

A-COE 2017, Daejeon, Korea, Oct. 25-27, 2017

The 9th Asian Conference on Organic Electronics

A-COE 2017

October 25-27, 2017.
KAIST, Daejeon, Korea

Program at a glance

Day 1: October 25, 2017 (Wed.) 6:00 p.m. ~ 8:00 p.m.

18:00 - **Registration (Hotel ICC, 3F)**
Pick up your badge, abstract book, and tickets to conference events.

18:30 - 20:00 **Welcome Reception (Hotel ICC, 3F Lobby)***
* Only those who have a ticket and a badge can enter the reception.

Day 2: October 26, 2017 (Thu.) 9:20 a.m. ~ 8:00 p.m.

09:20 - 09:30 **Opening (KI B/D 1F Fusion Hall)**

09:30 - 10:50 **Session 1G: General I (KI B/D 1F Fusion Hall)**
[Chair: Jung-Yong Lee]

09:30 - 09:50 **1. Prof. Jang-Joo Kim (Seoul National Univ, Korea), "Origin of the Orientation of Ir Complexes in Organic Semiconductor Layers"**

09:50 - 10:10 **2. Prof. De Chun Zou (Peking University, China.), "High Performance Planar and Fiber-Shaped Hybrid Perovskite Memristors and Memristive Property's Effects on Solar Cells"**

10:10 - 10:30 **3. Prof. Ken-Tsung Wong (National Taiwan University, Taiwan), "High Efficiency Vacuum-Processed Organic Solar Cells"**

10:30 - 10:50 **4. Prof. Tzung-Fang Guo (National Cheng-Kung University, Taiwan), "All-inorganic metal oxide electrode interlayers in stable perovskite solar cells"**

10:50 - 11:05 **Coffee Break**

11:05 - 12:25 **Session 2G: General II (KI B/D 1F Fusion Hall)**
[Chair: Steve Park]

11:05 - 11:25 **1. Prof. Kilwon Cho (Postech, Korea), "Molecular Orientation Dependent Photon Harvesting and Exciton Dissociation in Organic Solar Cells"**

11:25 - 11:45 **2. Prof. Peter Ho (National University of Singapore, Singapore), "Solution Processed Ohmic Contacts to Organic Electronics"**

11:45 - 12:05 **3. Prof. Jun Takeya (University of Tokyo, Japan), "Phonons and Mechano-electronics of Organic Semiconductors"**

12:05 - 12:25 **4. Prof. Tae-Woo Lee (Seoul National University, Korea), "Flexible and Stretchable Organic Artificial Synapses"**

12:25 - 14:25 **Poster Session (KI B/D 1F Lobby) (Lunch Provided)**

14:15 - 15:45 **Session 3S: Solar Cells I (EEWS Special Session, Parallel with Session 3E), (KI B/D 2F Matrix Hall) [Chair: Yabing Qi]**

14:25 - 14:45 **1. Dr. Yong-Jin Pu (RIKEN, Japan), "Non-polycyclic π -conjugated molecules with singlet exciton fission character in organic photovoltaics"**

14:45 - 15:05 **2. Prof. Dahui Zhao (Peking University, China), "Peryleneimide-based Electron Acceptors and Their Applications in All-polymer Solar Cells"**

15:05 - 15:25 **3. Prof. Hae Jung Son (Korea Institute of Science and Technology; KIST, Korea), "Development of High Performance Organic Solar Cells by Utilizing e-Donating Random Copolymers"**

