univ. of Tech., Sweden)
 Jun Sung Kim (POSTECH, Korea)

MoC1-I1 (Invited)

11:00-11:25

Gate Induced Superconductivity in Transition Metal Dichalcogenides

 Alberto Morpurgo
Univ. of Geneva, Switzerland
MoC1-I2 (Invited)

11:25-11:50

Two-Dimensional Materials: Physics and Applications

 Marija Drndic
Univ. of Pennsylvania, USA
MoC1-O3

11:50-12:05

Polarity Control of MoTe₂ Field-Effect Transistors by Accelerating Surface Charge Transfer

 Junhee Choi¹, Jong Mok Shin², Ho-kyun Jang², Sang Wook Lee¹, and Gyu-tae Kim²
¹*Ewha Woman Univ., Korea*, ²*Korea Univ., Korea*

[MoD1] Theory

Date / Time	July 2 (Mon.), 2018 / 11:00-12:25
Place	Room D (#109)
Session Chair	Claude Bourbonnais (Université de Sherbrooke, Canada)

MoD1-I1 (Invited) 11:00-11:25

Exchange Interactions in Molecular Materials

Ben Powell
Univ. of Queensland, Australia

MoD1-O2 11:25-11:40

Electronic State and Optical Response in A Hydrogen-Bonded Molecular Conductor

Makoto Naka¹ and Sumio Ishihara²
¹Waseda Univ., Japan, ²Tohoku Univ., Japan

MoD1-O3 11:40-11:55

Energy Landscape of Charge Excitations in The Boundary Region between Dimer–Mott and Charge Ordered States in Molecular Solids

Masao Ogata¹, Hidetoshi Fukuyama², and Jun-ichiro Kishine³
¹Univ. of Tokyo, Japan, ²Tokyo Univ. of Science, Japan, ³The Open Univ. of Japan

MoD1-O4 11:55-12:10

Ground State Properties of κ -BEDT-TTF₂X; 3/4-Filled Case and Carrier Doping

Hiroshi Watanabe¹, Hitoshi Seo², and Seiji Yunoki²
¹Waseda Univ., Japan, ²RIKEN, Japan

MoD1-O5 12:10-12:25

Quenched Disorder Effect on The Charge-Glass Forming Ability in The Charge Ordered Organic Compounds

Satoshi Ohkura¹, Kenichiro Hashimoto¹, Ryota Kobayashi¹, Yuya Karakane¹, Yuka Ikemoto², Taro Moriwaki², and Takahiko Sasaki¹
¹IMR, Tohoku Univ., Japan, ²JASRI, Spring-8, Japan

[MoE1] Materials for Electronics I

Date / Time	July 2 (Mon.), 2018 / 11:00-12:05
Place	Room E (#110)
Session Chair	Yun-Hi Kim (Gyeongsang Nat'l Univ., Korea) Ian McCulloch (KAUST, Saudi Arabia)

MoE1-I1 (Invited)

11:00-11:25

 π -Conjugated and Deconjugated (Macro) Molecules for Charge Transport and Light Processing

Antonio Facchetti
Northwestern Univ., USA

MoE1-I2 (Invited)

11:25-11:50

Design and Synthesis of Quinoidal Molecules for Organic Electronic Devices

Dong-Yu Kim
GIST, Korea

MoE1-O3

11:50-12:05

Biazulene Diimides: A New Class of Organic Semiconductors

Hanshen Xin and Xike Gao
Shanghai Inst. of Organic Chemistry, Chinese Academy of Sciences., China

[MoF1] π -Conjugated Materials I

Date / Time July 2 (Mon.), 2018 / 11:00-12:05

Place Room F (#104+105)

Session Chair Bumjoon Kim (KAIST, Korea)

MoF1-I1 (Invited)

11:00-11:25

Conjugated Polymers-Based Multifunctional Materials with Stimuli-Responsive Helical Structures and Chiroptical Properties

Kazuo Akagi

Ritsumeikan Univ., Japan

MoF1-I2 (Invited)

11:25-11:50

On-Surface Synthesis of 1-Dimensional π -Conjugated Carbon Systems

Oliver Gröning¹, S. Wang², Q. Sun¹, P. Ruffieux¹, R. Fasel¹, and W. Xu³

¹*Empa Materials Science and Tech., Switzerland*, ²*Shanghai Jiao Tang Univ., China*, ³*Tongji Univ., China*

MoF1-O3

11:50-12:05

Electrical Transport of Carbonized Polymer Nanofibers and Comparison with Polymer Nanofibers

Kyung Ho Kim¹, Samuel Lara-Avila¹, Kasper Moth-Poulsen¹, Kazuo Akagi², Rositsa Yakimova³, Sergey Kubatkin¹, and Yung Woo Park⁴

¹*Chalmers Univ. of Tech., Sweden*, ²*Ritsumeikan Univ., Japan*, ³*Linköping Univ., Sweden*, ⁴*Seoul Nat'l Univ., Korea*

[MoA2] OFET II

Date / Time	July 2 (Mon.), 2018 / 13:30-15:20
Place	Room A (#101+102)
Session Chair	Yong-Young Noh (Dongguk Univ., Korea)

MoA2-11 (Invited)

13:30-13:55

Small-Molecule, Low-Voltage p-Channel and n-Channel Organic Thin-Film Transistors for Flexible Organic Circuits

Hagen Klauk

Max Planck Inst. for Solid State Research, Germany
MoA2-02

13:55-14:10

Light-Emitting Field-Effect Transistors based on Polyfluorene – Cesium Lead Halide Nanocrystals Composite Films

 Andrey Aleshin¹, Igor Shcherbakov¹, and Leo Matyushkin²
¹Ioffe Inst., Russia, ²St. Petersburg Electrotechnical Univ., Russia
MoA2-03

14:10-14:25

FTM as A Highly Facile Method towards Fabrication of Macroscopically Oriented Thin Films for Anisotropic Electronic Devices

Shyam S. Pandey, Manish Pandey, Atul Sm Tripathi, Shifumi Sadakata, Nikita Kumari, Shuichi Nagamatsu, and Shuzi Hayase

Kyushu Inst. of Tech., Japan
MoA2-04

14:25-14:40

Removing The Current-Limit of Vertical Organic Field Effect Transistors

Nir Tessler and Gil Sheleg

Technion, Israel
MoA2-05

14:40-14:55

3D Integration of Printed Organic Dual-Gate FETs on A Flexible Substrate

 Jimin Kwon¹, Sungjune Jung¹, Kilwon Cho¹, Shizuo Tokito², Yasunori Takeda², and Rei Shiwaku²
¹POSTECH, Korea, ²Yamagata Univ., Japan
MoA2-16 (Invited)

14:55-15:20

Ion Gel-Gated Vertical Graphene Schottky Barrier Transistors on Plastic

Jeong Ho Cho

Sungkyunkwan Univ., Korea

[MoB2] OPV II

Date / Time July 2 (Mon.), 2018 / 13:30-15:20

Place Room B (#106)

Session Chair Ji-Seon Kim (Imperial College London, UK)

MoB2-11 (Invited)

13:30-13:55

Relating Polymer Synthesis and Structure to Solar Cell Performance

Barry Thompson

Univ. of Southern California, USA

MoB2-12 (Invited)

13:55-14:20

Multi-Layered Polymer Solar Cells Utilizing Spontaneous Spreading Process

Jung-Yong Lee

KAIST, Korea

MoB2-03

14:20-14:35

Coherent Hole Transfer in OPV Blends with Non-Fullerene Acceptors

Rui Wang¹, Chunfeng Zhang¹, Zhixing Liu¹, Zhiguo Zhang², Yongfang Li², and Min Xiao³

¹*Nanjing Univ., China*, ²*Chinese Academy of Sciences, China*, ³*Univ. of Arkansas, USA*

MoB2-04

14:35-14:50

Loss Processes in Non-Fullerene Acceptor Bulk Heterojunction Solar Cells

Frédéric Laquai

KAUST, Saudi Arabia

MoB2-05

14:50-15:05

Printed Nonfullerene Organic Solar Cells with The Highest Efficiency of 9.5%

Yuanbao Lin¹, Feng Liu², Fengling Zhang³, Thomas P. Russell⁴, Fei Huang⁵, and Lintao Hou¹

¹*Jinan Univ., China*, ²*Shanghai Jiao Tong Univ., China*, ³*Linköping Univ., Sweden*, ⁴*Lawrence Berkeley Nat'l Lab., USA*, ⁵*South China Univ. of Tech., China*

MoB2-06

15:05-15:20

Morphology Control and Photophysics in Ternary Organicsolar Cells

Xiaotao Hao

Shandong Univ., China

[MoC2] Graphene I

Date / Time	July 2 (Mon.), 2018 / 13:30-15:25
Place	Room C (#107)
Session Chair	Alberto Morpurgo (Univ. of Geneva, Switzerland)

MoC2-11 (Invited) 13:30-13:55

Valley-Symmetric Carrier Guiding in Ballistic Graphene

Hu-Jong Lee
POSTECH, Korea

MoC2-12 (Invited) 13:55-14:20

Experimentally Tuning Graphene's Pseudospin Polarization and Valley Splitting

Markus Morgenstern
RWTH Aachen Univ., Germany

MoC2-13 (Invited) 14:20-14:45

Plasmons and Sensing in Graphene Devices

Mikael Fogelström
Chalmers Univ. of Tech., Sweden

MoC2-14 (Invited) 14:45-15:10

Graphene at The Charge Neutrality Point: Sensing at Terahertz Frequency Domain

Hans He¹, Samuel Lara-Avila¹, Kyung Ho Kim¹, Yung Woo Park², Rositsa Yakimova², Andrey Danilov¹, Dmitry Golubev³, Serguei Cherednichenko¹, and Sergey Kubatkin¹
¹*Chalmers Univ. of Tech., Sweden*, ²*Seoul Nat'l Univ., Korea*, ³*Low Temperature Lab., Aalto Univ., Finland*

MoC2-05 15:10-15:25

Magnetic Field-Induced Metal-Insulator Transition of Graphene at A Filling Factor $\nu=0$

Sung Ju Hong, Christopher Belke, Johannes Rode, Benedikt Brechtken, and Rolf Haug
Leibniz Univ., Germany

[MoD2] New Organic Conductors I**Date / Time** July 2 (Mon.), 2018 / 13:30-15:30**Place** Room D (#109)**Session Chair** Toshikazu Nakamura (Inst. for Molecular Science, Japan)**MoD2-I1 (Invited)**

13:30-13:55

Exploration of Molecular Conductors with Hydrogen-Bond Dynamics

Akira Ueda

*The Univ. of Tokyo, Japan***MoD2-I2 (Invited)**

13:55-14:20

Crystallization and Vitrification of Strongly Correlated Electrons on A Geometrically Frustrated Triangular Lattice

Kenichiro Hashimoto

*Tohoku Univ., Japan***MoD2-I3 (Invited)**

14:20-14:45

Molecular Bilayer Conductors (CNB-EDT-TTF)₄X; Progresses in New Prototype of 2D MetalsManuel Almeida¹, Sandrina Oliveira¹, Ana Cristina Goncalves¹, Vasco Gama¹, Goncalo Oliveira¹, Elsa B. Lopes¹, Isabel C. Santos¹, Sandra Rabaca¹, Jose A. Paixao², and Enric Canadell³¹*Univ. de Lisboa, Portugal*, ²*Univ. de Coimbra, Portugal*, ³*ICMAB (CSIC), Spain***MoD2-O4**

14:45-15:00

Magnetic Properties in New Organic pi-d Systems Lambda-, Lambda'- and Kappa- (STF)2FeX4 (X = Cl, Br)Takaaki Minamidate, Takuma Wada, Noriaki Matsunaga, Atsushi Kawamoto, and Kazushige Nomura
*Hokkaido Univ., Japan***MoD2-O5**

15:00-15:15

Metal-Insulator Transition and Magnetocapacitance Effect in Alpha''-(BEDT-TTF)₂RbCo(SCN)₄Satoshi Iguchi¹, Syuhei Yamada¹, Ryota Kobayashi¹, Naoki Yoneyama², and Takahiko Sasaki¹¹*Inst. for Materials Research, Tohoku Univ., Japan*, ²*Yamanashi Univ., Japan***MoD2-O6**

15:15-15:30

Cantilever Torque Magnetometry Experiments for Organic Molecular Conductors, TPP[Mn(Pc)(CN)₂]₂ and [Mn(Pc)(CN)₂]₂OKiyoshi Torizuka¹, Masaki Matsuda², Mitsuo Ikeda³, Noriaki Hanasaki³, and Yoshiya Uwatoko⁴¹*Nippon Inst. of Tech., Japan*, ²*Kumamoto Univ., Japan*, ³*Osaka Univ., Japan*, ⁴*Univ. of Tokyo, Japan*

[MoE2] Materials for Electronics II

Date / Time	July 2 (Mon.), 2018 / 13:30-15:20
Place	Room E (#110)
Session Chair	Antonio Facchetti (Northwestern Univ., USA)

MoE2-I1 (Invited) 13:30-13:55

Low Conformational Disorder Semiconducting Polymers for Transistor Applications

Iain McCulloch
KAUST, Saudi Arabia

MoE2-O2 13:55-14:10

Supramolecular Organization in Alkyl-Thienyl Disubstituted Flavanthronone Derivatives - New Donor-Acceptor-Donor Organic Semiconductors

Tomasz Jaroach¹, Robert Nowakowski¹, Agnieszka Maranda-Niedbala¹, Kamil Kotwica², Malgorzata Zagorska², and Adam Pron²
¹*Inst. of Physical Chemistry of the Polish Academy of Sciences, Poland,* ²*Warsaw Univ. of Tech., Poland*

MoE2-I3 (Invited) 14:10-14:35

Close-Packed Organic Semiconductors Designed for Ideal Field-Effect Transistor Characteristics

Jeong-Il Park
Samsung Advanced Inst. of Tech., Korea

MoE2-O4 14:35-14:50

Insight into the Donor-Acceptor Semiconductor Interface in OPVs

Elena Mena-Osteritz, Sebastian Förtsch, and Peter Bäuerle
Ulm Univ., Germany

MoE2-O5 14:50-15:05

Stepwise Stille Polycondensation: A Simple Yet Effective Tool for Ultrahigh-Quality Semiconductor Precision

Lee Sang Myeon, Park Kwang Hyun, Jung Seungon, Park Hyesung, and Yang Changduk
Perovtronics Research C, Korea

MoE2-O6 15:05-15:20

Synthesis and Properties of Organic Semiconductors: Analogues of Rubrene and Derivatives of Antracene

Xiaotao Zhang and Wenping Hu
Tianjin Univ., China

[MoF2] Materials for OPV I

Date / Time July 2 (Mon.), 2018 / 13:30-15:30

Place Room F (#104+105)

Session Chair Han Young Woo (Korea Univ., Korea)

MoF2-I1 (Invited) 13:30-13:55

Semiconducting Polymers Using New Donating and Accepting Building Blocks for Organic Photovoltaic Cells

Do-Hoon Hwang
Pusan Nat'l Univ.

MoF2-O2 13:55-14:10

Thieno[3,4-b]thiophene-Based Small-Molecule Photovoltaic Materials

Xiaozhang Zhu
Inst. of Chemistry, Chinese Academy of Sciences, China

MoF2-I3 (Invited) 14:10-14:35

Toward High Performance Organic Solar Cells: Development of Conjugated Polymers

Hae Jung Son
KIST, Korea

MoF2-O4 14:35-14:50

Charge Generation Dynamics in Non-Fullerene Organic Photovoltaic Blend With Small Photovoltage Loss

Philip Chow and He Yan
HKUST, Hong Kong, China

MoF2-I5 (Invited) 14:50-15:15

Impact of Side Chain Engineering and Molecular Weight Control of Polymer Acceptors in All-Polymer Solar Cells

Bumjoon Kim
KAIST, Korea

MoF2-O6 15:15-15:30

Benzo[1,2-c:4,5-c']Dithiophene-4,8-Dione-, Thiadiazolo Isoindole Dione- and Triazolo Isoindole Dione-Containing Polymers for Solar Cell Applications

Wendimagegn Mammo Deneke¹, Birhan A. Abdulahi¹, Asfaw Nsegash¹, Zewdneh G. Wolkeba¹, Petri Murto², Xiaofeng Xu³, Olle Inganäs³, and Ergang Wang²
¹Addis Ababa Univ., Ethiopia, ²Chalmers Univ. of Tech., Sweden, ³Linköping Univ., Sweden

[MoA3] OFET III

Date / Time	July 2 (Mon.), 2018 / 15:55-17:35
Place	Room A (#101+102)
Session Chair	Jeong Ho Cho (Sungkyunkwan Univ., Korea) Hagen Klauk (Max Planck Inst., Germany)

MoA3-11 (Invited)

15:55-16:20

Organic Field-Effect Transistors based on Semiconducting Donor-Acceptor Polymers

Yunqi Liu

Inst. of Chemistry, Chinese Academy of Sciences, China
MoA3-02

16:20-16:35

Organic Anti-Ambipolar Transistor: Operation Mechanism, Device Properties and Application to Multi-Level Logic Circuits

Kazuyoshi Kobashi, Ryoma Hayakawa, and Yutaka Wakayama

NIMS, Japan
MoA3-03

16:35-16:50

Positional Profiling of Optical Anisotropy in Large Area Oriented Conducting Polymer Films by An Ingenious and Economical Approach

Nikita Kumari, Sadakata Shifumi, Manish Pandey, Shuichi Nagamatsu, Shuzi Hayase, and Shyam S Pandey

Kyushu Inst. of Tech., Japan
MoA3-04

16:50-17:05

Influence of Fluorine Atoms in Polymeric Direct Layers on Charge Transports through DPP-Based D-A Type Copolymer Films

 Yi-Na Moon¹, Jong-Woon Ha², Do-Hoon Hwang², and Jiyoul Lee¹
¹Pukyong Nat'l Univ., Korea, ²Pusan Nat'l Univ., Korea
MoA3-05

17:05-17:20

Charge Transports in Cyclopentadithiophene-Based D-A Type Semiconducting Copolymers

Jiyoul Lee

Pukyong Nat'l Univ., Korea
MoA3-06

17:20-17:35

Integrated Circuits based on Conjugated Polymer Monolayer

 Mengmeng Li¹, He Yan², Wojtek Pisula¹, and Kamal Asadi¹
¹MPI-P, Germany, ²The Hong Kong Univ. of Science and Tech., Hong Kong, China

[MoB3] Electronic Properties and Application I

Date / Time July 2 (Mon.), 2018 / 15:55-17:30

Place Room B (#106)

Session Chair Jin Young Kim (UNIST, Korea)
Frédéric Laquai (KAUST, Saudi Arabia)

MoB3-I1 (Invited) 15:55-16:20

Synthesis and Applications of Conducting Polymer Nanofibers and Oligomers

Richard Kaner, Stephanie Aguilar, Wai Mak, Haosen Wang, and Cheng-Wei Lin
Univ. of California, USA

MoB3-I2 (Invited) 16:20-16:45

Electroactive Composite Materials for Supercapacitors

Milla Suominen, Pia Damlin, and Carita Kvarnstrom
Univ. of Turku, Finland

MoB3-O3 16:45-17:00

Different Synthesis Techniques of PEDOT Nanostructures and Their Performance of Electrochemical Supercapacitors

Byung Chul Kim^{1,2}, Gordon Wallace², and Murugesan Rajesh³
¹*SunChon Nat'l Univ., Korea*, ²*Univ. of Wollongong, Australia*, ³*UNIST, Korea*

MoB3-O4 17:00-17:15

Enhanced Charge Injection Using the Source-Drain Electrodes with Different Work Functions for Hybrid Light Emitting Transistors

Yu Jung Park¹, AeRan Song², Kwun-Bum Chung², and Jung Hwa Seo¹
¹*Dong-A Univ., Korea*, ²*Dongguk Univ., Korea*

MoB3-O5 17:15-17:30

Solution-Processed Perylene Bisimide Films for Promising Thermoelectric Application

Yuguang Ma
South China Univ. of Tech., China

[MoC3] Topological Materials
Date / Time July 2 (Mon.), 2018 / 15:55-17:35

Place Room C (#107)

Session Chair Hu-Jong Lee (POSTECH, Korea)
Markus Morgenstern (RWTH Aachen Univ., Germany)

MoC3-11 (Invited) 15:55-16:20

Revealing Topological Edge States in Bismuth Nanowires by Proximity Induced Superconductivity

 Helene Bouchiat¹, Anil Murani², Kasumov Alik¹, and Gueron Sophie¹
¹CNRS France, France, ²CEA Saclay, France

MoC3-12 (Invited) 16:20-16:45

Large Anomalous Hall Current Induced by Topological Nodal Lines in A Ferromagnetic Van Der Waals Material

 Kyoo Kim¹, Junho Seo², Eunwoo Lee³, Jong Mok Ok², Jinwon Lee², Youn Jung Jo⁴, Woun Kang⁵, Han Woong Yeom², Ji Hoon Shim⁶, Byung Il Min⁶, Bohm-Jung Yang³, and Jun Sung Kim²
¹MPK POSTECH, Korea, ²POSTECH & IBS-CALDES, Korea, ³Seoul Nat'l Univ., Korea, ⁴Kyungpook Nat'l Univ., Korea, ⁵Ewha Womans Univ., Korea, ⁶POSTECH, Korea

MoC3-13 (Invited) 16:45-17:10

Characteristic Frequency Dependence of Optical Conductivity in Topological Semimetals

Hongki Min

Seoul Nat'l Univ., Korea

MoC3-14 (Invited) 17:10-17:35

Topological Phases in Thin Films of Materials with Inverted Band Structures

 Fedor Kusmartsev¹, Yi Luo², Aidan Wilkonson², He Li², Anna Kusmartsev¹, and Marat Gaifullin¹
¹Loughborough Univ., UK, ²MTRC, China

[MoD3] Dirac Materials

Date / Time July 2 (Mon.), 2018 / 15:55-17:15

Place Room D (#109)

Session Chair Manuel Almeida (Univ. of Lisbon, Portugal)

MoD3-I1 (Invited)

15:55-16:20

Transport Phenomena in Molecular Massless Dirac Electron Systems with Tilted Cones

Naoya Tajima
Toho Univ., Japan

MoD3-O2

16:20-16:35

Possible Emergence of Topological Phases in An Organic Dirac Fermion System

Toshihito Osada
Univ. of Tokyo, Japan

MoD3-O3

16:35-16:50

High Pressure Transport and Raman Measurements of The 3D Dirac Semimetal Candidate ET-Ag₄(CN)₅

Andhika Kiswandhi¹, Mitsuhiro Maesato¹, Shinya Tomeno¹, Yukihiro Yoshida¹, Yasuhiro Shimizu², Gunzi Saito³, and Hiroshi Kitagawa¹
¹Kyoto Univ., Japan, ²Nagoya Univ., Japan, ³Toyota Physical and Chemical Research Inst., Japan

MoD3-I4 (Invited)

16:50-17:15

Universal Phase Diagram of The λ, λ' and λ'' Salts

Noriaki Matsunaga¹, Takaaki Minamidate¹, Takuma Wada¹, Satoshi Kawaguchi¹, Sari Dita Puspita², Isao Watanabe^{3,1}, Atsushi Kawamoto¹, Kazushige Nomura¹
¹Hokkaido Univ., Japan, ²Graduate School of Engineering and Science, Shibaura Inst. Tech., Japan, ³RIKEN Nishina Center, Japan

[MoE3] π -Conjugated Materials II

Date / Time	July 2 (Mon.), 2018 / 15:55-17:20
Place	Room E (#110)
Session Chair	Oliver Gröning (Empa Materials Science And Tech., Switzerland) Taiho Park (POSTECH, Korea)

MoE3-I1 (Invited) 15:55-16:20

From Discrete Metal-Ligand Motifs to Supramolecular Assembly, Nanostructures and Light-Enabled Functions

Vivian Wing-Wah Yam
The Univ. of Hong Kong, China

MoE3-O2 16:20-16:35

Synthesis and Application of Triplet Tellurophene-Based Materials

Hui Huang, Lei Yang, Lei Lv, and Kaikai Wen
Univ. of Chinese Academy of Sciences, China

MoE3-O3 16:35-16:50

Novel s-Tetrazine Based Donor-Acceptor Molecules: Synthesis and Application

Yangyang Qu¹, Oleh Vyborny², Gilles Clavier¹, Fabien Miomandre¹, Peter Skabara², and Pierre Audebert¹
¹ENS Paris-Saclay, France, ²Univ. of Glasgow, UK

MoE3-O4 16:50-17:05

Singlet-Triplet Energy Difference: Theoretical Revisit to The Role of Torsional Angles between Electron-Donor and Acceptor Units

Dongwook Kim
Kyonggi Univ., Korea

MoE3-O5 17:05-17:20

Synthesis of Curved π -Conjugated Molecules with Controllable Aromaticity

Junzhi Liu¹, Klaus Müllen², and Xinliang Feng¹
¹TU Dresden, Germany, ²Max Planck Inst. for Polymer Research, Germany

[MoF3] Materials for OPV II

Date / Time	July 2 (Mon.), 2018 / 15:55-17:30
Place	Room F (#104+105)
Session Chair	James Durrant (Imperial College London, UK) Bong Soo Kim (Ewha Womans Univ., Korea)

MoF3-I1 (Invited) 15:55-16:20

Multi-Junction Polymer Solar Cells: Status and Challenges

Rene Janssen
Eindhoven Univ. of Tech., The Netherlands

MoF3-O2 16:20-16:35

Direct Arylation Polycondensation: Facile Synthesis Ofconjugated Polymers for OPV Application

Junpei Kuwabara¹, Takeshi Yasuda², and Takaki Kanbara¹
¹*Univ. of Tsukuba, Japan*, ²*NIMS, Japan*

MoF3-I3 (Invited) 16:35-17:00

Fused-Ring Electron Acceptors for High-Performance Organic Solar Cells

Xiaowei Zhan
Peking Univ., China

MoF3-O4 17:00-17:15

Transition Temperatures of Hetero-Junction Blends in Polymer Solar Cells

Anirudh Sharma, David Lewis, and Mats Andersson
Flinders Univ., Australia

MoF3-O5 17:15-17:30

Influence of Blend Morphology and Energeticson Charge Separation and Recombination Dynamics in Organic Solar Cells Incorporatinga Non-Fullerene Acceptor

Hyojung Cha and James Durrant
Imperial College London, UK

[MoP] Poster Session I
Date / Time July 2 (Mon.), 2018 / 19:00-21:00

Place 2F, Lobby

Topic 4: Ordered Carbon Materials, 2D Materials and NEMS

(MoP-001~MoP-044)

MoP-001
Fabrication of High Aspect Ratio Nanowires Using Super-Critical Electroplating Technique

Ho-Chiao Chuang, Guan-Wei Chiang, and Ai-Ho Liao

Nat'l Taiwan Univ. of Science and Tech., Taiwan
MoP-002
The Effect of Grain Boundaries on Electrical and Noise Characteristics in CVD-Grown MoS₂ Field Effect Transistors

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MoP-003
Local Energy Level Alignment and Electron Transport Imaging at 2D Heterostructure Interfaces

Sena Yang and JeongWon Kim

KRISS, Korea
MoP-004
Charge Stabilization in MoS₂ with Strong Molecular Acceptors

 Minju Kim¹, Junkyeong Jeong¹, Giwoong Kim¹, Seongil Im¹, Taekyeong Kim², Hyunbok Lee³, and Yeonjin Yi¹
¹Yonsei Univ., Korea, ²Hankuk Univ. of Foreign Studies, Korea, ³Kangwon Nat'l Univ., Korea
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Resonance Behaviours of Porous Graphenedrums

Min Hee Kwon, Juhee Yoon, Dong Hoon Shin, Jun Hee Choi, and Sang Wook Lee

Ewha Womans Univ., Korea
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Doping Effect of Carbon Nanotubes on The Electrical Performance of Solution-Processed p-Channel Oxide Transistors

Ao Liu, Huihui Zhu, and Yong-Young Noh

Dongguk Univ., Korea

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Electrochemical Anions Intercalation in Graphite: A Combined Raman and AFM/STM Investigation

Chiara Castiglioni, Luigi Brambilla, Matteo Tommasini, Luca Magagnin, Alessandra Accogli, Eugenio Gibertini, Rossella Yivlialin, Gianlorenzo Bussetti, Andrea Li Bassi, and Lamberto Duò
Politecnico di Milano, Italy

MoP-008

Binary Solvent Effects on Sorted Semiconducting Carbon Nanotubes Using N-type Conjugated Polymers.

Dongseob Ji, Ji-Young Go, Eun Sol Shin, and Yong-Young Noh
Dongguk Univ., Korea

MoP-009

Hybrid Characteristics and Optoelectronic Devices for MoS₂/WSe₂ n-p Heterojunction

Jun Young Kim¹, Yongjun Lee², Jeongyoung Kim², Kwang-Sup Lee³, and Jinsoo Joo¹
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MoP-010

Nanoscale Optical Characteristics of The Hybrids of Two-Dimensional Nanostructures with CsPbBr_x Perovskite Quantum-Dots and Application To Optoelectronic Devices

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MoP-011

Tensile Properties and Swelling Ratio of Chitosan/Xanthan Gum/Graphen Oxide Nanocomposite Hydrogel Film

Dong-Won Kim¹, Yury Shchipunov², Dae-Geon Yoo¹, Gue-Hyun Kim³, and Chang-Sik Ha¹
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MoP-012

Effect of Functionalized Boron Nitride for Epoxy Composites with Improved Thermal Conductivity

Ju Hui Kang^{1,2}, Ho Yong Kang^{1,3}, Jong Tae Leem^{1,3}, Woong Cheol Seok^{1,3}, Se Jin Kwon¹, Ho Jun Song¹, and Sangkug Lee¹
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MoP-013

Electrical Transport of Two-Dimensional Materials on Ferroelectrics

Nahee Park¹, Haeyong Kang², and Dongseok Suh¹
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Ferroelectric Polarization Switching by Graphene Electrode

Gwanmu Lee¹, Haeyong Kang², and Dongseok Suh¹
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MoP-016
Carbon-Nanotube Templated Flexible Superconducting Nanowire Yarn

Jeong-Gyun Kim¹, Haeyong Kang², and Dongseok Suh¹
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MoP-017
Anomalous Quantum Hall Effect Induced by Grain-Boundary in Graphene Grown Bychemical Vapor Deposition

Tuan Khanh Chau¹, Haeyong Kang², and Dongseok Suh¹
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MoP-018
Ultrasensitive Hall Sensor based on 2D Material

Joonggyu Kim¹, Min-Kyu Joo², and Dongseok Suh¹
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MoP-019
Low Frequency Noise Analysis of Monolayer WS₂ Field-Effect Transistor

Yoojoo Yun¹, Min-Kyu Joo², and Dongseok Suh¹
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MoP-020
Ultrastretchable Signal Transmission Line with Carbon Nanotube Sheets and Its Application

Yourack Lee and Dongseok Suh
Sungkyunkwan Univ., Korea

MoP-021
Morphology Control of Graphene Oxide via γ -Ray Irradiation for Efficient Perovskite Solar Cells

Jae Sang Cho^{1,2}, Woongsik Jang¹, Keum Hwan Park², and Dong Hwan Wang¹
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MoP-022

Terahertz Shielding of MXenes using Nano-slot Antenna

Geunchang Choi¹, Faisal Shahzad², Young-Mi Bahk³, Young Min Jhon², Mohamed Alhabeab⁴, Babak Anasori⁴, Dai-Sik Kim², Chong Min Koo², Yury Gogotsi⁴, and Minah Seo²
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MoP-023

Electrical Characteristics of 2D-MoSe₂-based FET Devices with Various Electrodes

Pan-Gum Jung, Dong Jin Lee, Nam-Hoon Kim, and Pil Ju Ko
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MoP-024

Deformation and Interface states of Bipolar Quantum Hall Graphene

Nojoon Myoung¹ and Hee Chul Park²
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MoP-025

Chemical Doping Effects on CVD-Grown Multilayer MoSe₂

Hocheon Yoo¹, Seogin Hong², Hyunseong Moon², Sungmin On¹, Hyungju Ahn³, Han-Koo Lee³, Young Ki Hong², Sunkook Kim¹, and Jae-Joon Kim¹
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MoP-026

Linker-Free Decoration of Polyoxometalates on Nitrogen-Doped Carbon Nanotubes for Water Oxidation

Gil Yong Lee, Insu Kim, Yoon Sung Nam, and Sang Ouk KIM
KAIST, Korea

MoP-027

Scalable Heterostructure Film Assembly of 2D Transition Metal Dichalcogenides

Sung Hwan Koo, Taeyeong Yun, and Sang Ouk Kim
KAIST, Korea

MoP-028

Metal-Carbon Nanotube Composite Fibers with a High Critical Current Density

Dong Su Lee, Hokyun Rho, Min Park, Mina Park, Junbeom Park, Aram Lee, Sukang Bae, Tae-Wook Kim, Seung Min Kim, and Sang Hyun Lee
KIST, Korea

MoP-029

Distorted Carbon Nitride Structure with Benzene Doping for Enhanced Photocatalytic Activity under Visible Light

Hyejin Kim¹, Suji Gim², Tae Hwa Jeon¹, Hyungjun Kim², and Wonyong Choi¹
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MoP-030
Carbon Nitride/Hematite Heterojunction Photoanode for Solar Water Splitting

Taehwa Jeon and Wonyong Choi

POSTECH, Korea

MoP-031
Weyl Phases, Topological Line Singularities, Nexus, Edge Currents and Flat Bands in Gray Tin Nanostructures

Feodor Kusmartsev¹, Anna Kusmartseva², and Yi Luo²

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MoP-032
Chemical Phase Tuning of MoTe₂

Yonas Assefa Eshete and Hee Jun Yang

Sungkyunkwan Univ., Koorea

MoP-033
Multi Responsive Bilayer Actuator by Stacking Aligned-CNT-Sheets with PVA

Thut-Kieu Truong and Dongseok Suh

SungKyunkwan Univ., Korea

MoP-034
A Flexible and High Performance Supercapacitor Consisting of Nickel-Cobalt-Mixedhydroxides, ZnO Nanorods and Carbonnanotube Yarn

Suong Le and Dongseok Suh

Sungkyunkwan Univ., Korea

MoP-035
Non-Uniform Current Distribution between Individual Layers of Multilayer Graphene and MoS₂

Won Ryeol Choi, Jeong Hyeon Na, Sung Won Kim, Young Gyu You, Jun Ho Hong, Jong Hwa Ryu, and Sung Ho Jhang

Konkuk Univ., Korea

MoP-036
Dielectric Screening Effect on MoS₂ Field-Effecttransistor Encapsulated in Various High-Koxides

Jong Hwa Ryu, Young Gyu You, Jeong Hyeon Na, and Sung Ho Jhang

Konkuk Univ., Korea

MoP-037
Switching Device based on MoTe₂'s Phase Transition by Electrostatic Force

Jun Ho Hong, Young Gyu You, Won Ryeol Choi, Jeong Hyeon Na, and Sung Ho Jhang

Konkuk Univ., Korea

MoP-038

Rolled MoS₂ : Fabrication and Their Properties

Sung Won Kim¹, Jeonghyeon Na¹, Tae Woo Uhm², Won Ryeol Choi¹, Sooho Choi³, Jae-Ung Lee⁴, Woochul Yang³, Hyeonsik Cheong⁵, and Sung Ho Jhang¹

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MoP-039

Role of Surface Optical Phonons in the Resistivity of Graphene

Young Gyu You, Jeonghwan Ahn, Bae Ho Park, Yongkyung Kwon, and Sung Ho Jhang
Konkuk Univ., Korea

MoP-040

Liquid-phase Exfoliation of Transition Metal Dichalcogenide Nanosheets with Amine Modified Polymer Dispersants and Nanocomposites

Hyeokjung Lee and Cheolmin Park
Yonsei Univ., Korea

MoP-041

Layer-Confined Excitonic Insulating Phase in Ultrathin Ta₂NiSe₅ Crystals

So Young Kim^{1,2}, Youngwook Kim¹, Chang-Jong Kang¹, Eun-Su An^{1,2}, Hyoung Kug Kim^{1,2}, Man Jin Eom¹, Minkyung Lee^{1,2}, Chibeom Park², Tae-Hwan Kim^{1,2}, Hee Cheul Choi^{1,2}, Byung Il Min¹, and Jun Sung Kim^{1,2}

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MoP-042

Dispersivity Control of Reduced Graphene Oxide and Their Application in Inverted Organic Solar Cells as Hole Transport Layer

Jong-jin Park and Dong-Yu Kim
GIST, Korea

MoP-043

Tuning The Electronic Structure of Single-Walled Carbon Nanotube by High-Pressure H₂ Exposure

Hojin Kang¹, Sung Ju Hong², Min Park³, Byung Hun Kim⁴, and Yung Woo Park¹

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MoP-044

n-Doping Effect on Few-Layer WSe₂-Based Thin Film Transistors through Gold-Tetraphenylporphyrin (Au-TPP) and Application to Photodetector

Dong Seop Lee¹, Jun Young Kim¹, Dae-young Shin¹, Suk Joong Lee¹, Jeongyoung Kim², and Jinsoo Joo¹
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Topic 3: Organic Electronics and Optoelectronics

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MoP-045
Polyethylenimine(PEI) at Channel Interface Layer for Improved Performances of Solution-Processed oxide Thin-Film Transistors (TFTs)

 Yeo Ryang Lee¹, Jin Woo Park², Chae Won Kim¹, Hye Min Park¹, Jun Hyeok Jang¹, Young Ju Jo¹, Kang Min Lee¹, and Mijung Lee¹
¹Kookmin Univ., Korea, ²PSK Inc., Korea

MoP-046
Visibly Transparent Network Structure of Polymer Blend Composites for High Performance Transistors and Its Applications

 Byoungwook Park¹, Kilho Yu², Jonghoon Lee¹, Minha Oh¹, Soonil Hong¹, Jinho Lee¹, Soyeong Jeong¹, Hongkyu Kang¹, Jehan Kim³, and Kwanghee Lee¹
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MoP-047
Air Stable Organic Transistors via Controlling Fluoride Contents in Naphthalene Diimide-Based Polymers

 Yongjoon Cho¹, A Young Jeong², Joon Hak Oh², and Changduk Yang¹
¹UNIST, Korea, ²POSTECH, Korea

MoP-048
Bar-Coated highly-Aligned Organic Semiconductor Films for High-Performance organic Transistors.

Seon Baek Lee, Boseok Kang, and Kilwon Cho

POSTECH, Korea

MoP-049
Use of Ion Gel Dielectrics for Amine-Treated PEDOT:PSS Transistors

 Donguk Kim¹ and Felix Sunjoo Kim²
¹KAIST, Korea, ²Chung-Ang Univ., Korea

MoP-050
Transparent Organic Field Effect Transistors with Wide Bandgap Channel Layers

Chulyeon Lee, Hwajeong Kim, and Youngkyoo Kim

Kyungpook Nat'l Univ., Korea

MoP-051
Less Explored Carbazole Derivatives for Solution-Processed Phosphorescent Organic Light-Emitting Diodes

Jaemin Lee, Shahid Ameen, Sung Cheol Yoon, and Changjin Lee

KRICT, Korea

MoP-052

Singlet-Triplet Splitting Energy Management via Acceptor Substitution: Complanation Molecular Design for Deep-Blue Thermally Activated Delayed Fluorescence Organic Light Emitting Diodes

Xinyi Cai and Shi-Jian Su

South China Univ. of Tech., China

MoP-053

Finecontrol of Light-Scattering Effects of The Porous Polymeric Media for Highly Efficient OLEDs

Hyeck Go¹, Eun-Mi Han², and Changhun Yun¹

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MoP-054

Highly Transparent Polymer Organic Light Emittingdiodes based on Bilayer Electrodes with Silver Nanowires and PEDOT:PSS

Changhun Yun¹, Hyeck Go¹, and Eun-Mi Han²

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MoP-055

Fully Solution Processed Multilayer OLEDs Using Cross-Linkable Electron-Transport Materials

Minhye Seo and Sungkoo Lee

KITECH, Korea

MoP-056

Highly Soluble Fluorinated Imaging Materials for Micropatterned Organic Light-Emitting Diodes

Jongchan Son¹, Youngtae Kim¹, Byung Jun Jung², and Jin-Kyun Lee¹

¹Inha Univ., Korea, ²Univ. of Seoul, Korea

MoP-057

Influence of Ultraviolet and Thermal Stresson Blue Fluorescent OLEDs with Different Hole Transport Materials

Song Eun Lee¹, Ki Ju Kim¹, Soyoung Pak², Seung Soo Yoon², and Young Kwan Kim¹

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MoP-058

The Effect of Structural Modification of Constitutional Isomers on Thermally-activated Delayed Fluorescence Efficiency

Heather F. Higginbotham¹, Tomas Matulaitis², Ramunas Lygaitis², Marc K. Etherington¹, Nadzeya A. Kukhta², Juozas V. Gražulevičius², and Andrew P. Monkman¹

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MoP-059
Polymer Light Emitting Diodes Patterned with A Photo-Crosslinking Agent

Hyewon Park, Jeehye Yang, Seunghan Kim, and Moon Sung Kang
Soongsil Univ., Korea

MoP-060
Efficient White OLED Employing Red, Green, and Blue Phosphorescent Emitters

Dong-Eun Kim, Min-Jae Kang, and Hoon-Kyu Shin
POSTECH, Korea

MoP-061
Inkjet Printing of Small Molecular Phosphorescentemitters by Optimization of Solvent Formulation

Youjung Kang, Jihye Kim, Robbert Bail, Chilwon Lee, and Byungdoo Chin
Dankook Univ., Korea

MoP-062
Synthesis of TADF Materials with Asymmetric Structure with Diphenylsulfone and Carbazolederivatives

Huijae Choi, Jihye Kim, Chilwon Lee, and Byungdoo Chin
Dankook Univ., Korea

MoP-063
Development of Narrow-Bandgap Molecules based on Lactam-Containing Fused Aromatic Systems and Their Application in Organic Solar Cells

Narumi Sato, Seiichi Furukawa, and Takuma Yasuda
Kyushu Univ., Japan

MoP-064
Additive Effect of Polypentafluorostyrene for High-Performance Non-Fullerene Organic Solar Cells

Jiyeon Oh and Changduk Yang
UNIST, Korea

MoP-065
Effective Carrier Lifetime of Carbon Nanotubes Incorporated Organic Cells

SeGi Yu¹ and SoYeon Jeon²
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MoP-066
The Application of Aqueous Rubrene:C₆₀ Nanoparticles in Organic Solar Cells

Fu-Ling Wang, Meng-Si Niu, Lin Feng, and Xiao-Tao Hao
Shandong Univ., China

MoP-067

Molecular Orientation Controlled Planar Heterojunction Organic Photovoltaics

Hansol Lee and Kilwon Cho

POSTECH, Korea

MoP-068

High-Performance Fullerene and Non-Fullerene Solar Cells through Simple D1-A-D2-A Random Copolymers

Mingyu Jeong¹, Shanshan Chen¹, Sang Myeon Lee¹, Zhiwei Wang², Yankang Yang³, Zhi-Guo Zhang³, Chunfeng Zhang², Min Xiao², Yongfang Li³, and Changduk Yang¹

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MoP-069

Inductive and Resonance Effects of TPTI-Based Copolymers on Photovoltaic Properties

Sungwoo Jung and Changduk Yang

UNIST, Korea

MoP-070

Utilization of C₆₀-Containing Polymeric Additive toward Film Thickness Independent Solar Cell Performance

Byongkyu Lee and Changduk Yang

UNIST, Korea

MoP-071

Optimization of The Active Layer Thickness of Organic Solar Cells by Adding Insulating Polymer

Tong Wang, Peng-Qing Bi, and Xiaotao Hao

Shandong Univ., China

MoP-072

High-Performance Non-Fullerene Organic Photovoltaic Modules based on Small Molecules Acceptor

Sung-yoon Joe, Daniel Kurniawan, Ji-Yeong Kim, Sungmin Park, and Hae Jung Son

KIST, Korea

MoP-073

Efficient Ternary Polymer Solarcells Using Dissimilar Polymers with Similar Highest Occupied Molecular Orbital Energy Levels

Lee Jihoon¹, Vellaipillai Tamilavan¹, Ki Hong Park¹, Daehee Han², Yun Kyung Jung³, Changduk Yang², Youngeup Jin¹, Jae-Won Jang¹, Jung Hyun Jeong¹, and Sung Heum Park¹

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MoP-074
High-Performance PffBT4T-2OD:PC₇₀BM Organic Solar Cells Fabricated by A Sequential Printing Method

Seok Kim, Soonil Hong, Jinho Lee, Soyeong Jeong, Byoungwook Park, Hongkyu Kang, and Kwanghee Lee
GIST, Korea

MoP-075
Side Chain Effect of Non-Fullerene Acceptors Involving Alkoxy Group for High Efficient Organic Photovoltaic Cells

Seongyu Lee¹, Hyungcheol Back¹, Jong-Hoon Lee¹, Jinho Lee¹, and Kwanghee Lee²
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MoP-076
Highly Efficient Organic Photovoltaics Using Random Copolymer and Non-Fullerene Acceptor

Ji-yeong Kim, Gyoung-sik Kim, Injeong Shin, Sung-yoon Joe, Sungmin Park, and Son Hae Jung
KIST, Korea

MoP-077
Photovoltaics of Bulk Heterojunction Organic Film of Regio-Regular Poly3-Hexylthiophene2,5-Diyl (P3HT) and Small Gap Fullerene-Ethyl Nipecotate C₆₀

Nazia Chawdhury¹, Parameswar Iyer², Ashish Singh², Nasir Uddin¹, and Muhibur Anik¹
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MoP-078
Synthesis and Characterization of Small Molecular PDI-Based Non-Fullerene Acceptors for Organic Solar Cells

Seung Hun Eom¹, Un-Hak Lee¹, Jaemin Lee¹, In Hwan Jung², Sung Cheol Yoon¹, and Changjin Lee¹
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MoP-079
Structure-to-Photovoltaic Property Relationships in New Small Molecule Acceptors

Bongsoo Kim, Shinyoung Choi, Suhee Ro, and Yukyung Shin
Ewha Womans Univ., Korea

MoP-080
Synthesis and Photovoltaic Properties of Low-Bandgap Conjugated Polymers with Terthiophene-Vinylene Branches

Shih-Hao Wang
Nat'l Taiwan Univ., Taiwan

MoP-081

The Improved Performance of All-Polymer Photovoltaics Using Non-Halogenated Solvents and Additives

Saeah Kim, Yukyung Shin, Myung Hwa Kim, and Bongsoo Kim
Ewha Womans Univ., Korea

MoP-082

Etchant-Free Photolithographic Patterning of Silver Nanowires Using UV Curable Resins and Ultra-Sonication

Seonwoo Lee, Kyunsik An, and Changhee Lee
Seoul Nat'l Univ., Korea

MoP-083

High Efficiency Organic Solar Cells based on A Wide Bandgap Polymer Donor and A Narrow Bandgap Nonfullerene Acceptor

Febrian Tri Adhi Wibowo, Wisnu Tanyo Hadmojo, Septy Sinaga, In Hwan Jung, and Sung-Yeon Jang
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MoP-084

Novel Alkyl-Free Unsymmetrical-donor-Acceptor Oligomers for Organic Photovoltaics

Dmitry Balakirev, Yuriy Luponosov, Alexander Solodukhin, and Sergei Ponomarenko
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MoP-085

A Facile Method to Fine-Tune Polymer Aggregation Properties and Blend Morphology of Polymer Solar Cells Using Donor Polymers with Randomly Distributed Alkyl Chains

Huatong Yao¹, Yunke Li¹, Huawei Hu¹, Harald Ade², and He Yan¹
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MoP-086

Physical Pressing Process for High Efficiency Polymer Solar Cells

Sooyong Lee, Jaehoon Jeong, Jooyeok Seo, Hyemi Han, Myeonghun Song, Dohan Kim, Yejin Moon, Hwajeong Kim, and Youngkyoo Kim
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MoP-087

Novel D- π -A Structured Organic Sensitizers with Fluorenyl Substituted Electron Donor Moieties for High performance Dye-Sensitized Solar Cells

Jungmin Ji and Hwan Kyu Kim
Korea Univ., Korea

MoP-088
Diphenyl-Pyridylamine-Substituted Porphyrins as Hole-Transporting Materials for Perovskite Solar Cells

Un-Hak Lee¹, Randi Azmi², Septy Sinaga², Sunbin Hwang³, Seung Hun Eom⁴, Tae-Wook Kim³, Sung Cheol Yoon⁴, Sung-Yeon Jang², and In Hwan Jung²

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MoP-089
Improving The Efficiency and Stability of Inverted Flexible Perovskite Solar Cells Employing A Novel NDI-Based Polymeric Electron Transport Layer

Kyongwon Choi¹, Myeong-Jong Kim², Hong Il Kim¹, Chaesung Lim¹, Yun-Hi Kim², Soon-Ki Kwon², and Taiho Park¹

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MoP-090
Performance Enhancement of Lead-Free Tin-Based Perovskite Solar Cells with Reductive Additive

Feidan Gu, Senyun Ye, Haixia Rao, Ziran Zhao, Zhiwei Liu, Zuqiang Bian, and Chunhui Huang
Peking Univ., China

MoP-091
Effective Annealing Method for Improving The Performance of Perovskite Solar Cells

Insoo Shin¹, Yanliang Liu¹, In-wook Hwang², Jihoon Lee¹, Dal Yong Lee¹, Jae-Won Jang¹, Yun Kyung Jung³, Jung Hyun Jeong¹, Kwang Ho Kim⁴, and Sung Heum Park¹

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MoP-092
Merged Annealing Method for Highly Efficient Perovskite Solar Cells

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MoP-093
Exploring Grain Growth of Lead-Halide Perovskite for Solar Cell Applications

Ma Yongchao¹, Yanliang Liu¹, Insoo Shin¹, In-wook Hwang², Yun Kyung Jung³, Jung Hyun Jeong¹, Kwang Ho Kim⁴, and Sung Heum Park¹

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MoP-094
Performance and Stability Enhancement of Tin Iodides-Bromides Halide Perovskite Solar Cells with Reducing Additives

William Jo, Bich Phuong Nguyen, Hye Ri Jung, and Juran Kim

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MoP-095

Tuxene-Based Perovskite Solar Cells

Jong Hun Hong¹, Sinil Choi¹, Gyeongju Kim¹, Prem Prabhakaran¹, Jae Woong Jung², Namchul Cho³, and Kwang-Sup Lee¹

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MoP-096

Thin Hole Extraction Layer for Single and Tandem Perovskite Solar Cells

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MoP-097

Molecular Tailor-Making Low-Cost Triarylamine Derivatives Based on Different Center Moieties with High T_g via One-Step Procedure for Efficient Perovskite Solar Cells

Chunyuan Lu, In Taek Choi, and Hwan Kyu Kim

Korea Univ., Korea

MoP-098

Robust, Stable, Thermal-Resistance Quantum Dots by Encapsulating via Surface Modification with Cross-Linkable Polymeric Ligands

Jae Wan Ko¹, Byeong Guk Jeong², Jun Hyuk Chang², Wan Ki Bae², and Joon Bang¹

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MoP-099

Effect of Solvents on The Performance of InP-Based Quantum Dot Light Emitting Diodes

Jaeyoul Kim, Yeonkyung Lee, Heeyoung Jung, Wan Ki Bae, and Changhee Lee

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MoP-100

Improved Performance of Inkjet-Printed Quantum Dot Light Emitting Diodes through Precisely Confined Zinc Oxide in Black Photoresist Bank

Yeseul Park¹, Jongseok Han¹, Donghyun Koh¹, Jiwon Lee², Junyoung Kim², Jongsoo Lee³, and Changhee Lee¹

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MoP-101

Highly Enhanced Colloidal Quantum-Dot Solar Cells via Solution-Phase Ligand Exchanged PbS Quantum-Dot

Junho Kim and Jung-Yong Lee

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MoP-102
The Study of Energy Transfer between CdSe Nanoplatelets Assembled into Helical Superstructures

Whi Dong Kim and Doh C. Lee

KAIST, Korea

MoP-103
Electrochemically Tunable Properties of 1D Photonic Crystal Film Using Chiral Ionic Liquid

In Hye Lee and Dong Myung Shin

Hongik Univ., Korea

MoP-104
Synthesis and Properties of Aggregation Enhanced Fluorescence Functions with Thiophene Derivatives

Kwang-Sup Lee, Hoong-seob Shin, Prem Prabhakaran, JongHun Hong, Jaeseo Seok, and EunJi Kang

Hannam Univ., Korea

MoP-105
Charge and Triplet Exciton Dynamics in Amorphous Molecular Semiconductors: Beyond Semi-Classical Marcus Theory

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¹TU/e, The Netherlands, ²KIT, Germany

MoP-106
Utilizing Deuteration to Stabilize Triplet Exciton of Room Temperature Organic Afterglow Materials

Ge Zhan, Yang Liu, Peiyu Fang, Chunhui Huang, Zuqiang Bian, and Zhiwei Liu

Peking Univ., China

MoP-107
Study on Thermoelectric Properties of Organic-Inorganic Hybrid Materials with Hydrophilic Cross Linking Agents as Additives

Namhun Kim and Sung Hyun Kim

Wonkwang Univ., Korea

MoP-108
Fluoroalkyl Side-Chain Ratio Dependent Charge-Transfer Properties of DPP-BTZ Copolymers

Do Hyeon Jeong¹, Seok-Heon Jung², Jin-Kyun Lee², and Jiyoul Lee¹

¹Pukyong Nat'l Univ., Korea, ²Inha Univ., Korea

MoP-109

Surface Characteristics of One-Step Spin-Coated Methylammonium Lead Iodide Perovskite Films by Solvent Engineering