15:25 - 15:45	4. Prof. Bumjoon Kim (KAIST, Korea) “Impact of Side Chain Engineering and Molecular Weight Control of Polymer Acceptors in All-Polymer Solar Cells”
14:15 - 15:45	Session 3E: Organic Electronics (Parallel with Session 3S), (KI B/D 1F Fusion Hall) [Chair: Jianxin Tang]
14:25 - 14:45	1. Prof. Steve Park (KAIST, Korea), “Controlling the Crystallization of Small Molecule Organic Semiconductors using Solution Shearing and their Application to Field-effect Transistors”
14:45 - 15:05	2. Prof. Yun-Hi Kim (Gyeongsang National University, Korea), “Design Strategy of Organic Semiconducting Material for Organic Electronics”
15:05 - 15:25	3. Prof. Chien-Lung Wang (National Chiao Tung University, Taiwan), “Roles of Conjugation Length in the Formation of Structural Defects in the Crystal Array of DPP Oligomers”
15:25 - 15:45	4. Prof. Yong-Yong Noh (Dongguk University, Korea) “Solid-State Electrolyte-Gated Insulator (SEGI) for Low-Voltage Operated Organic Field-Effect Transistors”
15:45 - 16:00	Coffee Break
16:00 - 17:20	Session 4S: Solar Cells II (Parallel with Session 4L), (KI B/D 2F Matrix Hall) [Chair: Hae Jung Son]
16:00 - 16:20	1. Prof. Yabing Qi (Okinawa Institute of Science and Technology, Japan), “Perovskite Material and Solar Cell Research by Surface Science and Advanced Characterization”
16:20 - 16:40	2. Prof. Jung-Yong Lee (KAIST, Korea), “Formation and Morphology Control of Polymeric Films on an Aqueous Substrate for Optoelectronic Devices”
16:40 - 17:00	3. Prof. Shu Kong So (Hong Kong Baptist University, Hong Kong), “Subgap optical absorptions of semiconducting polymers and their bulk heterojunction blends for solar cells”
17:00 - 17:20	4. Prof. Nobuhiro Yanai (Kyushu University, Japan), “Photon Upconversion toward Enhancing Renewable Energy Productions”
16:00 - 17:20	Session 4L: OLED or Other Emerging Light Sources I (Parallel with Session 4S), (KI B/D 1F Fusion Hall) [Chair: Yong-Yong Noh]
16:00 - 16:20	1. Prof. Kyung-Cheol Choi (KAIST, Korea), “A fibertronic approach based on organic lightemitting diodes toward wearable displays”
16:20 - 16:40	2. Prof. Jianxin Tang (Soochow University, China), “High-performance flexible OLEDs with device architecture engineering”
16:40 - 17:00	3. Prof. Cheolmin Park (Yonsei University, Korea), “Self assembled polymer nanostructures for stimuliinteractive display”
17:00 - 17:20	4. Prof. Lian Duan (Tsinghua University, China), “Highly Efficient and Stable Organic Light-emitting Diodes using Hosts with TADF”
18:00 - 20:00	Banquet (Hotel ICC, Convention Hall, 2nd Floor)

Day 3: October 27, 2017 (Fri.) 9:40 a.m. ~ 8:00 p.m.