So Hyun Park, Hyunchan Lee, and Hyunbok Lee
Kangwon Nat'l Univ., Korea

MoP-110

Thermoelectric Properties of PEDOT:PSS–MXene Composite Thin Film

Nakkyu Shin and Jeonghun Kwak
Univ. of Seoul, Korea

MoP-111

Electrochemical Behavior of ZnO Based Nanocomposite Electrode Material for Supercapacitor

Mahendra Singh Yadav, Narendra Singh, and Santosh M. Bobade
Jaypee Univ. of Engineering and Tech., India

MoP-112

QD-PVK Hybrid Light Emitting Electrochemical Cells with Effective Hole Injection

Jehye Yang, Seunghan Kim, Hyewon Park, and Moon Sung Kang
Soongsil Univ., Korea

MoP-113

Multi-Metal Interconnection Engineering Using Patterned iCVD Polymer and Its Application to Organic Ics

Hongkeun Park¹, Hocheon Yoo², Seunghyun Yoo², Jae-Joon Kim², and Sung Gap Im¹
¹KAIST, Korea, ²POSTECH, Korea

MoP-114

Nanothermite of Al Nanoparticles and Three-Dimensionally Ordered Macroporous CuO

Do Joong Shin and Doh.C Lee
KAIST, Korea

MoP-115

Effect of Counterions on Interfacial Dipoles in Nonconjugated Polyelectrolytes

Juwan Kang¹, Myung Joo Cha¹, Yu jung Park¹, Yeon jin Lee², Junghwa Seo¹, and Bright Walker James³
¹Dong-A Univ., Korea, ²Yonsei Univ., Korea, ³UNIST, Korea

MoP-116

Paper- and Inkjet Printing-Based Digital Microfluidics Using Carbon Nanotube Ink

Yunpyo Kim, Veasna Soum, Mary Chuong, Sooyong Park, Ohsun Kwon, and Kwanwoo Shin
Sogang Univ., Korea

MoP-117**Electronic Structures at Various Substrates / Perovskite Interface**

Myung Joo Cha¹, Jung Hwa Seo¹, and Bright Walker²

¹Dong-A Univ., Korea, ²UNIST, Korea

MoP-118**A Method to Form Anodic Aluminum Oxide Dielectrics on Separate Gate Patterns for The Fabrication of Ultra-Flexible, Low-Voltage Organic Circuits**

Yongwoo Lee, Jimin Kwon, Youngmin Jo, and Sungjune Jung

POSTECH, Korea

MoP-119**The Polyoxometalate/TiO₂ Compositefilm as The Counter Electrode of The Conjugated Polymer Electrochromic Device**

Shiming Wang¹ and Eunkyong Kim²

¹Liaoning Univ., China, ²Yonsei Univ., Korea

MoP-120**Solution-Processed Electron Transport Materials with Cross-Linkable System for Organic Light-Emitting Diodes (OLEDs)**

Seong-Jae Yun and Sungkoo Lee

KITECH, Korea

MoP-121**Effects of Non-Radiative Losses at Charge Transfer States and Energetic Disorder on the Open-Circuit Voltage in Non-Fullerene Organic Solar Cells**

Yuan Zhang

Beihang Univ., China

MoP-122**Strain/Pressure Visualization of Stretchable Sensor based on Block Copolymer Structural Color**

Taehyun Park, Hongkyu Eoh, Hansol Kang, and Cheolmin Park

Yonsei Univ., Korea

MoP-123**Organic Light Emitting Board for Dynamic Physical Visualization**

Cheolmin Park, Eui Hyuk Kim, and Seokyeong Lee

Yonsei Univ., Korea

MoP-124

Modulated Photocurrent Technique for Characterization of Charge Transport Properties in Working

Hiroki Nojima, Takashi Kobayashi, Takashi Nagase, and Hiroyoshi Naito

Osaka Prefecture Univ., Japan

MoP-125

Charge Carriers Outnumber Triplets Under Steady-State TQ1:PC71BM Solar Cell Operation

Safakath Karuthedath¹, Armantas Melianas², Julien Gorenflot¹, Zhipeng Kan¹, Martijn Kemerink², and Frédéric Laquai¹

¹KAUST, Saudi Arabia, ²Linköping Univ., Sweden

MoP-126

All-Inorganic CsPbI₃ Perovskite Phase-Stabilized by Poly(Ethylene Oxide) for Red-Light-Emitting Diodes

Beomjin Jeong, Hyowon Han, and Cheolmin Park

Yonsei Univ., Korea

MoP-127

Micropatterning Organic-Inorganic Hybrid Lead Halide Perovskite Thin Films by Solvent-Assisted Gel Printing Method

Hyowon Han, Beomjin Jeong, and Cheolmin Park

Yonsei Univ., Korea

MoP-128

Impact of IDT-Based Acceptor Structures on Photophysics and Performance of Polymer Solar Cells

Maha Alamoudi, Jafar Khan, Raja Shahid Ashraf, Iain McCulloch, and Frederic Laquai

KAUST, Saudi Arabia

MoP-129

Impact of Nonfullerene Acceptor Core Structure on The Photophysics and Efficiency of Polymer Solar Cells

Maha Alamoudi, Jafar Khan, Yuliar Firdaus, Kai Wang, Denis Andrienko, Pierre Beaujuge, and Frédéric Laquai

KAUST, Saudi Arabia

MoP-130

Thermal Annealing Reduces Geminate Recombination in TQ1:N2200 All-Polymer Solar Cells

Safakath Karuthedath¹, Armantas Melianas², Zhipeng Kan¹, Vytenis Pranculis³, Markus Wohlfahrt¹, Jafar Khan¹, Julien Gorenflot¹, Yuxin Xia¹, Olle Inganäs², Vidmantas Gulbinas³, Martijn Kemerink², and Frédéric Laquai¹

¹KAUST, Saudi Arabia, ²Linköping Univ., Sweden, ³Center for Physical Sciences and Tech., Lithuania

MoP-131
Abnormal Hysteric Behavior in Planar Perovskite Solar Cell upon Inserting PCBM Interlayer

Nam-Gyu Park, An-Na Cho, Ja-Young Seo, and In-Hyuk Jang

SungKyunKwan Univ., Korea

MoP-132
Investigate Thermoelectric and Transport Properties of $\text{FeVSB}_{1-x}\text{Sn}_x$ Half-Heusler Matrices Synthesized by Controlled Mechanical Alloying Process

Rahidul Hasan and Soon-Chul Ur

Korea Nat'l Univ. of Transportation, Korea

MoP-133
Printable Flexible Rechargeable Battery for Constructing Wireless Energy Harvesting Label

Gyojin Cho, SungGeun Lee, Maskey Bijendra Bishow, Prince Wesley, and Grishmi Raibhandari

Sunchon Univ, Korea

MoP-134
In Situ Studies on The Film Formation Mechanism of Conjugated Polymer Thin Films via Blade-Coating Process

Yeon-ju Kim¹, Sehyun Lee², Muhammad Niazi³, Minju Kang², Aram Amassian³, and Dong-Yu Kim¹

¹GIST, Korea, ²KIST, Korea, ³KAUST, Saudi Arabia

MoP-135
Reusable Printed Block Copolymer Structural Color Board

Hongkyu Eoh, Han Sol Kang, Tae Hyun Park, and Cheolmin Park

Yonsei Univ., Korea

MoP-136
Highly Transparent Organic Field Effect Transistor with Polymer-Metal Hybrid Transparent Electrodes and Polymer Blending System

Minha Oh, Byoungwook Park, Jonghoon Lee, Soyeong Jeong, Hyunmin Park, Heejoo Kim, and Kwanghee Lee

GIST, Korea

[TuA1] OLED I
Date / Time July 3 (Tue.), 2018 / 11:00-12:35

Place Room A (#101+102)

Session Chair Dong Hoon Choi (Korea Univ., Korea)
Peter Ho (Nat'l Univ. of Singapore, Singapore)

TuA1-I1 (Invited)

11:00-11:25

Fully Printing Film Organic Light-Emitting Diode Displays

Junbiao Peng, Hua Zheng, Luhua Lan, Jianhua Zou, Lei Wang, Jian Wang, Fei Huang, Hongbin Wu, and Yong Cao
South China Univ. of Tech., China

TuA1-O2

11:25-11:40

Through-Space Charge Transfer Polymers for Solution-Processed PLEDs

Lixiang Wang
Changchun Inst. of Applied Chemistry, Chinese Academy of Sciences, China

TuA1-I3 (Invited)

11:40-12:05

Alternating Current Electroluminescence for Stimuli-Interactive Sensing Display

Cheolmin Park
Yonsei Univ., Korea

TuA1-O4

12:05-12:20

Systematic Design of Jettable Inks for Printed O/PLED

Yanchun Han
Changchun Inst. of Applied Chemistry Chinese Academy of Sciences, China

TuA1-O5

12:20-12:35

Thermal Transfer Technology as a Novel Baking Process for Solution Processed OLEDs

Dai Geon Yoon, Kyung Tae Kang, and Kwan Hyun Cho
KITECH, Korea

[TuB1] Optoelectronic Properties I

Date / Time	July 3 (Tue.), 2018 / 11:00-12:30
Place	Room B (#106)
Session Chair	Ifor Samuel (Univ. of St Andrews, UK) Yohei Yamamoto (Univ. Tsukuba, Japan) \Rightarrow

TuB1-I1 (Invited) 11:00-11:25

Tuning Conjugated Polymer Optoelectronic Properties via Molecular Conformation

Donal D.C. Bradley
Univ. of Oxford, UK

TuB1-I2 (Invited) 11:25-11:50

Molecular and Electronic Structure of Advanced π -Conjugated Materials: Insight From The Vibrational Spectra

Chiara Castiglioni
Politecnico di Milano, Italy

TuB1-I3 (Invited) 11:50-12:15

Femtosecond Spin Dynamics in Molecular Magnets

J. Olof Johansson
Univ. of Edinburgh, UK

TuB1-O4 12:15-12:30

Filter-Free Narrowband Organic Photodetectors with Color Selective Responsivity

Surendra Anantharaman, Karen Strassel, Mohammed Makha, Roland Hany, Frank Nuesch, and Jakob Heier
Empa, Switzerland

[TuC1] Graphene II

Date / Time	July 3 (Tue.), 2018 / 11:00-12:05
Place	Room C (#107)
Session Chair	Robert Shekhter (Univ. of Gothenburg, Sweden) Jong-Beom Baek (UNIST, Korea)

TuC1-I1 (Invited)

11:00-11:25

"Beyond" Graphene-Enabled Nano/Bio Hybrids for Programmable Chemical Detection

A. T. Charlie Johnson
Univ. of Pennsylvania

TuC1-I2 (Invited)

11:25-11:50

Graphene Oxide Liquid Crystals and Relevant Functional Nanostructures

Sang Ouk Kim
KAIST, Korea

TuC1-O3

11:50-12:05

The Investigation and Applications of Multidimensional and Multifunctional Graphene Based Materials

Yong Min
Guangdong Univ. of Tech., China

[TuD1] 1D Materials

Date / Time	July 3 (Tue.), 2018 / 11:00-12:10
Place	Room D (#109)
Session Chair	Jochen Wosnitza (Helmholz-Zentrum Dresden-Rossendorf, Germany)

TuD1-I1 (Invited) 11:00-11:25

Angular Magnetoresistance of Quasi-One-Dimensional Organic Conductors at Very High Magnetic Field and Rapid Oscillations

Woun Kang

Ewha Womans Univ., Korea

TuD1-O2 11:25-11:40

Enhancement of Giant Magnetoresistance by Controlling π -d Interaction in Phthalocyanine-Molecular Conductor

Noriaki Hanasaki¹, Hiroshi Murakawa¹, Mitsuo Ikeda¹, Ryuta Ishii¹, Masaki Matsuda², Hiroyuki Tajima³, and Tamotsu Inabe⁴

¹Osaka Univ., Japan, ²Kumamoto Univ., Japan, ³Hyogo Univ., Japan, ⁴Hokkaido Univ., Japan

TuD1-O3 11:40-11:55

AFMR and NMR Study of Antiferromagnetic State of (TMTTF)₂Br

Mizue Asada and Toshikazu Nakamura

Inst. for Molecular Science, Japan

TuD1-O4 11:55-12:10

On The Large Orbital Diamagnetism in The Donor-Acceptor Type Quasi One-Dimensional Conductor, HMTSF-TCNQ

Ko-ichi Hiraki¹, Ryo Sugiura¹, Masashi Satoh¹, Ayaka Hasegawa¹, Toshihiro Takahashi¹, Toshikazu Nakamura², Keizo Murata³, and Reizo Kato⁴

¹Gakushuin Univ., Japan, ²Inst. for Molecular Science, Japan, ³Osaka City Univ., Japan, ⁴RIKEN, Japan

[TuE1] Biomaterials and Biomimetic Structure

Date / Time	July 3 (Tue.), 2018 / 11:00-12:15
Place	Room E (#110)
Session Chair	Se Heang Oh (Dankook Univ., Korea)

TuE1-I1 (Invited)

11:00-11:25

Single Molecule Detection of Roadblocks on Refolding DNA Hairpins

M. Rieu, J. Ouellet, FX. Lyonnet du Moutier, JF. Allemand, D. Bensimon, and V. Croquette
LPS-ENS-CNRS, France

TuE1-I2 (Invited)

11:25-11:50

Multichannel on-Scalp MEG based on High-Tc SQUID Magnetometers

Dag Winkler¹, Justin Schneiderman², Alexei Kalaboukhov¹, Maxim Chukharkin¹, Minshu Xie¹, Silvia Ruffieux¹, and Christoph Pfeiffer¹

¹*Chalmers Univ. of Tech., Sweden*, ²*Gothenburg Univ., Sweden*

TuE1-I3 (Invited)

11:50-12:15

Engineering around Heavy Atom Effect: Toward PDT and Theranostic

Bastien Mettra, Margaux Galland, Olivier Maury, Tanguy Le Bahers, Cyrille Monnereau, Chantal Andraud

Lyon Univ., ENS-Lyon, France

[TuF1] Materials for OPV III

Date / Time July 3 (Tue.), 2018 / 11:00-12:05

Place Room F (#104+105)

Session Chair Hae Jung Son (KIST, Korea)

TuF1-I1 (Invited)

11:00-11:25

Temperature Dependent Aggregation Enables Efficient Fullerene and Non-Fullerene Organic Solar Cells - A New Path toward Next Generation Organic Solar Cells

He Yan

Hong Kong Univ. of Science and Tech., Hong Kong, China

TuF1-I2 (Invited)

11:25-11:50

Rational Design of Conducting Polymers: Origin of Charge Hopping, Green Processing, and Solar Cell Application with High Stability and High Efficiency

Taiho Park

POSTECH, Korea

TuF1-O3

11:50-12:05

Molecular Design for High-Performance All-Polymer Solar Cells

Ergang Wang

Chalmers Univ. of Tech., Sweden

[TuA2] OLED II

Date / Time	July 3 (Tue.), 2018 / 13:30-15:10
Place	Room A (#101+102)
Session Chair	Yun Chi (Nat'l Tsing Hua Univ., Taiwan) Junbiao Peng (South China Univ. of Tech, China)

TuA2-I1 (Invited)

13:30-13:55

The Photophysics of TADF OLED Materials

Andrew Monkman
Durham Univ., UK

TuA2-O2

13:55-14:10

TADF Ground State Coupling Dilemma

Paloma Lays and Andrew Monkman
Durham Univ., UK

TuA2-O3

14:10-14:25

Maximising The Reverse Intersystem Crossing Rate in Thermally Activated Delayed Fluorescence Emitters: A Matter of Spin-Vibronic Coupling

Julien Eng and Thomas J. Penfold
Newcastle Univ., UK

TuA2-O4

14:25-14:40

Engineering The Molecular Structure of TADF Emitters for Efficient Reverse Intersystem Crossing

Rongjuan Huang¹, Roberto S. Nobuyasu¹, Illia Serdiuk², Johnathan S. Ward¹, João Avó³, Jamie Gibson⁴, Thomas Penfold⁴, Martin R. Bryce¹, and Fernando B. Dias¹
¹Durham Univ., UK, ²Univ. of Gdańsk, Poland, ³Inst. Superior Técnico, Portugal, ⁴Newcastle Univ., UK

TuA2-O5

14:40-14:55

OLEDs with External Quantum Efficiency up to 20% based on Highly Efficient Thermally Activated Delayed Fluorescence from Exciplex Blends

Marian Chapran¹, Piotr Pander², Marharyta Vasylieva³, Gabriela Wiosna-Salyga¹, Jacek Ulanski¹, Fernando B. Dias², and Przemyslaw Data²
¹Lodz Univ. of Tech., Poland, ²Durham Univ., UK, ³Silesian Univ. of Tech., Poland

TuA2-O6

14:55-15:10

Kinetic Monte Carlo Simulation Studies of The Efficiency and Roll-Off of 3rd and 3.5th Generation TADF-Based OLEDs

Reinder Coehoorn¹, Stefano Gottardi², Peter Bobbert¹, Siebe van Mensfoort², and Harm van Eersel²
¹Eindhoven Univ. of Tech., The Netherlands, ²Simbeyond B.V., The Netherlands

[TuB2] OPV III

Date / Time July 3 (Tue.), 2018 / 13:30-15:20

Place Room B (#106)

Session Chair Itaru Osaka (Hiroshima Univ., Japan)
Thuc-Quyen Nguyen (UCSB, USA)

TuB2-I1 (Invited)

13:30-13:55

Emerging Guidelines for The Design of Organic Semiconductors

Guillermo Bazan

Univ. of California Santa Barbara, USA

TuB2-O2

13:55-14:10

Photophysical Processes in Poly(3-Hexylthiophene):O-IDTBR Blends Unraveled by Ultrafast Spectroscopy

Jafar Iqbal Khan, Raja Shahid Ashraf, Maha Alamoudi, Iain McCulloch, and Frederic Laquai
KAUST, Saudi Arabia

TuB2-O3

14:10-14:25

Efficient Ternary Blend Solar Cells With A Very Small Amount of Third Component

Masahiko Saito and Itaru Osaka

Hiroshima Univ., Japan

TuB2-I4 (Invited)

14:25-14:50

Optoelectronic Processes at Organic Heterojunction

Nir Tessler

Technion, Israel

TuB2-O5

14:50-15:05

Fabrication of Highly Efficient Polymer Solar Cell Modules with A New Simplified Series Connection

Eunhag Lee and Kwanghee Lee

GIST, Korea

TuB2-O6

15:05-15:20

Fullerene Oxidation – A Key Degradation Pathway of Organic Photovoltaic Cells

Harrison Ka Hin Lee¹, Andrew Telford², Jason Röhr², Mark Wyatt¹, Beth Rice², Jiaying Wu², James Durrant², Wing Chung Tsoi¹, Jenny Nelson², and Zhe Li¹

¹Swansea Univ., UK, ²Imperial College London, UK

[TuC2] 2D Materials II

Date / Time	July 3 (Tue.), 2018 / 13:30-15:35
Place	Room C (#107)
Session Chair	Mats Jonson (Univ. of Gothenburg, Sweden) Sang Ouk Kim (KAIST, Korea)

TuC2-I1 (Invited) 13:30-13:55

Dimensional Organic Structures for Energy Conversion and Storage

Javeed Mahmood and Jong-Beom Baek
UNIST, Korea

TuC2-I2 (Invited) 13:55-14:20

Dirac Semimetal Phase of Two-Dimensional Black Phosphorus

Hyoung Joon Choi
Yonsei Univ., Korea

TuC2-O3 14:20-14:35

Highly A Symmetric Photocurrent in Few-Layer WSe₂ Transistor Achieved by Site-Selective Dual Doping

Seungpil Ko¹, Junhong Na², Young-Sun Moon¹, Ute Zschieschang², Rachana Acharya², Hagen Klauk², Gyu-Tae Kim¹, Marko Burghard², and Klaus Kern²
¹Korea Univ., Korea, ²Max-Planck-Inst. for Solid-State-Research, Germany

TuC2-O4 14:35-14:50

Photoemission Surface Mapping of Single- and Poly-Crystalline Transition-Metal Dichalcogenides Monolayers

Soohyung Park¹, Thorsten Schultz¹, Patrick Amsalem¹, Ali Han², Areej Aljarb², Xiaomin Xu¹, Paul Beyer¹, Andreas Opitz¹, Lain-Jong Li², and Norbert Koch¹
¹Humbolt Univ. of Berlin, Germany, ²KAUST, Saudi Arabia

TuC2-O5 14:50-15:05

Highly Efficient Visible-driven Photocatalytic Water Splitting of CdTe QDs anchored MoS₂ Nanosheets

S. V. Prabhakar Vattikuti
Yeungnam Univ., Korea

TuC2-O6 15:05-15:20

In-Plane Anisotropy of Upper Critical Field in Layered Transition Metal Dichalcogenide NbSe₂

Syuma Yasuzuka¹, Shinya Uji², Shiori Sugiura², Taichi Terashima², Yoshio Nogami³, Koichi Ichimura⁴, and Satoshi Tanda⁴
¹Hiroshima Inst. of Tech., Japan, ²NIMS, Japan, ³Okayama Univ., Japan, ⁴Hokkaido Univ., Japan

TuC2-O7 15:20-15:35

Epitaxial, Wafer-Scale, Two-Dimensional Superconductor Encapsulated by Graphene

Samuel (Alejandro) Lara-Avila¹, Kyung Ho Kim¹, Hans He¹, Domenico Montemurro¹, Olof Bäcke¹, Mats Halvarsson¹, Thomas Seyller², Alexei Zakharov³, Rositsa Yakimova⁴, and Sergey Kubatkin¹
¹Chalmers Univ. of Tech., Sweden, ²Chemnitz Technical Univ., Germany, ³Lund Univ., Sweden, ⁴Linköping Univ., Sweden

[TuD2] Spin Liquids

Date / Time	July 3 (Tue.), 2018 / 13:30-15:30
Place	Room D (#109)
Session Chair	Toshihiro Takahashi (Gakushuin Univ., Japan)

TuD2-I1 (Invited) 13:30-13:55

Genuine Mott Transition in Spin Liquids: Quantum Fluctuations, Superconductivity and Fermi Liquid

Andrej Pustogow¹, Vladimir Dobrosavljevic², Simone Fratini³, and Martin Dressel¹
¹Stuttgart Univ., Germany, ²Florida State Univ., USA, ³Univ. Grenoble Alpes, France

TuD2-I2 (Invited) 13:55-14:20

Role of Frustration and Disorder in The Competition between Antiferromagnetism and Quantum Spin Liquid of Organic Charge-Transfer Mott Insulators

Silvia Tomic
 Univ. of Zagreb, Croatia

TuD2-I3 (Invited) 14:20-14:45

μ SR of Layered Molecular Conductors: From Vortex Phases in Superconductors to Quantum Critical Phases in Spin Liquids

Francis Pratt
 STFC Rutherford Appleton Lab., UK

TuD2-O4 14:45-15:00

Resonant Inelastic X-ray Scattering Probes The Electron-Phonon Coupling in The Spin-Liquid Kappa-(BEDT-TTF)₂Cu₂(CN)₃

Vita Ilakovac^{1,2}, Stéphane Carniato^{1,2}, Pascale Foury-Leylekian³, Silvia Tomic⁴, Jean-Paul Pouget³, Predrag Lazić⁵, Yves Joly⁶, Kazuya Miyagawa⁷, Kazuya Kanoda⁷, and Alessandro Nicolaou⁸
¹Sorbonne Univ., France, ²Univ. Pierre et Marie Curie, France, ³Univ. Paris Saclay, France, ⁴Inst. of Physics, Croatia, ⁵Inst. Rudjer Boskovic, Croatia, ⁶Inst. Néel, France, ⁷Univ. of Tokyo, Japan, ⁸Synchrotron SOLEIL, France

TuD2-O5 15:00-15:15

Kappa-(BEDT-TTF)₂Cu₂(CN)₃ Spin Liquid : Beyond The Average Structure

Pascale Foury-Leylekian^{1,2}, Vita Ilakovac^{3,4}, Victor Baledent^{1,2}, Pierre Fertey⁵, Alla Arakcheeva⁶, Ognjen Milat⁷, Kazushi Kanoda⁸, Enric Canadell⁹, Silvia Tomic⁷, and Jean-Paul Pouget^{1,2}
¹Univ. Paris Sud, France, ²Univ. Paris Saclay, France, ³Univ. UPMC, France, ⁴Univ. de Cergy Pontoise, France, ⁵Synchrotron Soleil, France, ⁶EPFL, Switzerland, ⁷Inst. za Fiziku, Croatia, ⁸Univ. of Tokyo, Japan, ⁹Inst. de Ciència de Materials de Barcelona, Spain

TuD2-O6 15:15-15:30

Spin Liquids and Superconductivity based on BEDT-TTF

Mitsuhiro Maesato, Shinya Tomeno, Yojiro Kimura, Yukihiko Yoshida, Gunzi Saito, and Hiroshi Kitagawa
 Kyoto Univ., Japan

[TuE2] Conductive Biomaterials

Date / Time	July 3 (Tue.), 2018 / 13:30-15:00
Place	Room E (#110)
Session Chair	Jin Ho Lee (Hannam Univ., Korea)

TuE2-I1 (Invited)

13:30-13:55

Semiconductor Nanowires for Biology Applications

Christelle Prinz
Lund Univ., Sweden

TuE2-I2 (Invited)

13:55-14:20

Understanding The Signalling Pathways in Light Evoked Responses from Neuronal Systems upon Photoexcitation of Semiconducting Polymer Substrates

K.S Narayan, C.S Deepak, Sumukh Purohit, and Nisha Rajendran
Jawaharlal Nehru Centre for Advanced Scientific Research, India

TuE2-I3 (Invited)

14:20-14:45

Stimulating Living Cells Using Organic Conducting Polymers –A New Line of Communication

Gordon Wallace
Univ. of Wollongong, Australia

TuE2-O4

14:45-15:00

Carbogels: Carbonized Conducting Polyaniline/Poly(Vinyl Alcohol) Aerogels Derived from Cryogels

Patrycja Bober¹, Petr Humpolíček², Jiří Pflieger¹, Miroslava Trchová¹, and Jaroslav Stejskal¹
¹*Inst. of Macromolecular Chemistry AS CR, Czech*, ²*Tomas Bata Univ., Czech*

[TuF2] Materials for OPV IV

Date / Time July 3 (Tue.), 2018 / 13:30-15:30

Place Room F (#104+105)

Session Chair Ori Gidron (The Hebrew Univ. of Jerusalem, Israel)
Do Hoon Hwang (Pusan Nat'l Univ., Korea)

TuF2-I1 (Invited)

13:30-13:55

Effects of Spin States on Photovoltaic and Light-Emitting Actions in Organic-Inorganic Hybrid Perovskites

Bin Hu

Univ. of Tennessee, USA

TuF2-O2

13:55-14:10

A New Strategy to Construct Low Bandgap Polymer Acceptor for High Performance All-Polymer Solar Cells