09:40 - 10:40	Session 5L: OLED or Other Emerging Light Sources II (<i>Parallel with Session 5N</i>), (KI B/D 1F Fusion Hall) [Chair: Toshinori Matsushima]
9:40 - 10:00	1. Prof. Hiroyoshi Naito (Osaka Prefecture University, Japan), "Electrical characterization of inverted organic light emitting diodes - roles of polyethyleneimine and measurement of transport properties"
10:00 - 10:20	2. Prof. Lixin Xiao (Peking University, China), "High-Efficiency Blue OLEDs"
10:20 - 10:40	3. Prof. Jang Hyuk Kwon (Kyunghee University, Korea), "High Efficiency Deep Blue TADF Material"
09:40 - 10:40	Session 5N: New Emerging Applications I (<i>Parallel with Session 5S</i>), (KI B/D 2F Matrix Hall) [Chair: Felix Sunjoo Kim]
9:40 - 10:00	1. Prof. Joon Hak Oh (POSTECH, Korea), "Flexible and Stretchable FET-Type Sensors Based on Organic and Polymeric Materials"
10:00 - 10:20	2. Prof. Feng YAN (Hong Kong Polytechnic University, Hong Kong), "Organic electronic devices for biological applications"
10:20 - 10:40	3. Prof. YounGu Lee (DGIST, Korea), "Copper nanowire based transparent electrodes for flexible organic electronic devices"
10:40 - 11:00	Coffee Break
11:00 - 12:20	Session 6L: OLED or Other Emerging Light Source III (<i>Parallel with Session 6N</i>), (KI B/D 1F Fusion Hall) [Chair: Hiroyoshi Naito]
11:00 - 11:20	1. Prof. Satoru Ohisa (Yamagata University, Japan), "Developments of Electron-acceptor Layers for Interconnection Layers in Solution-processed Multi-OLEDs"
11:20 - 11:40	2. Prof. Toshinori Matsushima (Kyushu University, Japan), "Toward Continuous-Wave Operation of Organic Semiconductor Lasers"
11:40 - 12:00	3. Prof. Jong-Wook Park (Kyunghee University, Korea), "Novel Core Chromophores Based on Specific Chemical Structures and Their Effects"
12:00 - 12:20	4. Dr. Jaehyun Moon (ETRI, Korea), "Accurate Graphene Film Patterning for Larger Area OLED Panels"
11:00 - 12:20	Session 6N: New Emerging Applications II (<i>Parallel with Session 6L</i>), (KI B/D 2F Matrix Hall) [Chair: Joon Hak Oh]
11:00 - 11:20	1. Prof. Furong Zhu (Hong Kong Baptist University, Hong Kong), "Highly Sensitive Near Infrared Organic Phototransistors"
11:20 - 11:40	2. Prof. Shun-Wei Liu (Ming-Chi Univ. of Technology, Taiwan), "Near-Infrared upconversion devices for display applications"
11:40 - 12:00	3. Prof. Felix Sunjoo Kim (Chung-Ang University, Korea), "Electrical Conductivity and Stability of Conjugated Polymer Composites"
12:00 - 12:20	4. Dr. Shougen Yin (Tianjin University of Technology, China), "Hierarchically buckled superelastic conducting fibers for flexible sensor"
12:20 - 14:00	Lunch Break (Lunch arrangement to be announced)
14:00 - 15:20	Session 7G: General III (KI B/D 1F Fusion Hall) [Chair: Seunghyup Yoo]
14:00 - 14:20	1. Prof. Hironori Kaji (Kyoto University, Japan), "Computer-Assisted Material Design toward Highly Efficient TADF Materials, Multiscale Charge Transport Simulations, and DNP-NMR"
14:20 - 14:40	2. Prof. Gang Li (Hong Kong Polytech University, Hong Kong), "Copper Oxides based Interfacial Materials for Solution Processible Solar Cells"

14:40 -15:00	3. Prof. Hin-Lap (Angus) Yip (South China University of Technology, China), "Interface Design and Optical Management in Polymer Solar Cells"
15:00 - 15:20	4. Prof. Jun Yeob Lee (SKKU, Korea) "Highly efficient soluble thermally activated delayed fluorescent organic light-emitting diodes"
15:20 - 15:40	Coffee Break
15:40 - 16:25	Session 8G: General IV (KI B/D 1F Fusion Hall) [Chair: Hin-Lap Yip]
15:40 - 16:00	1. Prof. Seunghyup Yoo (KAIST, Korea), "Highly Flexible Organic Memory with Long Retention"
16:00 - 16:20	2. Prof. Chun-Sing Lee (City University of Hong Kong, Hong Kong), "Free carriers vs. exciton generation in organometallic halide Perovskite & conventional organic semiconductors"
16:20 - 16:25	3. Prof. Chun-Sing Lee and Furong Zhu (City University of Hong Kong and Hong Kong Baptist Univ., Hong Kong), "Intro to A-COE 2018"
16:25 - 16:40	Closing
18:00 - 20:00	Invited Speaker Dinner (Transportation to be arranged) Young Presenter Social (Transportation to be arranged)