Zhi-Guo Zhang and Yongfang Li

Chinese Academy of Sciences, China

TuF2-I3 (Invited)

14:10-14:35

Rational Molecular and Interface Engineering for High-Performance Non-Fullerene and Hybrid Perovskite Solar Cells

Alex Jen

City Univ. of Hong Kong, Hong Kong, China

TuF2-O4

14:35-14:50

Emerging Material Designs toward Efficient and Stable Polymer Solar Cells

Chunhui Duan

South China Univ. of Tech., China

TuF2-I5 (Invited)

14:50-15:15

High Performance Solution-Processed Perovskite Solar Cells via Device Engineering and Novel Materials

Xiong Gong

The Univ. of Akron, USA

TuF2-O6

15:15-15:30

Chiral Molecular Non-Fullerene Acceptors: Impact of The Enantiopurity on the Photovoltaic Performances

Pierre Josse¹, Ludovic Favereau², Jeanne Crassous², Philippe Blanchard¹, and Clément Cabanetos¹
¹*Univ. of Angers, France*, ²*Univ. of Rennes, France*

[TuA3] OLED III

Date / Time	July 3 (Tue.), 2018 / 15:55-17:50
Place	Room A (#101+102)
Session Chair	Cheolmin Park (Yonsei Univ., Korea)

TuA3-I1 (Invited) 15:55-16:20

Air-Stable Ultrahigh and Ultralow Work-Function Doped Conducting Polymer Systems for Ohmichole and Electron Contacts

Peter Ho, Rui-Qi Png, and Lay-Lay Chua
Nat'l Univ. of Singapore, Singapore

TuA3-O2 16:20-16:35

Influence of The Emission Zone on The Electroluminescence Decay Time and The OLED Efficiency

Markus Regnat, Kurt P. Pernstich, and Beat Ruhstaller
ZHAW, Switzerland

TuA3-O3 16:35-16:50

Using the Suns-Voc Method to Study the Energy Landscape of Organic Light-Emitting Diodes

Axel Fischer, Jinhan Wu, and Sebastian Reineke
TU Dresden, Germany

TuA3-O4 16:50-17:05

Charge Transport and Recombination in Disordered Organic Semiconductor Devices: Mean-Field Modeling and Beyond

Feilong Liu¹, Harm van Eersel², Peter Bobbert¹, and Reinder Coehoorn¹
¹*Eindhoven Univ. of Tech., The Netherlands*, ²*Simbeyond B.V., The Netherlands*

TuA3-O5 17:05-17:20

Characterization of Charge Transfer in OLED by Ac Frequency Response Analysis

Pavel Chulkin, Przemyslaw Data, and Mieczyslaw Lapkowski
Silesian Univ. of Tech., Poland

TuA3-O6 17:20-17:35

Effect of Dipole Orientation on Optical Properties of Top-Emitting Organic Light-Emitting Diodes

Hyunsu Cho, Chul Woong Joo, Byoung-Hwa Kwon, Nam Sung Cho, and Jonghee Lee
ETRI, Korea

TuA3-O7 17:35-17:50

High Magnetic Field Effects in Organic Light Emitting Diodes

Eitan Ehrenfreund, Daniel Nikiforov, Bagrat Khachatryan, Jenya Tilchin, Nir Tessler, and Efrat Lifshitz
Technion-Israel Inst. of Tech., Israel

[TuB3] OPV IV**Date / Time** July 3 (Tue.), 2018 / 15:55-17:50**Place** Room B (#106)**Session Chair** Nir Tessler (Technion, Israel)**TuB3-I1 (Invited)**

15:55-16:20

Understanding Open-Circuit Voltage of Organic Solar Cells

Thuc-Quyen Nguyen

*Univ. of California Santa Barbara, USA***TuB3-O2**

16:20-16:35

Effect of Fluorination on Polymer Properties and Photovoltaic Performances in Nnaphthobisthiadiazole PolymersItaru Osaka¹, Masahiko Saito¹, Tomohiro Fukuhara², Hiroyuki Ichikawa³, Hiroyuki Yoshida³, Hideo Ohkita², Yutaka Ie⁴, and Yoshio Aso⁴¹Hiroshima Univ., Japan, ²Kyoto Univ., Japan, ³Chiba Univ., Japan, ⁴Osaka Univ., Japan**TuB3-O3**

16:35-16:50

Influence of Number and Topological Effect of Fluorine Substituents in Donor-Acceptor (D-A) Type of Polymers for Organic Electronics

Mohammad Afsar Uddin and Han Young Woo

*Korea Univ., Korea***TuB3-O4**

16:50-17:05

Printing of PCDTBT-Based Organic Solar CellsSalima Alem¹, Neil Graddage¹, Jianping Lu¹, Terho Kololuoma², and Ye Tao¹¹Nat'l Research Council Canada, Canada, ²VTT, Finland**TuB3-O5**

17:05-17:20

Achieving Balanced Open Circuit Voltage and Short Circuit Current by Tuning The Interfacial Energetics in Bulk Heterojunction Solar Cells

Wenchao Yang

*Xinyang Normal Univ., China***TuB3-O6**

17:20-17:35

Investigation of Energy Transfer Contribution to Exciton Losses by Means of Time-Resolved Optical and Paramagnetic SpectroscopyAhmed Hesham Balawi¹, Zhipeng Kan¹, Alberto Privitera², Paola Guarracino², Shengjian Liu¹, Lorenzo Franco², Pierre Beaujuge¹, and Frédéric Laquai¹¹KAUST, Saudi Arabia, ²Univ. of Padua, Italy**TuB3-O7**

17:35-17:50

Impact of Material-Solvent Interaction: Cubic-Like Bimolecular Crystal Evolution and A High Efficiency in Halogen-Free Ternary Organic Solar Cells

Tanya Kumari, Sang Myeon Lee, and Changduk Yang

UNIST, Korea

[TuC3] Nanoelectromechanics and Carbon Nanotubes
Date / Time July 3 (Tue.), 2018 / 15:55-17:40

Place Room C (#107)

Session Chair Hyoung Joon Choi (Yonsei Univ., Korea)
A. T. Charlie Johnson (Univ. of Pennsylvania, USA)

TuC3-I1 (Invited)

15:55-16:20

Mechanically Induced Thermal Breakdown in Magnetic Shuttle Structures

 O. A. Ilinskaya¹, S. I. Kulinich¹, I. V. Krive¹, R. I. Shekhter², H. C. Chul³, and Mats Jonson²
¹FTINT, Ukraine ²Univ. of Gothenburg, Germany, ³IBS Daejeon, Korea

TuC3-I2 (Invited)

16:20-16:45

Spin Precession in Spin-Orbit Coupled Weak Links: Coulomb Repulsion and Pauli Quenching

 Robert Shekhter¹, Ora Entin-Wohlman², Mats Jonson¹, and Amnon Aharony²
¹Univ. of Gothenburg, Sweden, ²Ben Gurion Univ., Israel

TuC3-O3

16:45-17:00

Theory Ofthermoelectric Effects of Impurity-Doped Carbon Nanotubes

 Takahiro Yamamoto and Hidetoshi Fukuyama
 Tokyo Univ. of Science, Japan

TuC3-I4 (Invited)

17:00-17:25

Science of Macroscopically Self-Aligned Carbon Nanotubes

 Junichiro Kono
 Rice Univ., USA

TuC3-O5

17:25-17:40

Microstructure Evolution and Self-Assembling of CNT Networks during Mechanical Stretching and Mechanical Properties of Highly Aligned CNT Composites

 Jin Gyu Park, Claire Jolowsky, Rebekah Sweat, Yi-Feng Su, Ayou Hao, and Richard Liang
 Florida State Univ., USA

[TuD3] Order and Disorder

Date / Time	July 3 (Tue.), 2018 / 15:55-17:05
Place	Room D (#109)
Session Chair	Francis Pratt (STFC Rutherford Appleton Lab., UK)

TuD3-I1 (Invited) 15:55-16:20

Evidence for Electronically-Driven Ferroelectricity in the Dimerized Molecular Conductor κ -(BEDT-TTF)₂Hg(SCN)₂Cl

Michael Lang¹, Elena Gati¹, Jonas K. H. Fischer², Peter Lunkenheimer², Hans-Albrecht Krug von Nidda², Steve M. Winter¹, Harald Schubert¹, John A. Schlueter³, Harald O. Jeschke⁴, and Roser Valenti¹

¹Goethe Univ. Frankfurt, Germany, ²Univ. of Augsburg, Germany, ³Nat'l Science Foundation, USA, ⁴Okayama Univ., Japan

TuD3-O2 16:20-16:35

Critical Exponents in The Vicinity of The Metal-Insulator Transition in Quasi-One-Dimensional Organic Conductors, ((S,S)-DM-MeDH-TTP)₂AsF₆

Dong Hyun Jang¹, Yeahan Sur¹, Keizo Murata¹, Sho Miyamoto², Hiroyuki Nishikawa², and Kee Hoon Kim¹

¹Seoul Nat'l Univ., Korea, ²Ibaraki Univ., Japan

TuD3-O3 16:35-16:50

Quantum Disordered State of Magnetic and Electric Dipoles in Hydrogen-Bonded Organic Mott Insulator κ -H₃(Cat-EDT-TTF)₂

Masaaki Shimozawa

The Univ. of Tokyo, Japan

TuD3-O4 16:50-17:05

Poly(3-Hexylthiophene) Andits Grafts: Spectroelectrochemical and Conductometric Investigation of A Novelclass of Copolymers

Mieczyslaw Lapkowski, Karolina Gebka, Kinga Kepska, Agnieszka Stolarczyk, and Tomasz Jarosz
Silesian Univ. of Tech., Poland

[TuE3] Cell and Tissue Engineering
Date / Time July 3 (Tue.), 2018 / 15:55-17:30

Place Room E (#110)

Session Chair Tae-Hyung Kim (Chung-Ang Univ., Korea)
Kang Won Lee (Seoul Nat'l Univ., Korea)

TuE3-I1 (Invited)

15:55-16:20

Multifunctional Scaffold based on Hydrogel-Incorporated Nanofiber

 Won-Gun Koh, Kanghee Cho, and Hye Jin Hong
Yonsei Univ., Korea
TuE3-O2

16:20-16:35

Conjugated Polymer-Based Scaffolds for Neural Stem Cell Culture and Differentiation

 Jorge Morgado^{1,2}, Laura Sordini^{1,2}, Filipa Pires¹, Alexandre Ribeiro¹, Carlos Rodrigues¹, Quirina Ferreira², and Frederico Ferreira¹
¹Univ. of Lisbon, Portugal, ²Inst. de Telecomunicações, Portugal
TuE3-O3

16:35-16:50

Dimensionally Controlled Fluorescent Polymer Nanostructures for Aqueous Phase Sensor Applications

 Jeewoo Lim
Kyung Hee Univ., Korea
TuE3-I4 (Invited)

16:50-17:15

Guided Bone/Bone-to-Tendon Regeneration by Growth Factor-Immobilized Asymmetrically Porous Membranes

 Jin Ho Lee
Hannam Univ., Korea
TuE3-O5

17:15-17:30

Perfluorooctane (PFO) Emulsion-Loaded Hollow Microparticles as A Cell Carrier for 3D Tissue Reconstruction

 So Yeong Kim¹, Ho Yong Kim¹, June-Ho Byun², Jin Ho Lee³, and Se Heang Oh¹
¹Dankook Univ., Korea, ²Gyeongsang Nat'l Univ., Korea, ³Hannam Univ., Korea

[TuF3] Materials for OPV ▾

Date / Time July 3 (Tue.), 2018 / 15:55-17:25

Place Room F (#104+105)

Session Chair Akihiko Fujii (Osaka Univ., Japan)
Dong Wook Kim (Kyunggi Univ., Korea)

TuF3-I1 (Invited) 15:55-16:20

Novel Donor-Acceptor Conjugated Polymers for High-Performance Polymer Solar Cells

Fei Huang

South China Univ. of Tech., China

TuF3-O2 16:20-16:35

Novel Stable Triphenylamine-Based D-A Small Molecules for Organic Photovoltaics

Yuriy Luponosov, Alexander Solodukhin, and Sergei Ponomarenko

Russian Academy of Sciences, Russia

TuF3-I3 (Invited) 16:35-17:00

Charge Separation and Collection in Organic Solarcells

James R. Durrant

Imperial College London, UK

TuF3-I4 (Invited) 17:00-17:25

Side-Chain Engineering of Photovoltaic Materials for High Performance Polymer Solar Cells

Yongfang Li

Chinese Academy of Sciences, China

[TuP] Poster Session II
Date / Time July 3 (Tue.), 2018 / 19:00-21:00

Place 2F, Lobby

Topic 1: Organic Conductors and Superconductors

(TuP-001~TuP-019)

TuP-001
Single Crystals of Sandwich-Type Polyoxometalates [(PW₉O₃₄)₂(H₂OTb)₃CO₃]¹¹⁻ with (CH₃)_nH_{4-n}N⁺ (n = 1-4) Counter Cations

 Jiao Chen¹, Masaru Fujibayashi², Kiyonori Takahashi¹, Kazuya Kubo³, Shin-ichiro Noro¹, and Takayoshi Nakamura¹
¹Hokkaido Univ., Japan, ²Yamaguchi Univ., Japan, ³Univ. of Hyogo, Japan

TuP-002
Study of The Molecular Crystals by Synchrotron X-ray Diffraction

 Shunsuke Kitou¹, Kunihisa Sugimoto², Toshikazu Nakamura³, and Hiroshi Sawa¹
¹Nagoya Univ., Japan, ²JASRI, Japan, ³IMS, Japan

TuP-003
Josephson Vortex Dynamics in FFLO Phase of Layered Organic Superconductor β''-(BEDT-TTF)₂SF₅CH₂CF₂SO₃

 Shiori Sugiura¹, Shinya Uji¹, Hishiro Hirose¹, Taichi Terashima¹, Syuma Yasuzuka², and John A. Schlueter³
¹NIMS, Japan, ²Hiroshima Inst. of Tech., Japan, ³Argonne Nat'l Lab., USA

TuP-004
Syntheses, Structures, and Properties of Novel Metal-Dithiolene Complexes with Hydrogen-Bonds

 So Yokomori¹, Akira Ueda¹, Reiji Kumai², Youichi Murakami², and Hatsumi Mori¹
¹The Univ. of Tokyo, Japan, ²KEK PF CMRC, Japan

TuP-005
Fabrication of Semi-Transparent and Flexible Organic Solar Cells

 Kwanghee Lee¹, Yeongjin Lee¹, Hongkyu Kang¹, Nara Kim², and Seok Kim¹
¹GIST, Korea, ²Linkoping Univ., Sweden

TuP-006
Characterization of Crystal Structure and Physical Properties of The Novel Organic Salt, α-(ET)₂NH₄Hg(SeCN)₄

 Akihiro Ohnuma¹, Shuhei Fukuoka¹, Yoshihiko Ihara¹, Hiromi Taniguchi², and Atsushi Kawamoto¹
¹Hokkaido Univ., Japan, ²Saitama Univ., Japan

TuP-007

Electronic and Magnetic Properties of λ -(BEDT-STF)₂GaBr₄

Kawaguchi Satoshi, Wada Takuma, Minamidate Takaaki, Matsunaga Noriaki, Kawamoto Atsushi and Nomura Kazushige
Hokkaido Univ., Japan

TuP-008

Crystal Structures and Intrinsic Proton Conductivity of Anhydrous Organic Salts, Imidazolium Dicarboxylates

Yoshiya Sunairi, Akira Ueda, Junya Yoshida, Keisuke Suzuki, and Hatsumi Mori
The Univ. of Tokyo, Japan

TuP-009

Synthesis and Characterization of Electron Accepting Conjugated Polymers Achieved by Benzotriazolyl Bis(Trifluoroborate)

Youngtae Kim, Hyun-Taek Oh, Seok-Heon Jung, and Jin-Kyun Lee
Inha Univ., Korea

TuP-010

Change of Electrical Properties of PEDOT:PSS Thin Films by Post-Treatment with Various Solvents

Hong Jang, Hyeokjo Jeong, and Felix Sunjoo Kim
Chung-Ang Univ., Korea

TuP-011

Manufacture of High-Intensity and Conductive Alginate Fiber Mixed with Carbon Nano Tube and Using Ion-Exchange Reactions.

Jae Ho Kim, Thu Nguyen, and Jun Young Lee
Sungkyunkwan Univ., Korea

TuP-012

Preparation and Characterization of Efficient Ionizing Materials of OLED Vacuum Deposition

Seung-Kyu Park, Sung-Woo Jeon, Sung-Woo Jeon, Soohuan Lee, Ran Hee Kim, and Kwang-Sup Lee
Hannam Univ., Korea

TuP-013

A Self-Aligned High Resolution Patterning Process for Large Area Printed Electronics

Won-Tae Park and Yong-Young Noh
Dongguk Univ., Korea

TuP-014
Experimental Search for Topological States in An Organic Dirac Fermion System, α -(BEDT-TTF)₂I₃

Mitsuyuki Sato, Kenta Yoshimura, and Toshihito Osada

The Univ. of Tokyo, Japan

TuP-015
Thermodynamic Property of Magnetic-Field-Induced Superconductor κ -(BETS)₂FeBr₄

Takako Konoike¹, Takahide Yamaguchi¹, Taichi Terashima¹, Shinya Uji¹, Hideki Fujiwara², Bin Zhan³, and Hayao Kobayashi⁴

¹Nat'l Inst. for Materials Science, Japan, ²Osaka Prefecture Univ., Japan, ³The Chinese Academy of Science, China, ⁴Nihon Univ., Japan

TuP-016
New Triangular Lattice BEDT-TTF Salt with Disorder-Free Anions

Tomono Shinya, Yoshida Yukihiro, Mitsuhiko Maesato, and Hiroshi Kitagawa

Kyoto Univ., Japan

TuP-017
A Polythiophene-Based Conductive Polymer with Both Ionic and Electronic Conductivity for Lithium-Ion Battery Applications

Jong-Chan Lee, Na Kyung Kim, and Da Un Jung

Seoul Nat'l Univ., Korea

TuP-018
Characterization of Conjugated Polymers composed of Thiazolo[5,4-b]pyridine and Benzodithiophene in the Position of Functional Group

Hongsuk Suh, Juae Kim, Sangmin Chae, Ahra Yi, and Hyo Jung Kim

Pusan Nat'l Univ., Korea

TuP-019
Charge Carrier Scattering in Polymers: A New Neutral Coupled Soliton Channel

Geraldo Magela e Silva, Luiz Ribeiro, Fabio Monteiro, and Wiliam Cunha

Univ. of Brasilia, Brazil

Topic 2: π -Conjugated Molecule

(TuP-020~TuP-090)

TuP-020

Green to Blue Light Upconversion in Polymer Matrixes

Steponas Raisy, Povilas Adomenas, Karolis Kazlauskas, and Saulius Juršenas
Vilnius Univ., Lithuania

TuP-021

Bis-Tridentate Ir(III) Metal Phosphors for Efficient Deep-Blue Organic Light-Emitting Diodes

Hsin-Hung Kuo¹, Yi-Ting Chen², Leon R. Devereux³, Chung-Chih Wu², Mark A. Fox³, Chu-Yun Kuei¹, Yun Chi¹, and Gene-Hsiang Lee²

¹Nat'l Tsing Hua Univ., Taiwan, ²Nat'l Taiwan Univ., Taiwan, ³Durham Univ., UK

TuP-022

Room Temperature Phosphorescence towards Thermally Activated Delayed Fluorescence in Carbazole – Pyrimidine Cored Compounds

Tomas Serevicius, Tadas Buciušas, Jonas Bucevicius, Jelena Dodonova, Sigitaš Tumkevičius, and Saulius Juršenas

Vilnius Univ., Lithuania

TuP-023

A Comprehensive Photophysical Study of Pyrimidine Dyes Containing Carbazoles and Aniline: The Interplay between Singlets and Triplets

Justina Jovaisaitė¹, Gediminas Jonušauskas², Jelena Dodonova¹, Jonas Bucevicius¹, Sigitaš Tumkevičius¹, and Saulius Juršenas¹

¹Vilnius Univ., Lithuania, ²Bordeaux Univ., France

TuP-024

Ferroelectricity of Alkylamide-Substituted Helicene Derivatives

Hayato Anetai, Takashi Takeda, Norihisa Hoshino, Higashi Kobayashi, Nozomi Saito, Masanori Shigeno, Masahiko Yamaguchi, and Tomoyuki Akutagawa

Tohoku Univ., Japan

TuP-025

Synthesis and Light-Emitting Properties of Hyperbranched Conjugated Poly(Para-Phenylene Vinylene) Derivatives

Gyeongmin Ki and Taek Ahn

Kyungsoong Univ., Korea

TuP-026
The Polymers of Organic π -Conjugated Self-Assembly and Aggregation Conformation

Yuanping Yi, Guangchao Han, and Lu Ning

Inst. of Chemistry Chinese Academy of Sciences, China

TuP-027
Molecular Assembly Structure and Physical Properties of Porphyrin Derivatives with $-\text{CONHC}_{14}\text{H}_{29}$ Group

Jianyun Wu¹, Takashi Takeda², Norihisa Hoshino², and Tomoyuki Akutagawa²

¹*Tohoku Univ., Japan*, ²*IMRAM.Tohoku Univ., Japan*

TuP-028
Graphene Oxide/Two-Dimensional Conjugated Polymer Composite as Effective Photocatalytic System for CO_2 Reduction

Shih-Hao Wang and Leeyih Wang

Nat'l Taiwan Univ., Taiwan

TuP-029
Development of Light-Emitting Semiconducting Coordination Polymers

Takashi Okubo, Toshiya Horii, Misaki Okita, Masahiko Maekawa, and Takayoshi Kuroda-Sowa
Kindai Univ., Japan

TuP-030
Crystal Structures and Electrical Conducting Properties of Semiconducting Coordination Polymers with Copper(II)-Bromide and Tetrazine Derivatives

Sanshiro Fukuda, Koki Tanishima, Kento Himoto, Takashi Okubo, Masahiko Maekawa, and Takayoshi Kuroda-Sowa

Kindai Univ., Japan

TuP-031
Vibrational Spectroscopy of Regio-Regular P3HT and Its Deutero Derivatives

Luigi Brambilla¹, Cristina Capel Ferròn², Matteo Tommasini¹, Kunlun Hong³, Juan Teodomiro López Navarrete², Victor Hernández², and Giuseppe Zerbi¹

¹*Politecnico di Milano, Italy*, ²*Univ. de Málaga, Spain*, ³*Oak Ridge Nat'l Lab., USA*

TuP-032
Ethanol-Soluble Donor and Acceptor for Eco-Friendly Organic Solar Cells

Ziang Wu¹, Seungjin Lee², Yuxiang Li¹, Bumjoon Kim², and Han Young Woo¹

¹*Korea Univ., Korea*, ²*KAIST, Korea*

TuP-033

Synergic Increase of Electrical Conductivity in Polypyrrole/Molybdenum Disulphide Composite

Udit Acharya, Patrycja Bober, Jaroslav Stejskal, and Jiří Pflieger

Inst. of Macromolecular Chemistry AS CR, Czech

TuP-034

Fused Perylene Diimide-Based Conjugated Polymers as The Acceptors for High-Performance All-Polymer Solar Cells

Yuli Yin, Ming Liu, Yong Zhang, and Liancheng Zhao

Harbin Inst. of Tech., China

TuP-035

Raman Spectroscopy in Organic Thin Film Technologies: Everything You Always Wanted to Know

Xabier Rodríguez-Martínez¹, Antonio Sánchez-Díaz¹, Aleksandr Perevedentsev¹, Michelle S. Vezie², Xingyuan Shi², Iain McCulloch³, Jenny Nelson², Alejandro R. Goñi¹, Sebastian Reparaz¹, and Mariano Campoy-Quiles¹

¹*Inst. de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain, ²Imperial College London, UK, ³KAUST, Saudi Arabia*

TuP-036

Control in Molecular Assemblies and Physical Properties of Cation-Anion Pairs in Naphthalene Diimide Derivative

Ayumi Kawasaki¹, Takashi Takeda¹, Norihisa Hoshino¹, Takamitsu Kikuchi¹, Wakana Mastuda², Shu Seki², and Tomoyuki Akutagawa¹

¹*Tohoku Univ., Japan, ²Kyoto Univ., Japan*

TuP-037

Development of Hybrid Naphthalene-Based Nitrogen Containing Electron Deficient π -Systems for Organic Semiconductors

Tsubasa Mikie and Itaru Osaka

Hiroshima Univ., Japan

TuP-038

Water-Dispersible Hyperbranched Conjugated Polymer Nanoparticles for Amplifying Fluorescent Sensing of Trace TNT and Picric Acid

Xiaofu Wu, Hua Li, Hui Tong, and Lixiang Wang

Changchun Inst. of Applied Chemistry, Chinese Academy of Sciences, China

TuP-039
Molecular Assembly Structures and Dielectric Properties of Bis(alkylamide)-Substituted Benzene Derivatives

Moeko Kawana, Takashi Takeda, Norihisa Hoshino, and Tomoyuki Akutagawa
Tohoku Univ., Japan

TuP-040
Synthesis of All-Small-Molecule Solar Cells Incorporating NDI-Based Acceptors

YeonHee Ha¹, Jisu Hong², Hyojung Cha³, Ran Kim¹, Yu Jin Kim⁴, Chan Eon Park², James R. Durrant³, Soon-Ki Kwon¹, Tae Kyu An⁵, and Yun-Hi Kim¹
¹*Gyeongsang Nat'l Univ., Korea*, ²*POSTECH, Korea*, ³*Imperial College London, UK*, ⁴*Argonne Nat'l Lab., USA*, ⁵*Korea Nat'l Univ. of Transportation, Korea*

TuP-041
Molecular Tuning of D-A Type Polymers for Efficient Charge Transport in Organic Field-Effect Transistors

Kwang Hun Park¹, Seong Hoon Yu², Dae Sung Chung², Cheol Ho Kang¹, Yun-Hi Kim¹, and Soon-Ki Kwon¹
¹*Gyeongsang Nat'l Univ., Korea*, ²*DGIST, Korea*

TuP-042
A Small Molecule based on Dithienophospholeoxide for Bulk Heterojunction Solar Cells

Jiyoung Choi¹, Jisu Hong², Tae Kyu An³, Min Jae Sung¹, Yebyeol Kim², Yun-Hi Kim¹, Chan Eon Park², and Soon-Ki Kwon¹
¹*Gyeongsang Nat'l Univ., Korea*, ²*POSTECH, Korea*, ³*Korea Nat'l Univ. of Transportation, Korea*

TuP-043
Development of Azasiline-Based Thermally Activated Delayed Fluorescence Emitter for Blue OLED

Yun-Hi Kim¹, You Heon Kim¹, Jang-Joo Kim², Soon-Ki Kwon¹, Jang-Yeol Baek¹, and Jin-Won Sun²
¹*Gyeongsang Nat'l Univ., Korea*, ²*Seoul Nat'l Univ., Korea*

TuP-044
Dithienobenzodithiophene-Based Small Molecule Organic Solar Cells via Additive- and Thermal-Annealing-Free Processing

Na Yeong Kim¹, Hyeng Gun Song¹, Yu Jin Kim², Ji Sang Lee¹, Chan Eon Park², Soon-Ki Kwon¹, and Yun-Hi Kim¹
¹*Gyeongsang Nat'l Univ., Korea*, ²*POSTECH, Korea*

TuP-045
Dimethylsilyl-Linked Anthracene-Pyrene Dimers and Their Efficient T-T Annihilation in Organic Light Emitting Diodes(OLED)

Hwanil Je¹, Min Jae Sung¹, Hiroya Chubachi², Ryo Satoh², Yun-Hi Kim³, Yong-Jin Pu², and Soon-Ki Kwon¹
¹*Gyeongsang Nat'l Univ., Korea*, ²*Yamagata Univ., Japan*

TuP-046

New Linear Small Molecules: Naphthyl-Ethynyl-Anthracene-Based Small Molecules Containing Different Alkyl End Group

Hyun Woo Kim¹, Yebyeol Kim², So-Min Park¹, Tae Kyu An³, Chan Eon Park², Yun-Hi Kim¹, and Soon-Ki Kwon¹
¹Gyeongsang Nat'l Univ., Korea, ²POSTECH, Korea, ³Korea Nat'l Univ. of Transportation, Korea

TuP-047

Crystal Structures and Optical Properties of Benzothiazole Derivatives with Pyridyl Group

Keigo Takahashi¹, Takashi Takeda¹, Norihisa Hoshino¹, Ken-ichi Sakai², and Tomoyuki Akutagawa¹
¹Tohoku Univ., Japan, ²Chitose Inst. of Science and Tech., Japan

TuP-048

Synthesis and Characterization of A New Deep Green-Emitting Ir(III) Complex for OLED

Myeong-Jong Kim¹, Seung-Jun Yoo², Jaeyoung Hwang¹, Sung-Jin Park¹, Jae-Wook Kang³, Yun-Hi Kim¹, Jang-Joo Kim², and Soon-Ki Kwon¹
¹Gyeongsang Nat'l Univ., Korea, ²Seoul Nat'l Univ., Korea, ³Chonbuk Nat'l Univ., Korea

TuP-049

Synthesizing Orange Iridium (III) Complexes for Solution Processable Organic Light-Emitting Diodes

Hyungjin Cheon¹, Yun-Hi Kim¹, Jaeyoung Hwang¹, Seung-Bae Ji², Kyoung Soo Yook², and Soon-Ki Kwon¹
¹Gyeongsang Nat'l Univ., Korea, ²Sungkyunkwan Univ., Korea

TuP-050

Synthesis of Highly Soluble Carbazole-Based Copolymer Effects of Thermal Treatment on Chargecarrier Mobility

Nam Yeong Jeong¹, Min Su Jang¹, So Min Park², Dae Sung Chung², Soon-Ki Kwon¹, and Yun-Hi Kim¹
¹Gyeongsang Univ., Korea, ²DGIST, Korea

TuP-051

Copolymer for Narrow Band Green-Selective Organic Photodiode

Min Jae Sung¹, Kyoungwan Kim², Dae Sung Chung², Yun-Hi Kim¹, and Soon-Ki Kwon¹
¹Gyeongsang Nat'l Univ., Korea, ²DGIST, Korea

TuP-052

New n-Type Copolymer based on Thiazole Derivatives for OPVs

Canjie Wang, Hyoung Nam Kim, Nayeong Kim, Yun-Hi Kim, and Soon ki Kwon
¹Gyeongsang Nat'l Univ., Korea

TuP-053

A Thinophene Based Copolymerfor An Organic Electronics

Cheng Sun¹, Kang in Lee¹, Yun-Hi Kim¹, and Soon-ki Kwon²
¹Gyeongsang Nat'l Univ., Korea, ²Convergence Tech. and Inst. for Green Energy Convergen, Korea

TuP-054
Synthesis and Photovoltaic Properties of Thieno[3,2-b]thiophene-Incorporated Benzothiadiazole-Based Conjugated Donor Polymers

Jong-Woon Ha, Jong Baek Park, and Do-Hoon Hwang
Pusan Nat'l Univ., Korea

TuP-055
Observation and Characterization of Charge Transfer States in Bulk Heterojunction Blends by Subgap Optical Spectroscopies

Sin Hang Cheung¹, Carr Hoi Yi Ho¹, Ho Wa Li², Franky So³, Sai Wing Tsang², and Shu Kong So¹

¹*Hong Kong Baptist Univ., Hong Kong, China,* ²*City Univ. of Hong Kong, Hong Kong, China,* ³*North Carolina State Univ., USA*

TuP-056
A New Ambipolar Copolymer for Organic Electronics

Xinwei Wu, Cheng Sun, Hyeng gun Song, and Yun-Hi Kim
Gyeongsang Nat'l Univ., Korea

TuP-057
Synthesis of Conjugated Polymer based on Phenanthrocarbazole Unit as A Donor and TPD Unit as An Acceptor

Gyeong Seok Lee¹, Yun-Hi Kim¹, Dong Hwan Wang², Soon-Ki Kwon¹, Minji Yi², Jae Sang Cho², Soyun Park², Hyungjin Cheon¹, and Woongsik Jang²

¹*Gyeongsang Nat'l Univ., Korea,* ²*Chung-Ang Univ., Korea*

TuP-058
Synthesis and Characterization of OLEDs, New Deep-Blue Dopants

Oh-Sung Koo¹, Yun-Hi Kim¹, Sunyoung Sohn², Bong Hyun Koh³, Jae Yeul Baek³, Hyun Chan Byun³, Jae Hyun Lee³, Dong-Seon Shin³, Hyungju Ahn², and Han-Koo Lee²

¹*Gyeongsang Univ., Korea,* ²*Pohang Univ., Korea,* ³*Kyeong-Nam Science High School, Korea*

TuP-059
Improvement of Luminescence Efficiency of Organic Nanoarchitectures by Controlling Crystallinity

Do Hyoung Kim, Jinho Choi, Seokho Kim, and Dong Hyuk Park
Inha Univ., Korea

TuP-060
Circularly Polarized Luminescence from Supramolecular Complexes Consisting of Cyanostilbene Derivatives and Sulfated Beta-Cyclodextrin in Water

Hyeong-Ju Kim and Soo Young Park
Seoul Nat'l Univ., Korea

TuP-061

Novel Self-Doped Water-Soluble Highly Conducting Polymers

Hirokazu Yano^{1,2}, Kazuki Kudo², and Hidenori Okuzaki²

¹Tosoh Corp., Japan, ²Univ. of Yamanashi, Japan

TuP-062

Preparation of Graphene-Polypyrrole/Epoxy Composites with Excellent Electromagnetic Wave Absorption Properties

Quyen Thi Vu¹, Tung Trinh Ngo², and Daewon Sohn¹

¹Hanyang Univ., Korea, ²VAST, Vietnam

TuP-063

High-Performance n-Channel Field-Effect Transistors from[1]Benzothieno[3,2-b]Benzothiophene Based Donor-Acceptor Copolymers

Suman Kalyan Samanta, Inho Song, Jong Heun Yoo, and Joon Hak Oh

POSTECH, Korea

TuP-064

Size Ddjustment of Conjugatedpolymer Nanoparticles for White Light Emission

Jongho Kim, Young-Jin Gwon, Jeong Jun Lee, and Taek Seung Lee

Chungnam Nat'l Univ., Korea

TuP-065

Non-Conjugated Polymer Emitting Materials for High-Performing Solution-Processed TADF-Assisted Organic Light-Emitting Diodes

Hyung Jong Kim, Chiho Lee, Mallesham Godumala, Suna Choi, Seo Yeon Park, Min Ju Cho, Sungnam Park, and Dong Hoon Choi

Korea Univ., Korea

TuP-066

High-Performing Silane Core-Based Bipolar Host Materials in Blue Thermally Activated Delayed Fluorescence OLEDs

Suna Choi, Seo Yeon Park, Young Un Kim, Su Hong Park, Min Ju Cho, and Dong Hoon Choi

Korea Univ., Korea

TuP-067

Synthesis of Conjugated Polymer with Long Wavelength Absorption for ROS Generation

Young Jin Gwon, Hyun Chul Kim, and Taek Seung Lee

Chungnam Nati'l Univ., Korea

TuP-068**Control on Liquid Crystal Defects via Fabrication of Polymer-Based Microchannels with a Soft-Imprinting Technique Assisted Method**

Min Jeong Shin, Min-Jun Gim, and Dong Ki Yoon
KAIST, Korea

TuP-069**Blue-Emissive Fluorophore based on A Single Benzene with Intra- Andintermolecular Hydrogen Bonds**

Eunbee Cho, Taehyun Kim, Yena Lee, and Taek Seung Lee
Chungnam Nat'l Univ., Korea

TuP-070**Green-Processable and Dopant-Free Semiconducting Polymers with Asymmetric Structure and Application to Hole-Transporting Materials**

Junwoo Lee, Cheol Woong Park, Sang Ah Park, and Park Taiho
POSTECH, Korea

TuP-071**Synthesis of Fluorescent Azobenzene Derivatives upon Aggregation**

Yeoju Yoon, Seonyoung Jo, and Taek Seung Lee
Chungnam Nat'l Univ., Korea

TuP-072**Enhanced Electron Mobility of Low-Crystalline Conjugated Polymers with Localized Aggregates via Kinetically Fast and Robust Interactions.**

Minjun Kim, Hong Il Kim, Seung Un Ryu, and Taiho Park
POSTECH, Korea

TuP-073**Electric Field Induced Micropatterned Liquidcrystal**

Dongki Yoon and You Ra
KAIST, Korea

TuP-074**Self-Assembled Conjugated Poly Microdisk Array and Its Fluorescence Switching**

Yusuke Kitayama¹, Yusuke Aikyo¹, Takeo Minari², Xuying Liu², Masakazu Morimoto³, Masahiro Irie³, Junpei Kuwabara¹, Takaki Kanbara¹, and Yohei Yamamoto¹
¹Univ. of Tsukuba, Japan, ²NIMS, Japan, ³Rikkyo Univ., Japan

TuP-075

Donor-Acceptor Dendrimer Crystals that Display Thermo-, Vapor-, and Mechanochromism

Jooung Yoo¹, Yohei Yamamoto¹, Sae Nakajima¹, Ken Albrecht², Kimihisa Yamamoto², Youhei Takeda³, and Minakata Satoshi³

¹Univ. of Tsukuba, Japan, ²Tokyo Inst. of Tech., Japan, ³Osaka Univ., Japan

TuP-076

Luminescent Di-Iridium Complexes with Bridging Pyrazolates; Characterization and Fabrication of OLEDs Using Vacuum Thermal Deposition

Jia-Ling Liao¹, Palanisamy Rajakannu¹, Premkumar Gnanasekaran¹, Shang-Ru Tsai², Chun-Han Lin², Chih-Hao Chang², Shih-Hung Liu³, Pi-Tai Chou³, Gene-Hsiang Lee³, and Yun Chi¹

¹Nat'l Tsing Hua Univ., Taiwan, ²Yuan Ze Univ., Taiwan, ³Nanyang Technological Univ., Taiwan

TuP-077

The Influence of Aromatic Diimide Side Groups on π -Conjugated Polymer Properties

Przemyslaw Ledwon, Karol Knop, Anna Drewniak, and Krzysztof Walczak

Silesian Univ. of Tech., Poland

TuP-078

Dual Anthracene Derivatives Using Optimizing Side Group for Highly Efficient Blue OLED Emitters

Seokwoo Kang, Hayoon Lee, Hyocheol Jung, and Jongwook Park

Kyung Hee Univ., Korea

TuP-079

Ring-Fusion of Non-Fullerene Acceptors based on Perylene Diimide towards Efficient Organic Solar Cells with Small Voltage Losses

Jianquan Zhang, Yunke Li, and He Yan

Hong Kong Univ. of Science and Tech., Hong Kong, China

TuP-080

Synthesis and Electroluminescent Properties of New Blue Dual-Core Derivatives Using Fluorene and Carbazole

Beomjin Kim¹, Suji Lee², Hyocheol Jung¹, Hayoon Lee¹, Seokwoo Kang¹, Yeonkyu Jeong¹, and Jongwook Park¹

¹Kyunghee Univ., Korea, ²Catholic Univ., Korea

TuP-081

Synthesis of A Degenerated Neutral Radical State based on Metal Dithiolene Complex

Yojiro Kimura, Mikihiro Hayashi, Mitsuhiko Maesato, and Hiroshi Kitagawa

Kyoto Univ., Japan

TuP-082
Synthesis and Electroluminescent Properties of New Blue Dual-Core Emitters Using Different Aromatic Amines and Substitution Positions

Hwangyu Shin¹, Beomjin Kim², Hyocheol Jung², Jaehyun Lee¹, Hayoon Lee², Seokwoo Kang², Jiwon Moon¹, JinWook Jeong², Joonghan Kim¹, and Jongwok Park²

¹Catholic Univ., Korea, ²Kyunghee Univ., Korea

TuP-083
Improving Photostability of Polymer Solar Cells by Introducing Stabilizing Moiety in Photoactive Layer

Vu Van Doan, Rasool Shafket, Chang Eun Song, and Won Suk Shin

KRICT, Korea

TuP-084
Direct C-H Arylation Meets Perovskite Solar Cells: Sn-Free Synthesis Shortcut to High Performance Hole-Transporting Materials

Yu-Chieh Chang¹, Kun-Mu Lee², Chia-Hsin Lai¹, Ching-Yuan Liu¹, and Jui-Heng Chen¹

¹Nat'l Central Univ., Taiwan, ²Chang Gung Univ., Taiwan

TuP-085
Greener Synthesis of D- π -A Organic Sensitizers via Cu-Catalyzed Direct Arylations: Development of Sn- & Pd-Free Process for Dye-Sensitized Solar Cells

Chia-Hua Chiang¹, Jiung-Huai Huang¹, Po-Han Lin¹, Wei-Ming Li¹, Kun-Mu Lee², and Ching-Yuan Liu¹

¹Nat'l Central Univ., Taiwan, ²Chang Gung Univ., Taiwan

TuP-086
Direct C-H Arylation as Chemoselective Single-Step Access to Organic-Electronics-Versatile π -Acceptor- π Type Building Blocks

Kuan-Ming Lu, Wei-Ming Li, Po-Yu Lin, Kuan-Ting Liu, Yi-Kai Peng, and Ching-Yuan Liu

Nat'l Central Univ., Taiwan

TuP-087
Quinoidal Conjugated Polymers for High Performance Organic Field-Effect Transistors

Yunseul Kim¹, Hansu Hwang², Nam-Koo Kim³, and Dong-Yu Kim¹

¹GIST, Korea, ²KIST, Korea, ³LG Electronics, Korea

TuP-088
Synthesizing Fluorinated Benzothiadiazole-Containing Regioregular Polymer: Comparing the Regioregular with Regiorandom Polymer on Nanogrooved Substrate

Junghoon Lee

Dongseo Univ., Korea

TuP-089

Flexible NFC Tag for Food Packaging with Printed Antenna and Temperature Sensor with Si-Chip as RF Front End

Bijendra Bishow Maskey, Kiran Shrestha, Yushin Kim, Hyejin Park, and Gyoujin Cho
Sunchon Nat'l Univ., Korea

TuP-090

Charge-Transfer Dynamics in Donor-Spacer-Acceptor Dyads

Ahmed Hesham Balawi¹, Julien Gorenflot¹, Sebastian Stappert², Denis Adrienko², Chen Li², Klaus Mullen², and Frederic Laquai¹
¹KAUST, Saudi Arabia, ²Max Planck Inst. for Polymer Research, Germany

Topic 5: Bioinspired Materials and Applications

(TuP-091~TuP-111)

TuP-091
Stretchable and Highly Conductive Polymer Gels

YingJun An, Kana Iwashita, and Hidenori Okuzaki
Univ. of Yamanashi, Japan

TuP-092
Riboflavin-Based Novel Conjugated Bio-Organic Semiconductors

Jozef Krajcovic¹, Jan Richtar¹, Alexander Kovalenko¹, Dogukan Hazar Apaydin², Cigdem Yumusak², Martin Weiter¹, and Niyazi Serdar Sariciftci²
¹*BUT Faculty of Chemistry, Czech*, ²*Linz Inst. for Organic Solar Cells, Austria*

TuP-093
NIR-Emissive Polymer Dot as a Fluorescent Imaging Platform

Ji-Eun Jeong and Woo Han Young
Korea Univ., Korea

TuP-094
Self-Assembly of M-13 Bacteriophage Using Meniscus Phenomenon

Jiye Han, Kyounga Lim, Jongmin Lee, Jin-Woo Oh, and Jong-Sik Moon
Pusan Nat'l Univ., Korea

TuP-095
Transmission of Neurotransmitter Using Two-Conducting-Polymers System

Masaharu Fujii, Shinichi Hamasaki, Daichi Toyofuku, Haruo Ihori, and Hyeon-gu Jeon
Ehime Univ., Japan

TuP-096
Carbon Nanotube Based Bio-Electrodes for Surface Electromyogramsensors

Byeong-Cheol Kang¹, Jae-Ho Han², and Tae-Jun Ha¹
¹*Kwangwoon Univ., Korea*, ²*Korea Univ., Korea*

TuP-097
Biomimetic Self-Assembled Structures for Surface Plasmon Resonance Sensors

Won-Geun Kim, Chuntae Kim, Jong-Sik Moon, Jong-Min Lee, and Jin-Woo Oh
Pusan Nat'l Univ., Korea

TuP-098

Biosensor to Detect miRNA based on Nanostructured DNA-Recombinant Azurin Hybrid

Joungpyo Lim, Chanyong Yi, Mohsen Mohammadniaei, and Jeong-Woo Choi
Sogang Univ., Korea

TuP-099

Electrochemical Biosensor Composed of Nanostructured MoS₂/Graphene Oxide/Protein Hybrid for H₂O₂ Detection

Chanyong Yi, Joungpyo Lim, Jinho Yoon, and Jeong-Woo Choi
Sogang Univ., Korea

TuP-100

Anionic Surfactant-Mediated Mesoporous Silica for Ocular Delivery of Brimonidine

Se-Na Kim and Young Bin Choy
Seoul Nat'l Univ., Korea

TuP-101

WITHDRAWAL

TuP-102

Sustained Release of Bioactive Molecules From Leaf-Stacked Structure for Bone Regeneration

Ho Yong Kim¹, June-Ho Byun², Jin Ho Lee³, and Se Heang Oh¹
¹Dankook Univ., Korea, ²Gyeongsang Nat'l Univ., Korea, ³Hannam Univ., Korea

TuP-103

BMP-2-Loaded Porous Membrane with Leaf-Stacked Structure as A Guided Bone Regeneration

Min Ji Kim¹, Jin Hyun Park¹, Ho Yong Kim¹, June-Ho Byun², Jin Ho Lee³, and Se Heang Oh¹
¹Dankook Univ., Korea, ²Gyeongsang Nat'l Univ., Korea, ³Hannam Univ., Korea

TuP-104

WITHDRAWAL

TuP-105

Engineered Functional Peptide M 13 Nanofiber Accelerates Directional Growth and Proliferation of Fibroblasts

Ye Ji Kim, Soojin Jo, Eun Jung Choi, and Jin-Woo Oh
Pusan Nat'l Univ., Korea

TuP-106**Conformal Metal Oxide Electrochemical Transistors for Glucose Sensing**

Tae In Kwon, Se Rin Lim, and You Seung Rim

Sejong Univ., Korea

TuP-107**Electrochemical Synthesis of Gold Nanoparticles on ITO/Graphene Nanoparticles to Control Osteogenesis of Human Mesenchymal Stem Cells**

Ee-Seul Kang, Da-Seul Kim, Yoojoong Han, Hyungbin Son, and Tae-Hyung Kim

Chung-Ang Univ., Korea

TuP-108**Wearable Carbon Nanotube Based Biosensors for Healthcaremonitoring Systems**

Byeong-Cheol Kang¹, Jun-Young Jeon¹, Jae-Ho Han², and Tae-Jun Ha¹

¹*Kwangwoon Univ., Korea*, ²*Korea Univ., Korea*

TuP-109**Oral Delivery of Lactoferrin-Conjugated Macromolecules for Curing Brain Tumor**

Dong Yun Lee

Hanyang Univ., Korea

TuP-110**Green Synthesis of Zinc Oxide Nano Particles, its Characterization and Application in Agriculture as well as in Healthcare**

R Sahu and Kamal Kishor

OSDD, India

TuP-111**Development of An Amyloid β Nano-Biosensor Using Gold Nano Particle**

Sung-Woong Han and Hoon-Kyu Shin

POSTECH, Korea

Topic 2: π -Conjugated Molecule

(TuP-112~TuP-115)

TuP-112

A New Donor-Acceptor Copolymers for High-Efficiency Organic Solar Cells

Jeonghun Park¹, Yu Jin Kim², Yeon Hee Ha¹, Cheol Ho Kang¹, Chan Eon Park², Dae Sung Chung³, Yun-Hi Kim¹, and Soon-Ki Kwon¹

¹Gyeongsang Nat'l Univ., Korea, ²POSTECH, Korea, ³DIGIST, Korea

TuP-113

Organic Nanowire Barcode Recognized with Raman Scattering

Jungwoon Park¹, Jinho Choi¹, Seokho Kim¹, Dohyung Kim¹, Donghyuk Park¹, and Yungki Hong²

¹Inha Univ., Korea, ²Sungkyunkwan Univ., Korea

TuP-114

A Novel Approach to Copolymer based on Main Donor and Side Chain Acceptor for Bulk Heterojunction Solar Cells

Shakeel Khan¹, Xianqing Liu¹, Yu Jin Kim², Myeong-Jong Kim¹, Chan Eon Park², and Shakeel Khan¹

¹Gyeongsang Nat'l Univ., Korea, ²POSTECH, Korea

TuP-115

Efficient Emission Color Control in Organic Nanocomposites Employing Surfactant

Jinho Choi, Seokho Kim, Jungwoon Park, Dohyung Kim, and Donghyuk Park

Inha Univ., Korea

[WeA1] OLED IV

Date / Time	July 4 (Wed.), 2018 / 11:00-12:25
Place	Room A (#101+102)
Session Chair	Axel Fischer (IAPP, Germany) Markus Regnat (Zurich Univ., Switzerland)

WeA1-I1 (Invited)

11:00-11:25

Printable OLEDs for Displays and Lighting

Junji Kido
Yamagata Univ., Japan

WeA1-O2

11:25-11:40

Novel Benzonitrile Compounds with Mixed Carbazole and Phenothiazine Substituents Exhibiting TADF, AIE and Mechanochromism.

Antonio Maggiore, Yang Yang Qu, Gilles Clavier, Fabien Miomandre, and Pierre Audebert
ENS-Cachan, France

WeA1-O3

11:40-11:55

New Approach to Multicolor Tuning and Thermally Activated Delayed Fluorescence from Single Compound

Ramin Pashazadeh¹, Piotr Pander², Algirdas Lazauskas¹, Fernando B. Dias², and Juozas V. Gražulevičius¹
¹Kaunas Univ. of Tech., Lithuania, ²Univ. of Durham, UK

WeA1-O4

11:55-12:10

Large Area Organic Light Emitting Diodes Using TADF Emitter for Lighting: Fundamental colors Panel Up to 16cm² Area

Manish Kumar¹, Miguel Ribeiro¹, and Luiz Pereira²
¹CeNTI Portugal, Portugal, ²Univ. of Aveiro, Portugal

WeA1-O5

12:10-12:25

Electroactive Compounds Containing Donor and Acceptor Moieties for Organic Light Emitting Diodes

Juozas V. Gražulevičius, Gintare Grybauskaite-Kaminskiene, Tomas Matulaitis, Nadzeya Kukhta, Ramin Pashazadeh, and Dmytro Volyniuk
Kaunas Univ. of Tech., Lithuania

[WeB1] OPV ▾

Date / Time July 4 (Wed.), 2018 / 11:00-12:25

Place Room B (#106)

Session Chair Baran Derya (KAUST, Saudi Arabia)

WeB1-I1 (Invited) 11:00-11:25

Non Fullerene Acceptor - Donor Bulk Heterojunction Composites: Insight into The Fundamental Mechanisms Suppressing Non-Radiative Recombination and Governing Low Voc Losses

Christoph Josef Brabec

Univ. of Erlangen-Nürnberg, Germany

WeB1-O2 11:25-11:40

Importance of Depth-Dependent Crystallinity on The Stability and Efficiency of Sequentially-Processed Organic Solar Cells

Jaehoon Kim, Jongkuk Ko, Kookheon Char, and Changhee Lee

Seoul Nat'l Univ., Korea

WeB1-O3 11:40-11:55

Toward Solution-Processed High Performance Large Area Polymer Solar Cells

Kai Zhang and Fei Huang

South China Univ. of Tech., China

WeB1-O4 11:55-12:10

Increased Light Collection in Organicsolar Cells via Sub-Micron 2D Photonic Structures

Martí Gibert-Roca, Pau Molet Bachs, Antonio Sanchez-Diaz, Agustín Mihi, and Mariano Campoy Quiles

Inst. de Ciència de Materials de Barcelona, Spain

WeB1-O5 12:10-12:25

Effect of Interfacial Donor/Acceptor Structures on Open-Circuit Voltage in Organic Solar Cells

Seiichiro Izawa, Naoto Shintaku, and Masahiro Hiramoto

Inst. for Molecular Science, Japan

[WeC1] Fullerene

Date / Time	July 4 (Wed.), 2018 / 11:00-11:55
Place	Room C (#107)
Session Chair	Hidetoshi Fukuyama (Tokyo Univ. of Science, Tokyo Univ. of Science) Sung Ho Jhang (Konkuk Univ., Korea)

WeC1-I1 (Invited) 11:00-11:25

Molecular Maracas: A Multi-State Switch with Li@C60

Eleanor Campbell¹, Minas Stefanou¹, Henry Chandler², and Renald Schaub²

¹Univ. of Edinburgh, UK, ²Univ. of St Andrews, UK

WeC1-O2 11:25-11:40

Actinide Endohedral Fullerenes : Molecular Structures and Unique bindings

Ning Chen

Soochow Univ., China

WeC1-O3 11:40-11:55

Fullerene-Based Single-Electron Tunneling Transistor for Multi-Level Switching

Ryoma Hayakawa and Yutaka Wakayama

NIMS, Japan

[WeD1] Single Component Molecular Conductors

Date / Time	July 4 (Wed.), 2018 / 11:00-11:50
Place	Room D (#109)
Session Chair	Cincepcio Rovira (Inst. de Ciencia de Materials de Barcelona, Spain)

WeD1-I1 (Invited)

11:00-11:25

Development of Single Component Molecular Conductors

Reizo Kato
RIKEN, Japan

WeD1-I2 (Invited)

11:25-11:50

Single Component Molecular Conductors : Neutral Radical Gold Bis(Dithiolene) Complexes