Special thanks goes to



for their kind support of A-COE 2017

Poster Session

12:25 - 14:25 (Oct. 26th, THU), KI B/D IF Lobby

Poster No.	Title	Name	Affiliation
P-E-01A	Conjugated Side Chain Tuning Effect of Indacenodithieno [3,2-b]thiophene and Fluoro-Benzothiadiazole-Based Regioregular Copolymers for High-Performance Organic Field-Effect Transistors	Henry Opoku	Dongguk University
P-E-01B	High Performance Organic Field Effect Transistor from Non-Halogenated Solvent Blend Processing	Henry Opoku	Dongguk University
P-E-02	High Crystallinity of 3-Ethylrhodanine Diketopyrrolopyrrole Oligomer for Fabrication of Ambipolar Organic Field Effect Transistor with Solution Process	Suhendro Purbo Prakoso	National Chiao Tung University
P-E-03	High Performance Chlorinated 2,1,3-Benzothiadiazole-Based Polymer Electrolyte-Gated Field-Effect Transistors	Grace Dansoa Tabi	Dongguk University
P-E-04	Deposition of Organic Thin Film by Electrospray	Daiki Tangiku	Aichi Institute of Technology
P-E-05	Inorganic polymer micro-pillar based solution coating process with controlled morphology and single-crystalline domain	Jeongchan Lee	KAIST
P-E-06	Macromolecular p-Type Chemical Doping for Stable Graphene Anode	Sung-Joo Kwon	POSTECH
P-E-07	Stretchable Organic Nanowire Field-Effect Transistor	Yeongjun Lee	POSTECH
P-E-08	Characterization of Organic Semiconductor Insulator Interface using Asymmetric MIS Capacitive Test Structure	Rajesh Agarwal	Indian Institute of Technology Kanpur
P-E-09	Synthesis, Exploration and Characterization of Organic Semiconductors for Potential Applications in Organic Electronics and Photonics	Prof. Dr. Muhammad Hassan Sayyad	Ghulam Ishaq Khan Institute of Engineering Sciences and Technology
P-E-10	Low voltage operation organic phototransistor with vertical configuration	Hyukyun Kwon	KAIST
P-E-11	Flexible organic device fabrication via organic vapor-jet printing with reduced heat transfer	Sungyeon Kim	KAIST
P-L-01	Single-Component White Light-Emitting Electrochemical Cells Based on Plasmonic Filtering	Hai-Ching Su	National Chiao Tung University
P-L-02	Using Microcavity and Broad-Band Blue-Green Emitter to Achieve Efficient Blue and White Emitting Organic Light Emitting Diodes	Yu-Hsin Huang	National Taiwan University
P-L-03	Highly efficient exciplex organic light-emitting diodes employing red fluorescent dopant	Tzu-Hung Yeh	National Taiwan University of Science and Technology
P-L-04	Enhancing OLED Out-Coupling Using Sub-anode Structure with Simplified Fabrication	Wei-Chen Chen	National Taiwan University
P-L-05	Efficient Organic-Inorganic Hybrid Perovskite Light Emitting Diodes Based on Nanostructural Control by Organic Additive	Ziming Chen	South China University of Technology
P-L-06	Effects of Additive-based Nanocrystal Pinning for High-Efficiency Perovskite LEDs	Min-Ho Park	Seoul National University
P-L-07	Wearable polymer light-emitting devices on a textile substrate with flexible multilayer encapsulation for photobiomodulation	Hyuncheol Kim	KAIST
P-L-08	Efficiency Enhancement of Organic Light-Emitting Diodes Including a Nanostructured ZnO Layer	Dohong Kim	KAIST
P-L-09	Enhancing OLED Light Out-Coupling Using Microstructured High-Index Substrates	Bo-Kai Wang	National Taiwan University
P-L-10	Replacement of ITO with Graphene Electrodes for Efficient Flexible Metal-Halide Perovskite Light-Emitting Diodes	Hobeom Kim	Seoul National University
P-L-11	Investigation of Novel TADF Molecules Using Homozygous Design	Keita Tsuji	Kyushu University
P-L-12	Precise Synthesis and Purification of Core/Shell Type CdZnS/ZnS Quantum Dots	Yuya Takeda	Yamagata University