Dominique Lorcy¹, Yann Le Gal¹, Nathalie Bellec¹, Marc Fourmigué¹, Thierry Roisnel¹, and Pascale Auban-Senzier²

¹Univ. Rennes, France, ²Univ. Paris Sud, France

[WeE1] Metallic Biomaterials
Date / Time July 4 (Wed.), 2018 / 11:00-12:05

Place Room E (#110)

Session Chair Jee Woo Lim (Kyung Hee Univ., Korea)
SeungBeum Suh (KIST, Korea)

WeE1-I1 (Invited)

11:00-11:25

An Innovative Tool for Exploring The Bio-World based on The Charge Detection Ability of Organic Field Effect Devices

 Andrea Spanu^{1,2}, Stefano Lai², Piero Cosseddu², Annalisa Bonfiglio², Corrado Napoli², and Massimo Barbaro²
¹Bruno Kessler Foundation-Torent, Italy, ²Univ. of Cagliari, Italy

WeE1-O2

11:25-11:40

Quasi Metallic Conductivity in Mammalian Pigment Inspired Eumelanin Thin Films

 Alessandro Pezzella¹, Paolo Tassini², Paola Manini¹, Ludovico Migliaccio¹, and Maria Grazia Maglione²
¹Univ. of Naples Federico II, Italy, ²Piazzale Enrico Fermi, Italy

WeE1-I3 (Invited)

11:40-12:05

Chemical Tools and Tactics to Study Multiple Facets in Dementia

Mi Hee Lim

KAIST, Korea

[WeF1] Materials for OLED

Date / Time July 4 (Wed.), 2018 / 11:00-12:20

Place Room F (#104+105)

Session Chair Ergang Wang (Chalmers Univ., Sweden)
Jong Wook Park (Kyung Hee Univ., Korea)

WeF1-I1 (Invited)

11:00-11:25

Thermally Activated Delayed Fluorescence Dopants and Hosts: From The Design Strategy to Organic Light-Emitting Diode Applications

Dong Hoon Choi
Korea Univ., Korea

WeF1-I2 (Invited)

11:25-11:50

Extreme OLED Phosphors: Design and Applications

Yun Chi
Nat'l Tsing Hua Univ., Taiwan

WeF1-O3

11:50-12:05

Electrochemically Synthesised Xanthone-Cored Conjugated Polymers for Use as TADF Emitters

Przemyslaw Data¹ and Heather Cole²
¹Silesian Univ. of Tech., Poland, ²Durham Univ., UK

WeF1-O4

12:05-12:20

Highly Efficient Emitters based on Chrysene Chromophores for Ultra-Deep Blue Light

Seokwoo Kang¹, Hwangyu Shin², Hyocheol Jung¹, and Jongwook Park¹
¹Kyunghee Univ., Korea, ²Doosan, Korea

[ThA1] Optoelectronic Properties II

Date / Time	July 5 (Thu.), 2018 / 11:00-12:10
Place	Room A (#101+102)
Session Chair	Chiara Castiglioni (Politecnico di Milano, Italy)

ThA1-I1 (Invited) 11:00-11:25

Recent Advances in Organic Semiconductor Lasers: Membrane Lasers Andvortex Beams

Markus Karl¹, Monika Pietrzyk¹, Daan Stellinga², James Glackin¹, Yue Wang², Marcel Schubert¹, Nils Kronenberg¹, Kishan Dholakia¹, Graham Turnbull¹, Thomas Krauss², Malte Gather¹, and Ifor Samuel¹

¹Univ. of St Andrews, UK, ²Univ. of York, UK

ThA1-O2 11:25-11:40

Self-Assembled Organic and Polymer Semiconductor Microlasers

Yohei Yamamoto

Univ. of Tsukuba, Japan

ThA1-O3 11:40-11:55

Amplified Spontaneous Emission in Insulated π -Conjugated Polymers

Sun Chen¹, Marta M. Mroz¹, Jos Ral Castro Smirno¹, Larry Ler¹, Chunhui Zhao², Kazunori Sugiyasu², Masayuki Takeuchi², and Juan Cabanillas Gonzalez¹

¹IMDEA Nanociencia, Spain, ²NIMS, Spain

ThA1-O4 11:55-12:10

Bifluorene Single Crystals for Organic Lasers

Paulius Baronas¹, Gediminas Kreiza¹, Patrik Scajev¹, Povilas Adomenas¹, Karolis Kazlauskas¹, Chihaya Adachi², and Saulius Juršenas¹

¹Vilnius Univ., Lithuania, ²Kyushu Univ., Japan

[ThB1] PePv I

Date / Time	July 5 (Thu.), 2018 / 11:00-12:00
Place	Room B (#106)
Session Chair	Namchul Cho (Soonchunhyang Univ., Korea)

ThB1-01 11:00-11:15

Perovskite Photovoltaic Modules Using Metal-Filamentary Nanoelectrodes

Soonil Hong, Jinho Lee, Hongkyu Kang, and Kwanghee Lee
GIST, Korea

ThB1-02 11:15-11:30

Efficient Colorful Perovskite Solar Cells Using a Top Polymer Electrode Simultaneously as Spectrally Selective Antireflection Coating

Youyu Jiang and Yinhua Zhou
Huazhong Univ. of Science and Tech., China

ThB1-03 11:30-11:45

Efficient and Stable Quasi-2D Perovskite Light-Emitting Diodes

Qin Chuanjiang, Matsushima Toshinori, and Adachi Chihaya
Kyushu Univ., Japan

ThB1-04 11:45-12:00

A Strategy of the Carriers Effective Injection into Perovskite Crystals for High Performance Light-Emitting Diode

Zhaoxin Wu, Wen Wu, Yifei Shi, Bo Jiao, and Yuan Fang
Xi'an Jiaotong Univ., China

[ThC1] CM Application (Energy)
Date / Time July 5 (Thu.), 2018 / 11:00-12:15

Place Room C (#107)

Session Chair Jeong-O Lee (KRICT, Korea)
 Clemens B. Winkelmann (Univ. of Grenoble-Alpes, France)

ThC1-I1 (Invited)

11:00-11:25

Ultrafast Diffusion and Superdense Ordering of Lithium in A Single Van Der Waals Gap

 Jurgen Smet¹, Matthias Kühne¹, Sven Fecher¹, Federico Paolucci¹, Jelena Popovic¹, Pavel Ostrovsky¹, Dominik Samuelis¹, Joachim Maier¹, Felix Börrnert², Johannes Biskupek², Ute Kaiser², Mahdi Ghorbani-Asl³, and Arkady Krasheninnikov³
¹Max Planck Inst. for Solid State Research, Germany, ²Univ. Ulm, Germany, ³Helmholtz-Zentrum Dresden-Rossendorf, Germany

ThC1-I2 (Invited)

11:25-11:50

High Thermal Durable Silk-Based Electronic Textiles for Energy Harvesting

 Jun Woo Jeon¹, Se Youn Cho², Hyoung-Joon Jin³, and Byung Hoon Kim¹
¹Incheon Nat'l Univ., Korea, ²Univ. of Pittsburgh, USA, ³Inha Univ., Korea

ThC1-I3 (Invited)

11:50-12:15

FBAR Devices for Gravimetric and Bio-Sensing Applications

William I. Mine

Univ. of Cambridge, UK

[ThD1] New Organic Conductors II

Date / Time	July 5 (Thu.), 2018 / 11:00-12:15
Place	Room D (#109)
Session Chair	Silvia Tomić (Univ. of Zagreb, Croatia)

ThD1-I1 (Invited) 11:00-11:25

Molecular Lego for Spintronics and Quantum Information

Gabriel Aeppli

Paul Scherrer Institut, ETH/EPFL, Switzerland

ThD1-I2 (Invited) 11:25-11:50

Chiral Conductors based on Alkylated EDT-TTF and Metal Dithiolenes

Narcis Avarvari¹, Nabil Mroweh², Alexandre Abhervé², and Flavia Pop²

¹CNRS-Univ. of Angers, France, ²CNRS-Univ., France

ThD1-I3 (Invited) 11:50-12:15

D-PTM Dyads: From Switched Molecular Self-Assembly in Solution to Radical Conductors in Solid State

Concepció Rovira^{1,2}

¹Inst. de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain, ²CIBER-BBN, Spain

[ThE1] Biochips and Bioelectronics

Date / Time July 5 (Thu.), 2018 / 11:00-11:55

Place Room E (#110)

Session Chair Tae-Hyung Kim (Chung-Ang Univ., Korea)
Jee Woo Lim (Kyung Hee Univ., Korea)

ThE1-I1 (Invited)

11:00-11:25

Nanobioelectronic Device Composed of Biohybrid Materials toward Biosensor and Biocomputing

Jeong-Woo Choi
Sogang Univ., Korea

ThE1-O2

11:25-11:40

Human Hair Keratin for Biocompatible Flexible and Transient Electronic Devices

Wei Lin Leong
Nanyang Technological Univ., China

ThE1-O3

11:40-11:55

Bacteria-Enabled Autonomous Drug Delivery Systems

Seung Beum Suh¹ and Bahareh Behkam²
¹*KIST, Korea*, ²*Virginia Tech., USA*

[ThF1] π -Conjugated Materials III

Date / Time	July 5 (Thu.), 2018 / 11:00-12:20
Place	Room F (#104+105)
Session Chair	Igor Zozoulenko (Linkoping Univ., Sweden)

ThF1-11 (Invited) 11:00-11:25

Singlet Fission: Free Triplets versus The Triplet-Triplet Biexciton

Sumit Mazumdar and Sourotosh Khan
Univ. of Arizona, USA

ThF1-12 (Invited) 11:25-11:50

Thiophene-Fused Naphthalene Diimides: New Building Blocks for Electron Deficient π -Functional Materials

Masahiro Nakano and Kazuo Takimiya
RIKEN, Japan

ThF1-03 11:50-12:05

Functionalized Poly(dibenzothiophene-S,S-dioxides): Highly Fluorescent Electron Deficient Polymers with Tunable Energy Levels and Emission Color

Mohammed H. Al-mashhadani, James Durrant, Sarah Mzyk, Rachel Tweedy, Declan Kirkbride, and Igor Perepichka
Bangor Univ., UK

ThF1-04 12:05-12:20

Multi-Purpose Molecular Spintronic Device

Xiangnan Sun
NCNSF, China

[ThA2] OPV VI
Date / Time July 5 (Thu.), 2018 / 13:30-15:20

Place Room A (#101+102)

Session Chair Seiichiro Izawa (Inst. for Molecular Science, Japan)

ThA2-I1 (Invited)

13:30-13:55

Dark Currents Reduction Strategies of OPDs for X-ray Image Sensor Application by Controlling Molecular Orientation of Polymers and Interfacial Modifiers

 Seung Hun Eom¹, Jaemin Lee¹, In Hwan Jung², Sung Cheol Yoon¹, Changjin Lee¹, So Youn Nam¹, and Hee Jin Do¹
¹KRICT, Korea, ²Kookmin Univ., Korea

ThA2-O2

13:55-14:10

Stability of Organic Solar Cells: From Light Harvesting, Organic/Metal Interfacial Exciton Dissociation and Charge Extraction Perspectives

Weixia Lan, Bo Wu, Yiwen Wang, and Furong Zhu

Hong Kong Baptist Univ., Hong Kong, China
ThA2-O3

14:10-14:25

Controlling Charge Recombination in Ternary Organic Solar Cells: A Path towards High Efficiency Organic Photovoltaics

 Nicola Gasparini¹, Christoph Brabec², Iain McCulloch¹, and Derya Baran¹
¹KAUST, Saudi Arabia, ²FAU, Germany

ThA2-O4

14:25-14:40

Synthesis of A Green Solvent Processable NDI-Thiophene Based Amine Containing Interface Material for Polymer Solar Cells

Jonas Mattiasson Bjuggren, Mats Andersson, and Anirudh Sharma

Flinders Univ., Australia
ThA2-O5

14:50-15:05

An Analysis of Efficiency, Stability and Commercial Potential for Organic Photovoltaics based on Non-Fullerene Acceptors

Ning Li, Xiaoyan Du, and Christoph Brabec

FAU Erlangen-Nürnberg, Germany
ThA2-O6

15:05-15:20

Charge and Triplet Exciton Generation in CuSCN:PC70BM Solar Cells

Safakath Karuthedath, Yuliar Firdaus, Thomas D. Anthopoulos, and Frédéric Laquai

KAUST, Saudi Arabia

[ThB2] PePv II

Date / Time	July 5 (Thu.), 2018 / 13:30-15:25
Place	Room B (#106)
Session Chair	Fei Huang (South China Univ. of Tech, China)

ThB2-I1 (Invited) 13:30-13:55

Hole Transporting Materials for Efficient and Stable Inorganic-Organic Hybrid Perovskite Solar Cells

Jangwon Seo
KRICT, Korea

ThB2-O2 13:55-14:10

Interface Engineering for Scalable Fabrication of Planar Perovskite Solar Cells

Jinho Lee and Kwanghee Lee
GIST, Korea

ThB2-O3 14:10-14:25

The Origin of Open Circuit Voltage in Conventional and Inverted Perovskite Solar Cells

Matyas Daboczi¹, Iain Hamilton¹, Iain D. Baiki², and Ji-Seon Kim¹
¹*Imperial College London, UK, ²KP Tech., UK*

ThB2-O4 14:25-14:40

Purely Oriented Crystalline Organolead Halide Perovskite Films

Nam Chul Cho
Soonchunhyang Univ., Korea

ThB2-O5 14:40-14:55

Water-Soluble 2D Transition Metal Dichalcogenides as Interfacial Materials for Highly Efficient and Stable Perovskite Solar Cells

Yi Zhou, Peng Huang, and Bo Song
Soochow Univ., China

ThB2-O6 14:55-15:10

Low-Cost Synthesis of Heterocyclic Spiro-Type Hole Transporting Materials for Perovskite Solar Cell Applications

Chun-Guey Wu
Nat'l Central Univ., Taiwan

ThB2-O7 15:10-15:25

Morphology-Controlled Low-Temperature Solution-Processed Inverted All-Inorganic Perovskite-Based Solar Cells

Haixia Rao, Feidan Gu, Ziran Zhao, Zhiwei Liu, Zuqiang Bian, and Chunhui Huang
Peking Univ., China

[ThC2] Graphene Device & Application

Date / Time	July 5 (Thu.), 2018 / 13:30-15:35
Place	Room C (#107)
Session Chair	Byung Hoon Kim (Incheon Nat'l Univ., Korea) Jurgen Smet (Max Planck Institute for Solid State Research, Germany)

ThC2-I1 (Invited)

13:30-13:55

Inside Graphene Devices

Clemens B. Winkelmann¹, Sayanti Samaddar¹, Alessandro De Cecco¹, Indra Yudhistira², Adam Shaffique², Vladimir Prudkovsky¹, Claire Berger³, Walt de Heer³, and Hervé Courtois¹

¹Univ. of Grenoble-Alpes, France, ²NUS, Singapore, ³Georgia Tech, USA

ThC2-I2 (Invited)

13:55-14:20

Graphene Based NEMS; Physics and Applications

Sang Wook Lee

Ewha Womans Univ., Korea

ThC2-I3 (Invited)

14:20-14:45

Twisted Bilayers of Folded Graphene

Rolf J. Haug

Leibniz Univ. Hannover, Germany

ThC2-I4 (Invited)

14:45-15:10

Photonic Properties of Graphene-Based Supramolecular Self-Assembled Architectures

Sylvain Le Liepvre¹, Ping Du², Nataliya Kalashnick², David Kreher², Fabrice Mathevet², Celine Fiorini-Debuisschert¹, Fabrice Charra¹, and André-Jean Attias²

¹CEA, France, ²Sorbonne Univ., France

ThC2-I5 (Invited)

15:10-15:35

2-Dlike Growth of Metals on Supported Graphene Surfaces and Its Applications

Soo Sang Chae¹, Seunghun Jang¹, Won Ki Lee², Du Won Jung¹, Keun Ho Lee³, Jung Dong Kim³, Dohyeon Jeong³, Hyunju Chang¹, Jun Yeon Hwang², and Jeong-O Lee¹

¹KRICT, Korea, ²KIST, Korea, ³Raphas, Korea

[ThD2] Superconductivity

Date / Time	July 5 (Thu.), 2018 / 13:30-15:30
Place	Room D (#109)
Session Chair	Ben Powell (Univ. of Queensland, Australia)

ThD2-I1 (Invited) 13:30-13:55

Superconducting Phases in Molecular Solids

Stuart Brown
Univ. of California, USA

ThD2-I2 (Invited) 13:55-14:20

Spin-Imbalanced Superconductivity in Layered Organic Superconductors

Jochen Wosnitza
Helmholtz-Zentrum Dresden-Rossendorf, Germany

ThD2-I3 (Invited) 14:20-14:45

Fulde-Ferrell-Larkin-Ovchinnikov Phase in Highly Two-Dimensional Organic Superconductors

Shinya Uji¹, Yoshitsugu Iida¹, Shiori Sugiura¹, Takayuki Isono¹, Kaori Sugii¹, Taichi Terashima¹, Syuma Yasuzuka², Hiroki Akutsu³, Yasuhiro Nakazawa³, David Graf⁴, and Peter Day⁵
¹NIMS, Japan, ²Hiroshima Inst. of Tech., Japan, ³Osaka Univ., Japan, ⁴NHMF, USA, ⁵Univ. College London, UK

ThD2-O4 14:45-15:00

STM/STS on The Charge Ordering State in β'' -(BEDT-TTF)₄[(H₃O)Ga(C₂O₄)₃]C₆H₅NO₂

Koichi Ichimura, Hiroki Kokubo, Satoshi Tanda, Tohru Kurosawa, Hiroyuki Yoshida, Migaku Oda, Masayuki Ido, Hiroki Honma, Noriaki Matsunaga, Kazuto Moribe, Yoshihiko Ihara, and Atsushi Kawamoto
Hokkaido Univ., Japan

ThD2-O5 15:00-15:15

13C NMR Study of Organic Conductor κ -(BEDT-TTF)₂Cu[N(CN)₂] Under Pressure

Takuya Kobayashi, Akio Suzuta, Yoshihiko Ihara, and Atsushi Kawamoto
Hokkaido Univ., Japan

ThD2-O6 15:15-15:30

Electrostatic Doping for Superconductivity in Organic Conductors

Hiroshi Yamamoto¹, Masayuki Suda¹, Yoshitaka Kawasugi², and Reizo Kato²
¹Inst. for Molecular Science, Japan, ²RIKEN, Japan

[ThE2] Emerging Biomaterials

Date / Time	July 5 (Thu.), 2018 / 13:30-15:05
Place	Room E (#110)
Session Chair	SeungBeum Suh (KIST, Korea)

ThE2-01

13:30-13:45

Conductive Gold Nanostructure/Matrigel Composites to Enhance Electrochemical Signals of Pluripotent Stem Cells

 Tae-Hyung Kim¹, Intan Suhito¹, Sung-Hwan Moon², and Hyuk-Jin Cha³
¹Chung-Ang Univ., Korea, ²Konkuk Univ., Korea, ³Seoul Nat'l Univ., Korea
ThE2-02

13:45-14:00

Plasmon Assisted Enhanced Biosensor Using Ag/Polymer Core-Shell Hybrid Nanoparticle

Dong Hyuk Park, Seokho Kim, Jinho Choi, Do-hyoung Kim, and Jung Woon Park

Inha Univ., Korea
ThE2-I3 (Invited)

14:00-14:25

Artificial Photosynthesis: Learning from Nature

 Dong Ryeol Whang¹, Soo Young Park², and Serdar Niyazi Sariciftci¹
¹Johannes Kepler Univ. Linz, Austria, ²Seoul Nat'l Univ., Korea
ThE2-I4 (Invited)

14:25-14:50

Mono- and Di-nuclear Iridium (III) Complexes with Tridentate Polypyridine Ligands as Theranostic Photodynamic Therapy Agents

 Wenfang Sun¹, Bingqing Liu¹, Susan Monro², Colin G. Cameron³, Katsuya Colon³, Huimin Yin², Sherri A. McFarl^{2,3}
¹North Dakota State Univ., USA, ²Univ. Avenue, Canada, ³Univ. of North Carolina at Greensboro, USA
ThE2-05

14:50-15:05

Cellular Behaviors on Multilayered PDMS (Poly Dimethylsilox-ane) Nanobrush for Cell Adhesion and Morphogenesis

 Jongjin Jung¹, Soosang Chae², Joung Kyu Park², and Hyuk Wan Ko³
¹Hannam Univ., Korea, ²KRICT, Korea, ³Yonsei Univ., Korea

[ThF2] π -Conjugated Materials IV**Date / Time** July 5 (Thu.), 2018 / 13:30-15:35**Place** Room F (#104+105)**Session Chair** Chunhui Duan (South China Univ. of Tech., China)**ThF2-I1 (Invited)** 13:30-13:55**Graphene Nanoribbons as "Best of Two Worlds" between Graphenes and Conjugated Polymers**

Klaus Mullen

*Max Planck Inst. for Polymer Research, Germany***ThF2-I2 (Invited)** 13:55-14:20**Regioisomeric π -Conjugated Molecules for Optoelectronic Device Applications**

Han Young Woo

*Korea Univ., Korea***ThF2-O3** 14:20-14:35**Molecular Assemblies of ESIPT Fluorescent Sensors for Cations, Anions, and Organic Bases**Tomoyuki Akutagawa¹, Yuta Nakane¹, and Ken-ichi Sakai²¹*Tohoku Univ., Japan*, ²*Chitose Inst. of Tech., Jordan***ThF2-O4** 14:35-14:50**Structure and Dopant Engineering in PEDOT Thin Films for the Development of All-Polymeric Transparent Heaters**Alexandre Carella¹, Magatte Gueye¹, Renaud Demadrille², and Jean-Pierre Simonato¹¹*CEA-Liten, France*, ²*CEA-Inac, France***ThF2-O5** 14:50-15:05**Morphology and Ion Diffusion in PEDOT: A Theoretical Perspective**

Igor Zozoulenko, Juan F. Franco-Gonzalez, and Mohsen Modarresi

*Linköping Univ., Sweden***ThF2-O6** 15:05-15:20**Regioselective Transformation of Long π -Conjugated Backbones: From Oligofurans to Oligoarenes**

Ori Gidron

*The Hebrew Univ. of Jerusalem, Israel***ThF2-O7** 15:20-15:35**Morphology of Fused Ring Electron Acceptors and Their Applications**

Xinhui Lu

The Chinese Univ. of Hong Kong, China

[ThA3] OLED V
Date / Time July 5 (Thu.), 2018 / 15:55-17:35

Place Room A (#101+102)

Session Chair Juozas V. Grazulevicius (Kaunas Univ. of Tech., Lithuania)

ThA3-I1 (Invited)

15:55-16:20

Highly Efficient Deep Blue Thermally Activated Delayed Fluorescent Emitter

 Dae Hyun Ahn, Ju Young Lee, and Jang Hyuk Kwon
Kyung Hee Univ., Korea
ThA3-O2

16:20-16:35

Predicting the Emission Efficiency of Organometallic Complexes in OLEDs

 Xiuwen Zhou and Benjamin J. Powell
The Univ. of Queensland, Australia
ThA3-O3

16:35-16:50

Novel Furo[3,2-c]pyridine Based Ir Complexes for Efficient Phosphorescent OLEDs

 Junqiao Ding and Zhimin Yan
Changchun Inst. of Applied Chemistry, Chinese Academy of Sciences, China
ThA3-O4

16:50-17:05

Tuning of The Triplet Energy and Intersystem Crossing Rate by Promoting Sterically Hindrance in Metal-Free Room Temperature Phosphorescent Organic Emitters

 Rongjuan Huang and Fernando B. Dias
Durham Univ., Durham
ThA3-O5

17:05-17:20

Highly Efficient Near-Infrared Organic Fluorescent Materials and Light-Emitting Devices

 Jie Xue, Qingxin Liang, Lian Duan, and Juan Qiao
Tsinghua Univ., China
ThA3-O6

17:20-17:35

Conjugated Oligomers and Copolymers for Near-Infrared Light-Emitting Devices

 Petri Murto¹, Alessandro Minotto², Zewdneh Genene³, Andrea Zampetti², Shi Tang⁴, Wendimagegn Mammo³, Mats Andersson⁵, Ludvig Edman⁴, Franco Cacialli², and Ergang Wang¹
¹Chalmers Univ. of Tech., Sweden, ²Univ. College London, UK, ³Addis Ababa Univ., Ethiopia, ⁴Umea Univ., Sweden, ⁵Flinders Univ., Australia

[ThB3] PePv III

Date / Time July 5 (Thu.), 2018 / 15:55-17:10

Place Room B (#106)

Session Chair Xianjie Liu (Linkoping Univ., Sweden)

ThB3-01 15:55-16:10

Study for Decoupled Interface Dipole Moments and Energy Level Alignment in Organic Solar Cells and Hybrid Perovskite Solar Cells

Kyung-Geun Lim¹ and Tae-Woo Lee²

¹KRISS, Korea, ²Seoul Nat'l Univ., Korea

ThB3-02 16:10-16:25

Introducing Paired Electric Dipole Layers for Efficient Charge Collection in Polymer and Perovskite Solar Cells

Jong-Hoon Lee¹, Junghwan Kim², Geunjin Kim³, Song Yi Jeong¹, and Kwanghee Lee¹

¹GIST, Korea, ²Univ. of Toronto, Canada, ³KRICT, Korea

ThB3-03 16:25-16:40

Effect of Lattice Defect on Performance of Perovskite Solar Cell

SM Iftiqar and Junsin Yi

Sungkyunkwan Univ., Korea

ThB3-04 16:40-16:55

Designing Low-Cost and Amorphous Hole Transporting Materials for Efficient and Stable Perovskite Solar Cells

Xin Guo

Dalian Inst. of Chemical Physics, Chinese Academy of Sciences, China

ThB3-05 16:55-17:10

Analysis on Ion Diffusion Induced Degradation Mechanism of Sequentially Deposited Perovskite Light Emitting Diodes

Hyunho Lee, Donghyun Ko, and Changhee Lee

Seoul Nat'l Univ., Korea

[ThC3] 2D Materials and Devices
Date / Time July 5 (Thu.), 2018 / 15:55-17:10

Place Room C (#107)

Session Chair Rolf. J. Haug (Leibniz Universität Hannover, Germany)
Sang Wook Lee (Ewha Womans Univ., Korea)

ThC3-01

15:55-16:10

Research towards New Architecture based on 2D Layered Materials

 SungWon Kim, JeongHyun Na, Taewoo Uhm, Hyeonhu Bae, HoonKyung Lee, and Sung Ho Jhang
Konkuk Univ., Korea
ThC3-02

16:10-16:25

Probing The Defect Associated Exciton Dynamics in Quantum Dots of Atomically Thin Semiconductors

 Bo-Hyun Kim¹, Minho Jang², Hyewon Yoon², Sungjong Lee¹, Yong-Hoon Cho², Seokwoo Jeon²,
and Sung-Ho Song³, Sunjong Lee¹
¹KITECH, Korea, ²KAIST, Korea, ³Kongju Univ., Korea

ThC3-03

16:25-16:40

Ultra-High Temperature Annealing Effects on The Mass Sensitivity of Graphene Mechanical Resonators

 Dong Hoon Shin¹, Hakseong Kim², Min Hee Kwon¹, and Sang Wook Lee¹
¹Ewha Womans Univ., Korea, ²KRISS, Korea

ThC3-04

16:40-16:55

Funneling of Terahertz Waves through Van Der Waals Gaps Formed by Metal-Graphene-Metal Junction

 Young-Mi Bahk
Incheon Nat'l Univ., Korea
ThC3-05

16:55-17:10

New Application of Quantum Behavior in A Graphene Device

 Haeyong Kang¹, Jeongmin Park², Kyeong Tae Kang², Wooseok Choi², and Dongseok Suh²
¹Pusan Nat'l Univ., Korea, ²Sungkyunkwan Univ., Korea

[ThD3] OPV VII

Date / Time	July 5 (Thu.), 2018 / 15:55-17:25
Place	Room D (#109)
Session Chair	Jakob Heier (Empa Materials Science and Tech., Switzerland) Weishi Li (Chinese Academy of Sciences, China)

ThD3-O1 15:55-16:10

Photo-Current Conversion in Non-Fullerene Solar Cells

Derya Baran
KAUST, Saudi Arabia

ThD3-O2 16:10-16:25

Fully Printed Polymer Solar Cells

Yinhua Zhou
Huazhong Univ. of Science and Tech., China

ThD3-O3 16:25-16:40

Small Molecule Solar Cells Consisting of Benzodithiophene Core and Indandione Terminal Units for Energy Harvesting Devices

Ryota Arai¹, Seiichi Furukawa², Yu Hidaka², Woong Shin², Hideaki Komiyama², and Takuma Yasuda²
1RICOH Co. Ltd., Japan, 2Kyushu Univ., Japan

ThD3-O4 16:40-16:55

Eco-Friendly Preparation of Water Dispersed Nanoparticles for Organic Solar Cells Eliminating the Usage of Halogenated Solvents in All Process

Xun Pan¹, Desta Gedefaw², and Mats Andersson¹
¹Flinders Univ., Australia, ²Univ. of the South Pacific, Fiji

ThD3-O5 16:55-17:10

Side-Chain Isomerization with Ortho- and Meta-Fluorine Substitution Influencing Morphology and Performance of Non-Fullerene Organic Solar Cells

Changduk Yang and Jungho Lee
UNIST, Korea

ThD3-O6 17:10-17:25

Organic Photovoltaic Cells are Excellence Indoor Light Harvesters for Self-Sustainable Electronics: The Importance of Choosing Right Material Systems

Harrison Ka Hin Lee¹, Jiaying Wu², Jérémy Barbé¹, Sagar Jain¹, Emily Speller¹, Zhe Li¹, James Durrant², and Wing Chung Tsoi¹
¹Swansea Univ., UK, ²Imperial College London, UK

[ThE3] Electronic Properties and Application II
Date / Time July 5 (Thu.), 2018 / 15:55-17:10

Place Room E (#110)

Session Chair Sukyung Choi (ETRI, Korea)
Prem Prabhakaran (Hannam Univ., Korea)

ThE3-01 15:55-16:10

Observation of The Mesoscopic 2D Charge Transport in The "Metallic" PEDOT:PSS Films by High-Field Magnetoconductance and Synchrotron X-ray Scattering Measurements

 Keisuke Itoh¹, Yuta Honma¹, Hiroyasu Masunaga², Satoshi Iguchi¹, and Takahiko Sasaki¹
¹Inst. for Materials research, Tohoku Univ., Japan, ²JASRI SPring-8, Japan
ThE3-02 16:10-16:25

Determination of The Charge Injection Barrier at Organic Semiconductor/Metal Interface Using Accumulated Charge Measurement

 Hiroyuki Tajima, Tomofumi Kadoya, and Jun-ichi Yamada
Univ. of Hyogo, Japan
ThE3-03 16:25-16:40

Transparent Conducting Electrodes for Organic Optoelectronics from Solution Processing

 Antonio Gaetano Ricciardulli¹, Sheng Yang², Gert-Jan Wetzelaer¹, Xinliang Feng², and Paul Blom¹
¹Max-Planck-Inst. für Polymerforschung, Germany, ²Technische Univ. Dresden, Germany
ThE3-04 16:40-16:55

Understanding Morphology-Mobility Dependence in PEDOT:Tos. A Multi-Scale Approach

 Igor Zozoulenko¹, Nicolas Rolland¹, Juan Felipe Franco-Gonzalez¹, Riccardo Volpi², and Mathieu Linares³
¹Linköping Univ., Sweden, ²Romanian Inst. of Science and Tech., Rumania, ³Royal Inst. of Tech., Sweden
ThE3-05 16:55-17:10

A Theoretical Study of Electrochemical and Electrochromic Properties of Novel Viologen Derivatives: Effects of Donors and π -Conjugation Length

 Wan-Ru Shie
Nat'l Taiwan Univ. of Science and Tech., Taiwan

[ThF3] π -Conjugated Materials V

Date / Time July 5 (Thu.), 2018 / 15:55-17:35

Place Room F (#104+105)

Session Chair Igor F. Perepichka (Bangor Univ., UK)
Jin-Kyun Lee (Inha Univ., Korea)

ThF3-I1 (Invited) 15:55-16:20

Tuning of Ferromagnetic Spin Interactions in Oligo- and Polyary Lamines via Modification of Their π -Conjugated Systems

Irena Kulszewicz-Bajer
Warsaw Univ. of Tech., Poland

ThF3-O2 16:20-16:35

Single-Crystalline Thin-Film Fabrication and Optical Anisotropy of Alkyl-Substituted Phthalocyanines

Akihiko Fujii, Takahiro Kitagawa, Yusaku Anzai, Mitsuhiro Nakatani, Yuki Nishikawa, Masashi Ohmori, and Masanori Ozaki
Osaka Univ., Japan

ThF3-O3 16:35-16:50

Manipulating Molecular Backbone in Conjugated π Systems to Achieve The Controlled π -Stacking

Yanzi Xu, Ying Zhi, and Dongfeng Dang
Xi'an Jiaotong Univ., China

ThF3-O4 16:50-17:05

Plasmon Activating High-Performance Organic Photodetector and Waveguide Using Organic Crystals

Seokho Kim¹, Jinho Choi², Bo-hyun Kim¹, Sunjong Lee¹, and Dong Hyuk Park²
¹KITECH, Korea, ²Inha Univ., Korea

ThF3-O5 17:05-17:20

Ambient Triplet Harvesting in Supramolecular Way

Suman Kuila and Subi George
Jawaharlal Nehru Center for Advanced Scientific Research, India

ThF3-O6 17:20-17:35

New Organic Semiconductors of Tunable Electrochemical, Spectroelectrochemical and Luminescent Properties via Varying Donor- Acceptor Interactions

Malgorzata Zagorska¹, Renata Rybakiewicz², Lukasz Skorka¹, Martyna Charyton¹, Roman Ganczarczyk¹, Gabriela Wiosna-Salyga³, and Adam Pron¹
¹Warsaw Univ. of Tech., Poland, ²Cardinal Stefan Wyszyński Univ., Poland, ³Technical Univ. of Lodz, Poland

[ThP] Poster Session III
Date / Time July 5 (Thu.), 2018 / 19:00-21:00

Place 2F, Lobby

Topic 3: Organic Electronics and Optoelectronics

(ThP-001~ThP-134)

ThP-001
Design and Photophysical Characterization of Novel NIR Dyes for DSSCs Using Cobalt Electrolytes

 Anusha Pradhan, Gaurav Kapil, Shuzi Hayase, and Shyam Sudhir Pandey
Kyushu Inst. of Tech., Japan
ThP-002
Enhanced Field-Effect Mobility of Dioctylbenzothienobenzothiophene-Based Top-Gate Organic Transistors with Channel Length of 5 μm Using Solution-Processed MoO_3 Hole Injection Layers

 Tomoya Aiba¹, Takashi Nagase¹, Takashi Kobayashi¹, Yuichi Sadamitsu², and Hiroyoshi Naito¹
¹*Osaka Prefecture Univ., Japan*, ²*Nippon Kayaku Co.,Ltd., Japan*
ThP-003
Optical Memory Characteristics of Solution-Processed Top-Gate Organic Transistors with Molecular Floating Gates

 Hayato Abe, Fumiya Shiono, Takashi Nagase, Takashi Kobayashi, and Hiroyoshi Naito
Osaka Pref. Univ., Japan
ThP-004
Design, Synthesis and Characterization of Narrow Bandgap Small Molecules based on Naphthalenediimide Core for Ambipolar Charge Transport Properties

 Teng Teng¹, Piotr Sleczkowski², David Kreher¹, Lydia Sosa-Vargas¹, Jean-Charles Ribierre³, and Fabrice Mathevet¹
¹*Sorbonne Univ., France*, ²*Ewha Womans Univ., Korea*, ³*Kyushu Univ., Japan*
ThP-005
A-D-A Type Semiconducting Small Molecules for Ambipolar Organic Thin-Film Transistors

 Yujeong Lee¹, Young Woong Lee¹, Min Je Kim², Jeong Ho Cho², and Han Young Woo¹
¹*Korea Univ., Korea*, ²*Sungkyunkwan Univ., Korea*
ThP-006
2D Molecular Crystals for Fast Response Phototransistors

Jin Hong Kim and Soo Young Park

Seoul Nat'l Univ., Korea

ThP-007

Thermal Gradient Assisted Directional Crystallization of Hybrid Perovskites Effected on Alkylammonium Formate

Juho Kim¹, Namchul Cho², and Tae-dong Kim¹

¹Hannam Univ., Korea, ²Soonchunhyang Univ., Korea

ThP-008

Modulation Charge Transport in Diketopyrrolopyrrole Based Polymers from Hole to Electron by Incorporation of Cyano Group

Hee Su Kim¹, Huseynova Gunel², Yong-Young Noh², and Do-Hoon Hwang¹

¹Pusan Nat'l Univ., Korea, ²Dongguk Univ., Korea

ThP-009

Synthesis, Molecular, and Photovoltaic/Transistor Properties of Acenedithiophene Derivatives

Shao-Ling Chang¹, Chih-Wen Lu¹, Fong-Yi Cao¹, Yu-Ying Lai², and Yen-Ju Cheng¹

¹Nat'l Chia Tung Univ., Taiwan, ²Nat'l Taiwan Univ., Taiwan

ThP-010

Photo-Crosslinkable and Low-Temperature Processable Polyimide Gate Insulators for Thin-Film Transistors

Gyeongmin Ki and Taek Ahn

Kyungsung Univ., Korea

ThP-011

Synthesis and Thin Film Properties of A Thermally Curable Trifluorovinyl Substituted Polyimide for Gate Insulator in Thin Film Transistor

Gyeongmin Ki and Taek Ahn

Kyungsung Univ., Korea

ThP-012

Enhanced Charge Injection Properties of Organic Field Effect Transistors by Doping Through Solid State Diffusion

Youngrok Kim¹, Wang-Taek Hwang¹, Kyoungjune Cho¹, Younggul Song¹, Woocheol Lee¹, Daekyoung Yoo¹, Heebeom Ahn¹, Henning Sirringhaus², Keehoon Kang¹, and Takhee Lee¹

¹Seoul Nat'l Univ., Korea, ²Univ. of Cambridge, UK

ThP-013

Alkyl Chain Length Dependence of Negative Differential Resistance in Tricyanovinyl-Substituted Carbazole-Based Thin Film Transistors

Marta Reig¹, Joaquim Puigdollers², Cristobal Voz², and Dolores Velasco¹

¹Univ. Barcelona, Spain, ²Univ. Politècnica Catalunya, Spain

ThP-014
The Effect of The Substitution Patterns of The Triindole Core on The Thin Film Crystallinity for High Performance Organic Thin-Film Transistors

Marta Reig¹, Alba Cuadrado¹, Roger Bujaldón¹, Joaquim Puigdollers², and Dolores Velasco¹
¹Univ. Barcelona, Spain, ²Univ. Politècnica Catalunya, Spain

ThP-015
Photo-Generated Field-Effect Transistors Using Two-Dimensional MoS₂/Rubrene Hybrid

Cheol-Joon Park¹, Hyeon Jung Park¹, Jae Yoon Lee¹, Chul-Ho Lee¹, Jeongyong Kim², Kwang-Sup Lee³, and Jinsoo Joo¹
¹Korea Univ., Korea, ²Sungkyunkwan Univ., Korea, ³Hannam Univ., Korea

ThP-016
Organic Field-Effect Transistors based on α -Substituted Thienoisindigo Derivatives

Dongho Yoo, Tsukasa Hasegawa, Minoru Ashizawa, Tadashi Kawamoto, Hidetoshi Matsumoto, and Takehiko Mori
 Tokyo Inst. of Tech., Japan

ThP-017
Fabrication of 2D Molecular Layer Mott FET toward Room Temperature Operation

Masayuki Suda and Hiroshi M. Yamamoto
 Inst. for Molecular Science, Japan

ThP-018

WITHDRAWL

ThP-019
Effects of Solvent Mixtures on The Performance of Polymer Field-Effect Transistors

Min Soo Park and Felix Sunjoo Kim
 Chung-Ang Univ., Korea

ThP-020
Nanoscale Optical Characteristics and Field-Effecttransistors Using Two-Dimensional Inorganic/Organic n-p Hetero-Structure

Hyeon Jung Park¹, Cheol-Joon Park¹, Jeongyong Kim², and Jinsoo Joo¹
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ThP-021

Development of High-Performance Polymer Field-Effect Transistors with Environmentally Benign Solution Processing

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ThP-022

High Mobility Diphenylethenyl-Substituted Triphenylamines as Effective Organic Semiconductors

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Flexible Organic Field Effect Transistors, Produced by Direct Multi - Printing Process

Olga Solomeshch, Nir Tessler, Yacov Shneider, Tatiana Beker, Svetlana Yofis, and Arkady Gavrilov
Technion, Israel

ThP-024

High Mobility and Green-Solvent Processable Plastic Transistors Enabled by Irregular Structure in Terpolymers

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ThP-025

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ThP-026

Iridium(III) Cyclometalates Containing Different Number of o-Carboranyl Ligands for High-Efficiency Phosphorescent OLEDs

Sujith Surendran, Nghia Nguyen Van, Heechai Lee, Ajay Kumar, and Min Hyung Lee
Univ. of Ulsan, Korea

ThP-027

Deep-Red Amplified Spontaneous Emission From Cis-Configured Squaraine

Hao Ye, Linsong Cui, Toshinori Matsushima, Chuanjiang Qin, and Chihaya Adachi
Kyushu Univ., Japan

ThP-028
High-Performance Blue Thermally Activated Delayed Fluorescent OLEDs based on Ortho-Carbazole-Appended Triarylboron Emitters

Young Hoon Lee, Heechai Lee, Juhee Kim, and Min Hyung Lee
Univ. of Ulsan & EHSRC, Korea

ThP-029
Thermal Annealing Dependent Emission Colour and Efficiency of Isophtalonitrile-Based TADF Emitters with Different Donors

Dmytro Volyniuk, Eigirdas Skuodis, Austra Tomkeviciene, Karolis Leitonas, Oleksandr Bezikonnyi, Viktorija Mimaite, and Juozas V. Gražulevičius
Kaunas Univ. of Tech., Lithuania

ThP-030
Highly-Efficient Down-Conversion White OLEDs with Color-Conversion Light Outcoupling Structures

Joo Won Han¹, Chul Woong Joo², Jonghee Lee², and Yong Hyun Kim¹
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ThP-031
TADF and RTP Properties of Simple D-A and D-A-D Systems

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ThP-032
Wavelength-Selective and Photo-Switchable π -Electronic Microlasers

Daichi Okada¹, Stefano Azzini², Hiroki Nishioka³, Hayato Tsuji⁴, Fumio Sasaki⁵, Eiichi Nakamura³, Cyriaque Genet², Thomas Ebbesen², Zhang-hong Lin⁶, Masakazu Morimoto⁷, Jer-shing Huang⁶, Takeo Minari⁸, Tadaaki Nagao⁸, Masahiro Irie⁷, and Yohei Yamamoto¹
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ThP-033
Spin-Dependent Energy Transfer to A Dendritic Fluorophore in Solution-Processed Organic Light-Emitting Diodes Using Thermally Activated Delayed Fluorescence

So Shikita, Naoya Aizawa, and Takuma Yasuda
Kyushu Univ., Japan

ThP-034
Highly Efficient Blue Organic Light-Emitting Diodes from Pyrimidine-Based Thermally Activated Delayed Fluorescence Emitters

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ThP-035

Blocking Energy-Loss Pathways for Ideal Fluorescent Organic Light-Emitting Diodes with Thermally Activated Delayed Fluorescent Sensitizers

Xiaozeng Song, Dongdong Zhang, Minghan Cai, and Lian Duan
Tsinghua Univ., China

ThP-036

Hydrogen Bonded Thermally Activated Delayed Fluorescent Materials with Narrow Spectra: From Design to Manipulation

Minghan Cai, Yong Qiu, and Lian Duan
Tsinghua Univ., China

ThP-037

Achieving High-Performance Solution-Processed Orange OLEDs with The Phosphorescent Cyclometallated Trinuclear Pt(II) Complex

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ThP-038

Introducing Ir complexes as Donor Materials: Investigation on Triplet State in Organic Solar Cells

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Design and Synthesis of Hole-Blocking Materials with Hightriplet Energy and Glass Transition Temperature for Blue Phosphorescent Organiclight-Emitting Diodes

Seokhoon Jang and Youngu Lee
DGIST, Korea

ThP-040

Electronic Transport in Organic Light-Emitting Diodes Studied by Impedance Spectroscopy

Makoto Takada, Takashi Nagase, Takashi Kobayashi, and Hiroyoshi Naito
Osaka Prefecture Univ., Japan

ThP-041

The Importance of Vibronic Coupling and Solid State Solvation on Thermally Activated Delayed Fluorescence Molecules

Beth Alexandra Laidlaw, Jamie Gibson, Jessica Stacey, Thomas Northey, and Thomas Penfold
Newcastle Univ., UK

ThP-042
Electrochemical Polymerized Ultrahigh-Resolution PMOLED Display

Rong Wang, Linlin Liu, and Yuguang Ma

South China Univ. of Tech., China

ThP-043
Synthesis and Characterization of Donor-Acceptor OLED Emitters with New Electron Donating Units

Xiaofeng Tan, Dmytro Volyniuk, and Juozas V. Gražulevičius

Kaunas Univ. of Tech., Lithuania

ThP-044
Pyridal[2,1,3]thiadiazoleas Strong Electron-Withdrawing and Less Steric Hindrance Acceptor For Highly Efficient Donor-Acceptor Type NIR Materials

Dehua Hu and Yuguang Ma

South China Univ. of Tech., China

ThP-045
Efficient Blue Light-Emitting Polymers Containing Fluorene[2,3-b]Benzo[d]Thiophene-S,S-Dioxide Unit

Wei Yang, Feng Peng, Lei Ying, and Yong Cao

South China Univ. of Tech., China

ThP-046
Semi-Orthogonal Solution-Processed Polyfluorene Derivative for Multilayer Polymer Light-Emitting Diodes

Zhiming Zhong and Lei Ying

South China Univ. of Tech., China

ThP-047
Synthesis of New Heteroleptic Iridium(III) Complexes Consisting of Bipyridine for Vacuum-Deposited Organic Light-Emitting Diodes

Jae-Ho Jang, Do-Hoon Hwang, Jeong Yong Park, and Hea Jung Park

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ThP-048
Theoretical Simulations of Molecular Packing and Electronic Processes in Organic Solar Cells

Guangchao Han and Yuanping Yi

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ThP-049

Diblock Copolymer PF-b-PDMAEMA as Effective Cathode Interfacial Material in Polymer Solar Cells

Ligang Yuan, Yi Zhou, and Yongfang Li
Soochow Univ., China

ThP-050

Optimal Light Absorption in Polymer Solar Cells Using Tunable Plasmonic Ag Quantum Dot Arrays

Seyeong Song, Sang Kyu Kwak, and Jin Young Kim
UNIST, Korea

ThP-051

High Performance Oxide Buffer Free Organic Bulk-Heterojunction Solar Cells

DoHui Kim and Shinuk Cho
Univ. of Ulsan, Korea

ThP-052

Bulk Heterojunction Organic Solar Cells Including Donor-Acceptor Type Small Molecules

Wataru Genno, Kana Nakamura, Takashi Okubo, Yoshihiro Yamaguchi, Masahiko Maekawa, and Takayoshi Kuroda-Sowa
Kindai Univ., Japan

ThP-053

Semitransparent Polymer Solar Cells with Solution Processible Oxide/Metal/Oxide Electrodes

Jeonghoon Seo and Shinuk Cho
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ThP-054

Polymer Solar Cells with Enhanced Efficiency by Modifying PEDOT:PSS Surface

Sujung Park and Shinuk Cho
Univ. of Ulsan, Korea

ThP-055

Tunable Dual Wavelength Organic Near-Infrared Photodetectors

Yazhong Wang¹, Zheng Tang², Bernhard Siegmund¹, Zaifei Ma², Johannes Benduhn¹, Donato Spoltore¹, Karl Leo¹, and Koen Vandewal³
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ThP-056
Two-Dimensional Mo_{1.33}C MXene-Assisted Hole Transport Layer for High Performance Organic Solar Cells

Yanfeng Liu, Yingzhi Jin, Quanzheng Tao, Johanna Rosen, Zaifang Li, and Fengling Zhang
Linköping Univ., Sweden

ThP-057
Porphyrin Based Materials for Organic Photovoltaics

Mariza Mone and Ergang Wang
Chalmers Univ. of Tech., Sweden

ThP-058
Highly Soluble Donor-Acceptor Polymers based on Carbazole Units with Alkoxy Substituents at The 4-Position for Photovoltaic Cells

Takeshi Yasuda¹, Kosuke Shibasaki², and Masashi Kijima²
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ThP-059
Electronic Structure and Exciton Dynamics of Organic Donor/Acceptor Interface Depending on Molecular Orientation Controlled by Templating Layer

Heeseon Lim¹ and JeongWon Kim²
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ThP-060
A Twisted Thieno[3,4-b]thiophene-Based Electron Acceptor Featuring A 14-Pi-Electron Indenoindene Core for High-Performance Organic Photovoltaics

Shengjie Xu and Xiaozhang Zhu
Inst. of Chemistry Chinese Academy of Sciences, China

ThP-061
An Electron-Rich 2-Alkylthieno[3,4-b]thiophene Building Block with Excellent Electronic and Morphological Tunability toward Efficient Small-Molecule Solar Cells

Zichun Zhou and Xiaozhang Zhu
Inst. of Chemistry, Chinese Academy of Sciences, China

ThP-062
All-in-One Small Molecular Solar Cells based on Oligothiophene-Fullerene Conjugate

Thanh Luan Nguyen¹, Tack Ho Lee², Bhoj Gautam³, Song Yi Park², Kenan Gundogdu³, Jin Young Kim², and Han Young Woo¹
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ThP-063

Influence of The Crystalline Nature of Small Molecules on The Efficiency and Stability of Organic Optoelectronics

Na Gyeong An, Kyu Cheol Lee, Jungwoo Heo, Changduk Yang, and Jin Young Kim
UNIST, Korea

ThP-064

Comparison Study of Polymer Solar Cells with Alkoxybenzothiadiazole-Based Semi-Crystalline Polymers for Indoor Photovoltaic Applications

Song Yi Park¹, Yuxiang Li², Jaewon Kim¹, Tack Ho Lee¹, Bright Walker¹, Han Young Woo², and Jin Young Kim¹

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ThP-065

Design, Synthesis and Optoelectronic Properties of Novel Unsymmetric Diketopyrrolopyrrole Conjugated Copolymers

Kenta Aoshima, Marina Ide, and Akinori Saeki
Osaka Univ., Japan

ThP-066

Physical Effects of Ultra-Thin Hafnium Oxide Tunneling Layer on The Dark Current of Organic Photodiode

Kee Tae Kim, Chan Hyuk Ji, Da Hee Song, and Se Young Oh
Sogang Univ., Korea

ThP-067

Non-Fulleme Polymer Solar Cells Using a High-Molecular-Weight Thieno[3,4-c]pyrrole-4,6-(5H)-Dione Based Conjugated Polymer with over 11% Efficiency.

Jong Baek Park, Jong-Woon Ha, and Do-Hoon Hwang
Pusan Nat'l Univ., Korea

ThP-068

Structure-Property Relationships in Fullerene and Nonfullerene Solar Cells Incorporating DTBDT-Based Small Molecule Donors

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ThP-069
Construction of Layered Structure of Anion-Cations to Tune the Work Function of AZO for Inverted Polymer Solar Cells

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ThP-070
Side Chain Heteroatom Effect on Morphology and Photovoltaic Performance of The ATT-Based Non-Fullerene Solarcells

Jiayun Zhang and Xiaozhang Zhu

Chinese Academy of Sciences, China

ThP-071
Regioregular Conjugated Polymers Comprising Two-Dimensional Benzodithiophene for High-Efficiency Organic Photovoltaics

Honggi Kim¹, Bogyu Lim², Hyojung Heo¹, Geonik Nam¹, Hyungjin Lee², Ji Young Lee², Jaechol Lee², and Honggi Kim¹

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ThP-072
Crosslinkable Non-Conjugated Polyelectrolytes as Polymer Interlayers for Optoelectronic Applications

Yoon Kim, Hee Yeon Jeong, and Tae Dong Kim

Hannam Univ., Korea

ThP-073
Optimizing The Charge Mobility and Phase Separation of Thick PTB7:PC₇₁BM Films by Modified Graphene Oxide

Chengkun Lv, Fei Zheng, and Xiaotao Hao

Shandong Univ., China

ThP-074
Improving The Compatibility of Donor Polymers in Efficient Ternary Organic Solar Cells via Post-Additive Soaking Treatment

Xiaoyu Yang, Jianqiang Liu, and Xiaotao Hao

Shandong Univ., China

ThP-075
Improving Stability and Performance in Organic Photovoltaics Device with Thick Activelayers Incorporating Insulating Polymer Frames

Zhenchuan Wen, Peng-Qing Bi, Xiaoyu Yang, and Xiaotao Hao

Shandong Univ., China

ThP-076

Improving Performance of Ternary Organic Solar Cells by Incorporating Non-Fullerene Acceptors with Different Crystallinity

Kangning Zhang, Peng-Qing Bi, Zhenchuan Wen, and Xiaotao Hao
Shandong Univ., China

ThP-077

Regulating The Vertical Phase Distribution by Fullerene-Derivative in High Performance Ternary Organic Solar Cells

Peng-Qing Bi and Xiao-Tao Hao
Shandong Univ., China

ThP-078

Charge Transfer Induced Open-Circuit Voltage Losses in Non-Fullerene Organic Solar Cells

Zhihao Chen, Peng-Qing Bi, Kangning Zhang, and Xiaotao Hao
Shandong Univ., China

ThP-079

Molecular Packing and Electron Transport of Perylenediimide Derivatives: Theoretical Insight into The Impact of Alkyl Functionalization and Covalent Dimerization

Yuan Guo, Guangchao Han, Ruihong Duan, and Yuanping Yi
Inst. of Chemistry Chinese Academy of Sciences, China

ThP-080

Interfacial Engineering via Inserting Functionalized Water-Soluble Fullerene Derivative Interlayers for Enhancing Performance of Perovskite Solar Cells

Tiantian Cao, Peng Huang, Kaicheng Zhang, Ziqi Sun, Ning Chen, and Yongfang Li
Chemical Engineering and Mate, China

ThP-081

Efficiency Enhancement of Perovskite Solar Cells via Water-Soluble Fullerenol C₆₀(OH)₁₆ Interlayers

Kang Chen, Tiantian Cao, Ziqi Sun, Ning Chen, and Yongfang Li
Chemical Engineering and Mate, China

ThP-082

Improvement in Performance of p-i-n Perovskite Based Solar Cells Using Zr Doped TiO_x as An Electron Transport Layer

Chan Hyuk Ji, Hae Seong Kim, and Se Young Oh
Sogang Univ., Korea

ThP-083
Perovskite Based Light Emitting Solar Cells

Hak-Beom Kim¹, Young Jin Yoon¹, Jaeki Jeong¹, Jungwoo Heo¹, Hyungsu Jang¹, Jung Hwa Seo², Bright Walker¹, and Jin Young Kim¹

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ThP-084
The Effect of Interaction between CuSCNdopant and Dimethylsulfoxide Mediated Intermediate Phase on the Methylammonium Leadiodide Perovskite Solar Cells

Donghee Kang¹, Dongguen Shin¹, Junkyeong Jeong¹, Jisu Yoo¹, Kiwoong Kim¹, Hyunbok Lee², and Yeonjin Yi¹

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ThP-085
Interfacial Energy Level Alignment between Mixed Perovskite and Organic Materials

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ThP-086
Photoemission Studies of Buried Interface TiO₂/MAPbI₃: Chemical Change and Energy Level Alignment

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ThP-087
Ligand Exchange Inquaternary Alloyed Nanocrystals Ag-In-Zn-S

Kamil Kotwica¹, Piotr Bujak¹, Zbigniew Wrobel², and Adam Pron¹

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ThP-088
Solvent-Induced Crystallization of Cs₄PbBr₆ for Light Conversion

Van Quyet Le and Soo Young Kim

Chung-Ang Univ., Korea

ThP-089
Origin of Shape-Dependent Fluorescence Polarization from CdSe Nanoplatelets

Da-Eun Yoon¹, Whi Dong Kim¹, Dahin Kim¹, Dongkyu Lee¹, Sungjun Koh¹, Wan Ki Bae², and Doh Chang Lee¹

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ThP-090

Colloidal Quantum Dots with Near-Unity Quantum Yield and Suppressed Blinking

Byeong Guk Jeong¹, Jun Hyuk Chang², Wan Ki Bae³, and Doh Chang Lee¹

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ThP-091

Highly Efficient Top Emitting Quantum Dot Light Emitting Diodes

Changhee Lee and Taesoo Lee

Seoul Nat'l Univ., Korea

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Two-Step Annealing Effect on Highly Efficient PbS-Colloidal Quantum Dot Solar Cells

Changjo Kim, Se-Woong Baek, and Jung-Yong Lee

KAIST, Korea

ThP-093

Energy Levels Alignment of P3HT-PbS and P3HT-CdS Hybrid Interface for Photovoltaic Applications

Phuong Thao Nguyen and Ji Hoon Shim

POSTECH, Korea

ThP-094

A Doped Organic Layer for Efficient and Stable Quantum Dot Solar Cells

Sang-Hoon Lee¹, Se-Woong Baek¹, Jung Hoon Song², Changjo Kim¹, Ye-Seol Ha¹, Hyeyoung Shin¹, Hyungjun Kim¹, Sohee Jeong², and Jung-Yong Lee¹

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ThP-095

Role of Polymeric Nucleation Layers in Fabricating Large-Area, Flexible, and Transparent Electrodes for Printable Electronics

Soyeong Jeong, Suhyun Jung, Hongkyu Kang, Dasol Lee, Sang-Bae Choi, Seok Kim, Byoungwook Park, Kilho Yu, Jinho Lee, and Kwanghee Lee

GIST, Korea

ThP-096

Donor-Antimony(V) Lewis Acid for OFF-ON Fluorescence Sensing of Fluoride

Ajay Kumar, Juhee Kim, Sujith Surendran, and Min Hyung Lee

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ThP-098
Comparative Investigation on Electrical Transport Properties of Self-Assembled Monolayers Formed by Benzenethiol, Cyclohexanethiol, and Adamantanethiol

Jun Woo Kim, Hyunhak Jeong, Wang-Taek Hwang, Yeonsik Jang, Jeongmin Koo, and Takhee Lee

Seoul Nat'l Univ., Korea

ThP-099
PFN and Ba(OH)₂ Dipole Materials as Electron Transport Layers on n-Type Crystalline Silicon Semiconductor

Zaira Barquera, Pablo Ortega, Gerard Masmitjà, Isidro Martín, Luis Guillermo Gerling, Joaquim Puigdollers, Cristobal Voz, and Ramon Alcubilla

Univ. Politècnica Catalunya, Spain

ThP-100
Cycloalkyl Modified Ionic Liquids for Electrochromic Polymer Windows

Jinbo Kim, Chihyun Park, Younghoon Kim, Woojae Lee, Minsu Han, and Eunyoung Kim

Yonsei Univ., Korea

ThP-101
Near Infrared Whispering Gallery Mode Photoluminescence From Conjugated Polymer Blend Microsphere Resonators

Osamu Oki¹, Soh Kushida¹, Annabel Mikosch², Kota Hatanaka³, Youhei Takeda³, Satoshi Minakata³, Junpei Kuwabara¹, Takaki Kanbara¹, Thang Dao⁴, Satoshi Ishii⁴, Tadaaki Nagao⁴, Alexander Kuehne², Felix Deschler⁵, Richard Friend⁵, and Yohei Yamamoto¹

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ThP-102
Crystal Structure and Physical Properties of [Ni(dmit)₂] Salts with Pyridazinium or Pyrazinium-Dibenzo[24]Crown-8 Supramolecular Cations

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ThP-103

Ferromagnetic [Mn^{II}Cr^{III}(oxalate)₃] Salts with Supramolecular Cations based on Benzo[18]crown-6

Jiabing Wu¹, Toru Endo¹, Kiyonori Takahashi¹, Kazuya Kubo², Yasutaka Suzuki³, Shin-ichiro Noro¹, Jun Kawamata³, and Takayoshi Nakamura¹

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ThP-104

Molecular Rotation in Semiconducting (3-Fluoro Adamantane Ammonium) (Trans-Syn-Trans-Dicyclohexano [18]crown-6)[Ni(dmit)₂]·CH₃CN

Kiyonori Takahashi¹, Yu Ohshima¹, Kazuya Kubo², Shin-ichiro Noro¹, Sadamu Takeda¹, Tomoyuki Akutagawa³, and Takayoshi Nakamura¹

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ThP-105

Electrochemical and Spectroelectrochemical Investigation of Differently Substituted Pyridine by Phenoxazine or Phenothiazine Units

Vasylieva Marharyta, Czichy Malgorzata, Motyka Radoslaw, Data Przemyslaw, and Lapkowski Mieczyslaw

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ThP-106

Study on The Charge Transfer Process between Silver Nanoparticles and Organic Semiconductors in Non-Volatile Memories by Surface Enhanced Raman Scatting

Cong Wang, Linlin Liu, and Yuguang Ma

South China Univ. of Tech., China

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D-A-D BODIPY Dye with Restricted Intramolecular Charge Transfer State: Highly Emissive in Solution and Crystal

Hongcheng Gao, Zengqi Xie, and Yuguang Ma

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Approaches for Enhancing Light Upconversion Efficiency in Diphenylanthracene Compounds

Karolis Kazlauskas, Steponas Raisys, Povilas Adomenas, and Saulius Jursenas

Vilnius Univ., Lithuania

ThP-109

High Voltage Organic Cathode Materials for Lithium-Ion Batteries

Kyu Nam Lee, Ji Eon Kwon, and Soo Young Park

Seoul Nat'l Univ., Korea

ThP-110
Fabrication of Flexible Electrodes Using Electrospun PVDF-HFP Nanofiber Web and Application to MnO₂ Supercapacitor.

Soojung Lee, Sung Hee Kim, and Jun Young Lee
Sungkyunkwan Univ., Korea

ThP-111
All Organic Nano-Templates for Visible Light Driven Hydrogen Evolution from Water

Hyun-Jun Lee, Jae-Kwan Kim, and Soo Young Park
Seoul Nat'l Univ., Korea

ThP-112
Coral-Like Mesoporous Polyaniline with High Surface Area: Self-Assembly, Characterization and Improved Electrochemical Capacitance Performance

Wei Lyu, Mengting Yu, Jiangtao Feng, and Wei Yan
Xi'an Jiaotong Univ., China

ThP-113
Phosphorescence of New Benzophenone and Diphenylsulfone Compounds in Amorphous Polymer Matrice at Room Temperature

Ausra Tomkeviciene, Asta Dabuliene, Ramunas Lygaitis, and Juozas V. Gražulevičius
Kaunas Univ. of Tech., Lithuania

ThP-114
Zinc-Phosphorus Complex Working as an Atomic Valve for Colloidal Growth of Monodisperse Indium Phosphide Quantum Dots

Sungjun Koh and Doh Chang Lee
KAIST, Korea

ThP-115
High-Performance Pressure Sensors Based on Three-Dimensional Electrospun Core/Shell Nanofiber Structures

O Young Kweon, Sang Jin Lee, and Joon Hak Oh
POSTECH, Korea

ThP-116
Chiral Functionalized Graphene-Based Sensor for Enantioselective Chemical Sensing

Cheol-Hee Park¹, Xiaobo Shang¹, Gwan Yeong Jung², Sang Kyu Kwak², and Joon Hak Oh¹
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Direct Cd-to-Pb Cation Exchange into CdSe/PbSe Axial Heterojunction Nanorods

Dongkyu Lee, Whi Dong Kim, Seokwon Lee, and Doh Chang Lee

KAIST, Korea

ThP-118

Synthesis and Charge-Transport Properties of Thiophene-Fused Nanographene for Organic Field-Effect Transistors

Yuka Kojiguchi, Kyohei Matsuo, and Takuma Yasuda

Kyushu Univ., Japan

ThP-119

Optimizing the Nano and Electronic Structures in the Active Layer of Polymer Solar Cells

Han Yan

Xi'an Jiaotong Univ., China

ThP-120

Morphology Stabilization Using Stamping Transferprocess via Controlled PUA Mold for Perovskite and Organic Optoelectric Devices

Woongsik Jang and Dong Hwan Wang

Chung-Ang Univ., Korea

ThP-121

Unravelling The Ideal Morphology of Small Molecules-Based Bulk Heterojunction for OPV

Julien Gorenflot¹, Obaid Alqahtani², Maxime Babics¹, Victoria Savikhin³, Thomas Ferron², Ahmed H. Balawi¹, Andreas Paulke⁴, Zhipeng Kan¹, Michael Pope², Dieter Neher⁴, Mike F. Toney³, Frédéric Laquai¹, Pierre M. Beaujuge¹, and Brian A. Collins²

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ThP-122

Flexible PANI Electrodes for NFC-pH Sensor

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ThP-123

Quantifying Generation and Losses Yields and Dynamics in Bulk Heterojunction Solar Cells with Fluorine-Substituted Polymer Donors: What Happens? How Fast? How Much?

Julien Gorenflot¹, Andreas Paulke², Fortunato Piersimoni², Jannic Wolf¹, Zhipeng Kan¹, Federico Cruciani¹, Abdulrahman El Labban¹, Dieter Neher², Pierre M. Beaujuge¹, and Frédéric Laquai¹

¹KAUST, Saudi Arabi, ²Univ. of Potsdam, Germany

ThP-124
A Triphenylamine-Based Push-Pull – σ – C60 Dyad as Photoactive Molecular Material for Single-Component Organic Solar Cells: Characterizations and Photophysical Properties

Antoine Labrunie¹, Julien Gorenflot², Maxime Babics², Ahmed H. Balawi², Olivier Alévêque¹, Sylvie Dabos-Seignon¹, Eric Levillain¹, Piétrick Hudhomme¹, Frédéric Laquai², Clément Cabanetos¹, Pierre Beaujuge², and Philippe Blanchard¹

¹Univ. of Angers, France, ²KAUST, Saudi Arabia

ThP-125
Synthesis of Ag/Mn Co-Doped CdS/ZnS (Core/Shell) Nanocrystals with Controlled Dopant Concentration and Spatial Distribution, and Dynamics of Excitons and of Energy Transfer between Co-Dopants

Wonseok Lee¹, Juwon Oh², Woosung Kwon³, Sanghyeon Lee², Dongho Kim², and Sungjee Kim¹

¹POSTECH, Korea, ²Yonsei Univ., Korea, ³Sookmyung Women's Univ., Korea

ThP-126
Systematic Study of Doped OFETs with Selectively Sorted Single-Walled Carbon Nanotubes Using Conjugated Polymers

DongSeong Yang¹, Jihong Kim², Min-hye Lee³, and Dong-Yu Kim¹

¹GIST, Korea, ²KISTEP, Korea, ³KRICT, Korea

ThP-127
Molecular Energy Control of Poly(Triarylamine) for Improved Efficiency of Perovskite Solar Cells Based on Enhanced Open-Circuit Voltage

Eui Hyuk Jung¹, Youngwoong Kim², Bumjoon J. Kim², and Jangwon Seo¹

¹KRICT, Korea, ²KAIST, Korea

ThP-128
A Fast and Simple Preparation of Perovskite Solar Cells via Scalable and Roll-to-Roll Compatible Processes

Young Yun Kim, Tae-Youl Yang, Eun Young Park, Eui Hyuk Jung, and Jangwon Seo

KRICT, Korea

ThP-129
Dual-Modal Photodetector based on Organic Crystals

Seokho Kim¹, Jinho Choi², Bo-hyun Kim¹, Dong Hyuk Park², and Sunjong Lee¹

¹KITECH, Korea, ²Inha Univ., Korea

ThP-130
Ultrafast Processes in Polymer: ITICBulk Heterojunction Solar Cells Investigated by Time Resolved Spectroscopy

Jafar Iqbal Khan, Yuliar Firdaus, Pierre Beaujuge, and Frederic Laquai

KAUST, Saudi Arabia

ThP-131

Highly Efficient Solar Cells Based on Donor Polymers with Temperature - Dependent Aggregation Properties

Han Yu and He Yan

Hong Kong Univ. of Science and Tech., Hong Kong

ThP-132

Study of Multilayer Dielectric Mirror-Integrated Colored Perovskite Solar Cells

Sung Kyun Lim and Kyu-Tae Lee

Inha Univ., Korea

ThP-133

PEDOT:PSS – Tungsten Oxide Composite Holeextraction Layer for Efficient Planar Perovskite Solar Cells

Ali Asgher Syed

Hong Kong Baptist Univ., Hong Kong

ThP-134

Highly Efficient Blue Light-Emitting Polymers for Single-Layer PLEDs

Feng Peng, Lei Ying, Wei Yang, and Yong Cao

South China Univ. of Tech., China

ThP-135

Non-Fullerene-Based Organic Solar Cells with Self-Assembled Interfacial Layer

Ahyeong Lee, Juhyeon Kim, Eunhak Lee, and Kwanghee Lee

GIST, Korea

[FrA1] Optoelectronic Properties III

Date / Time	July 6 (Fri.), 2018 / 11:00-12:15
Place	Room A (#101+102)
Session Chair	Han Young Woo (Korea Univ., Korea)

FrA1-01 11:00-11:15

Surface Engineering of Quantum Dots for Optoelectronic Devices

Sukyung Choi¹, Nam Sung Cho¹, Sungjee Kim², and Hyunkoo Lee¹

¹ETRI, Korea, ²POSTECH, Korea

FrA1-02 11:15-11:30

Ab Initio-Based Full-Quantum Simulations of Charge Transport in Amorphous Molecular Semiconductors

Xander de Vries¹, Andrea Massé¹, Feilong Liu¹, Franz Symalla², Pascal Friederich², Velimir Meded², Wolfgang Wenzel², Reinder Coehoorn¹, and Peter Arnold Bobbert¹

¹Eindhoven Univ. of Tech., The Netherlands, ²Karlsruhe Inst. of Tech., Germany

FrA1-03 11:30-11:45

Improved Processability and Performance of Colloidal Quantum Dot Solar Cells

Havid Aqoma, Muhibullah Al Mubarak, Wisnu Tanyo Hadmojo, and Sung-Yeon Jang

Kookmin Univ., Korea

FrA1-04 11:45-12:00

Energy Level Tuned-InAs Quantum Dots Electron Transport Layer Prepared Atmospheric Room-Temperature Solution Processing

Hyekyoung Choi, Jung Hoon Song, and Sohee Jeong

KIMM, Korea

FrA1-05 12:00-12:15

Reliable Electrical Characterization and Modeling of Organic LEDs and Solar Cells with Doped Layers and Internal Interfaces

St Phane Altazin¹, Sandra Jenatsch¹, Christoph Kirsch², Evelyne Knapp², Lieven Penninck¹, Alexandre Stous¹, and Beat Ruhstaller¹

¹Fluxim AG, Switzerland, ²Zurich Univ. of Applied Science, Switzerland

[FrB1] Optoelectronic Properties IV

Date / Time	July 6 (Fri.), 2018 / 11:00-12:00
Place	Room B (#106)
Session Chair	Tae-Dong Kim (Hannam Univ., Korea)

FrB1-O1 11:00-11:15

Two-Photon Direct Writing of Hybrid Materials

Prem Prabhakaran
Hannam Univ., Korea

FrB1-O2 11:15-11:30

Coupling of Photoluminescence with Whispering Gallery Modes in Eu³⁺-Coordinated Conjugated Polymer Microsphere

Zakarias Ngara^{1,2}, Daichi Okada¹, Oki Osamu¹, and Yohei Yamamoto¹
¹*Univ. of Tsukuba, Japan*, ²*Univ. of Nusa Cendana, Indonesia*

FrB1-O3 11:30-11:45

Enhancing Degree of Crystallinity in Conductive Polymers for Efficient Photo-Thermoelectric Conversion

Byeongwan Kim, Hanwhuy Lim, Minsu Han, Jong Un Hwang, Saeon Kim, and Eunkyong Kim
Yonsei Univ., Korea

FrB1-O4 11:45-12:00

Surface State-Mediated Charge Transfer of Cs₂Snl₆ and Its Application in Dye-Sensitized Solar Cells

HyeonOh Shin, Byung-Man Kim, and Tae-Hyuk Kwon
UNIST, Korea

[FrC1] Electronic Properties and Application III

Date / Time	July 6 (Fri.), 2018 / 11:00-12:15
Place	Room C (#107)
Session Chair	Yong-Young Noh (Dongguk Univ., Korea)

FrC1-01 11:00-11:15

Ambient Stable Thermoelectric n-type Carbon Nanotubes Derived from Supramolecular Doping

Kawai Tsuyoshi and Yoshiyuki Nonoguchi
Nara Inst. of Science and Tech., Japan

FrC1-02 11:15-11:30

Electron Transfer of Triplet State from TIPS-Pentacene to Non-Fullerene Acceptor IT-4F in Blend Film

Mengsi Niu, Xiao-Yu Yang, Peng-Qing Bi, and Xiao-Tao Hao
Shandong Univ., China

FrC1-03 11:30-11:45

Metallic Conduction of pBTTT Polymer Thin Film Doped Electrochemically with Ion Gel

Hiroshi Ito¹, Hiroaki Mada¹, Hisaaki Tanaka¹, Shin-ichi Kuroda², and Taishi Takenobu¹
¹*Nagoya Univ., Japan*, ²*Toyota Physical and Chemical Research Inst., Japan*

FrC1-04 11:45-12:00

Device Physics of Polymeric Ferroelectric Memory Diodes

Hamed Sharifi¹, Matteo Ghittorelli², Fabrizio Torricelli², and Kamal Asadi¹
¹*MPI-P, Germany*, ²*Univ. of Brescia, Italy*

FrC1-05 12:00-12:15

Effects of Annealing Temperature on Electrochemical Properties of Nickel Oxide Nanostructures

Kyung Ho Kim, Kazuhiro Taguchi, Yoshio Abe, Midori Kawamura, and Takayuki Kiba
Kitami Inst. of Tech., Japan

[FrD1] Electronic Properties and Application IV

Date / Time	July 6 (Fri.), 2018 / 11:00-12:15
Place	Room D (#109)
Session Chair	Hiroyuki Tajima (Univ. of Hyogo, Japan)

FrD1-01 11:00-11:15

Highly Stretchable PEDOT:PSS/Ionic Liquid Composite films for Wearable Organic Thermoelectric Generators

Seyoung Kee and Derya Baran
KAUST, Saudi Arabia

FrD1-02 11:15-11:30

Investigation of Charge Transport in Conducting Polymers Doped by Solid-State Diffusion and Their Thermoelectric and Electronic Applications

Keehoon Kang¹, Deepak Venkateshvaran², Katharina Broch³, Guillaume Schweicher², Youngrok Kim¹, Cameron Jellet⁴, Christian Nielsen⁵, Iain McCulloch⁴, Takhee Lee¹, and Henning Sirringhaus²
¹Seoul Nat'l Univ., ²Univ. of Cambridge, UK, ³Univ. of Tuebingen, Germany, ⁴Imperial College, UK, ⁵Queen Mary Univ., UK

FrD1-03 11:30-11:45

Production of Novel Rubberised Polyaniline Dodecylbenzenesulfonate [PAni.DBSA] with Enhanced Electrostrictive and Physical Properties

Kok Chong Yong
Malaysian Rubber Board, Malaysia

FrD1-04 11:45-12:00

Organic Free Radical Molecules for Spintronics. The Influence of Linkers and Surfaces

Jaume Veciana^{1,2}
¹ICMAB(CSIC), Spain, ²CIBER-BBN, Spain

FrD1-05 12:00-12:15

Conservation Laws, Radiative Decay Rates, and Excited State Localization in Organometallic Complexes with Strong Spin-Orbit Coupling

Ben Powell
Univ. of Queensland, Australia

[FrE1] OPV VIII
Date / Time July 6 (Fri.), 2018 / 11:00-12:00

Place Room E (#110)

Session Chair Jung-Yong Lee (KAIST, Korea)

FrE1-O1

11:00-11:15

Cathode Side Interface Layer Engineering in Organic Photovoltaic toward Up-Scaling Fabrication

 Wanzhu Cai¹, Liangqi Ouyang², Anders Elfving², Thomas Österberg², Mohammad J. Jafari², Chiara Musumeci², and Olle Inganäs²
¹Jinan Univ., China, ²Linköping Univ., Sweden

FrE1-O2

11:15-11:30

Phase Control in A Ternary Organic Solar Cell Blend System by Ionic Interactions and Correlation between Phase and Efficiency

 Mohammed Makha¹, Philippe Schwaller², Karen Strassel¹, Surendra Anantharaman¹, Frank Nueesch¹, Roland Hany¹, and Jakob Heier¹
¹Empa, Switzerland, ²EPFL, Switzerland

FrE1-O3

11:30-11:45

Design of Crosslinkable Organic Photovoltaic Materials for Efficient and Stable OPVs

Weishi Li

Shanghai Inst. of Organic Chemistry, Chinese Academy of Sciences, China

FrE1-O4

11:45-12:00

Charge Dissociation at Organic Heterojunctions: Interface Roughness versus Ultrafast Delocalization

Julien Gorenflot, Maxime Babics, Kai Wang, Ru-Ze Liang, Zhipeng Kan, Pierre M. Beaujuge, and Frédéric Laquai

KAUST, Saudi Arabia

[FrF1] OFET IV

Date / Time	July 6 (Fri.), 2018 / 11:00-12:10
Place	Room F (#104)
Session Chair	Kang-Jun Baeg (Pukyung Nat'l Univ., Korea)

FrF1-I1 (Invited) 11:00-11:25

Flexible and Stretchable FET-Type Sensors based on Organic and Polymeric Materials

Joon Hak Oh
POSTECH, Korea

FrF1-O2 11:25-11:40

Orientation and Alkyl Chain Length Dependence of Carrier Transport in Regioregular Poly (3-Alkylthiophenes Fabricated Byribbon Shaped FTM

Atul Shankar Mani Tripathi, Sifumi Sadakata, Shuichi Nagamatsu, Shuzi Hayase, and Shyam S Pandey
Kyushu Inst. of Tech., Japan

FrF1-O3 11:40-11:55

Single-Strand Organic Electrochemical Transistor-Based Wearable Health Monitoring Devices

Youngseok Kim¹, Chi-Hyeong Kim¹, Seong-Min Kim¹, Taekyung Lim², Sanghyun Ju², and Myung-Han Yoon¹
¹*GIST, Korea,* ²*Kyonggi Univ., Korea*

FrF1-O4 11:55-12:10

Evidence for Low Disorder, Narrow-Band Charge Transport in Semicrystalline Polymer Semiconductors

Riccardo Di Pietro¹, Joshua Carpenter², Martin Statz³, Harald Ade², Henning Sirringhaus³, Dieter Neher⁴, and Deepak Venkateshvaran³
¹*Hitachi Europe Ltd., UK,* ²*North Carolina State Univ., USA,* ³*Univ. of Cambridge, UK,* ⁴*Univ. of Potsdam, Germany*

[FrH1] OLED/OPV
Date / Time July 6 (Fri.), 2018 / 11:00-12:15

Place Room H (#105)

Session Chair Bumjoon Kim (KAIST, Korea)

FrH1-01

11:00-11:15

Highly Efficient Deep Blue TADF Emitter Materials for OLED Displays

Stefan Seiferman

CYNORA GmbH, Germany
FrH1-02

11:15-11:30

Thioxanthone Derivatives and Their Application for OLEDs

Wang Ying

Technical Inst. of Physics and Chemistry, Chinese Academy of Sciences, China
FrH1-03

11:30-11:45

Benchmarking The Electronic Processes at The Planar Organic Heterojunction Solar Cells

Dan Liraz, Himanshu Shekhar, Lior Tzabari, and Nir Tessler

Technion, Israel
FrH1-04

11:45-12:00

OPV Path to Green Electricity at 1 Penny Per KWHR

Steven Xiao

1-Material Inc., Canada
FrH1-05

12:00-12:15

Strategy for Designing Ternary Organic Solar Cells from Interfacial Energetics to Enhanced Device Performance

Xianjie Liu, Chuanfei Wang, and Mats Fahlman

Linkoping Univ., Sweden