P-L-13	Possibly, Long Range Exciplex Formation Through 70 nm Spacer Layer	Daisuke Otsuki	Yamagata University
P-L-14	Stretchable organic light-emitting diodes fabricated on interconnection SU-8 substrates combined with PDMS pillars	Myung Sub Lim	KAIST
P-L-15	Unique solid-state emission behaviors of aromatic difluoroboronated β -diketones as an emitter in organic light-emitting devices	Taiki Watanabe	Yamagata University
P-L-16	Solution Processed Perovskite Quantum Dot LED using Ligand Desorption Method	Hinako Ebe	Yamagata University
P-L-17	Applications of Conjugated Polyelectrolyte: Polyethylenimine Derivative Blends for An Electron Injection Layer in Solution-processed Organic Light-emitting Devices	Tetsuya Kato	Yamagata University
P-L-18	Nano-stratified Encapsulation Barrier with Functional Buffer Layer for OLEDs	Eun Jeong	Gyo KAIST
P-L-19	Development of Deep Blue TADF Emitters by Dihedral Angle Twisting and Advanced challenge to Planar Type TADF Emitters	Yuma Ishikawa	Kyushu University
P-L-20	Molecular Design Strategy of Donor-Acceptor Type Blue Fluorescent Emitters for Efficient Deep Blue Organic Light Emitting Diodes	Seung-Je Woo	Seoul National University
P-L-21	Highly Enhanced Light Extraction in Top-Emitting Organic Light-Emitting Diodes using a Laminated Top Electrode with Out-Coupling Structures	Sunghee Park	KAIST
P-L-22	Deep Blue Emitting Exciplex Forming System and Its Application to Phosphorescent Organic Light-Emitting Diodes	Hyoungechol Lim	Seoul National University
P-L-23	Blue thermally activated delayed fluorescence of 9-(5,9-dioxo-13b-boranaphtho[3,2,1-de]anthracen-7-yl)-1,3,6,8-tetramethyl-9H-carbazole derivatives for organic light-emitting diodes	Jonguk Kim	Kyushu Univ.
P-L-24	Relationship Between the Molecular Orientations of Pt(II) based Phosphorescent Emitter and Host Molecule in Doped Organic Thin Films	Jin-Suk Huh	Seoul National University
P-L-25	Harvesting Triplet Excited States by Conventional Fluorescent Emitter for Efficient Organic Light-Emitting Diodes with Extended Lifetime	Hyun-Gu Kim	Seoul National University
P-L-26	Stable Red Phosphorescent Organic Light-emitting Diodes using exciplex forming co-host with High Efficiency	Hyun Shin	Seoul National University
P-L-27	Synergetic Approaches for Efficient Perovskite Light-Emitting Diodes using Self-doped Conducting Polymer	Soyeong Ahn	Pohang University of Science and Technology
P-L-28	Ligand-Engineered Metal-Halide Perovskite Nanoparticles based High-Efficiency Light-Emitting Diodes	Young-Hoon Kim	Seoul National University
P-L-29	Solution-Processed, Planarized Fabric Substrate for Clothing-Based Organic Light-Emitting Diodes	Seungyeop Choi	KAIST
P-L-30	A comparison study based on global optimization of OLEDs with a microlens array or a scattering layer	Jinouk Song	KAIST
P-L-31	Confinement of Long-Lived Triplet Excitons in Organic Semiconducting Host-Guest Systems	Naoto Notsuka	Kyushu University
P-L-32	Anthracene-Pyrene Dimers and Their Efficient Triplet-Triplet Annihilation in Organic Light Emitting Diodes	Choi Ji Young	Gyeongsang National University
P-L-33	Development of azasilane-based materials for thermally activated delayed fluorescence	Kim Heon	You Gyeongsang National University
P-L-34	Effective utilization of first-order cavity resonance for highly efficient OLEDs	Jaeho Lee	KAIST
P-L-35	Using Microcavity Effect to Enhance Radiative Transition and Efficiency of TADF OLEDs	Hsin-Yu Lai	National Taiwan University
P-S-01	High-Performance Planar Perovskite Solar Cells with WO _x /C60 ElectronTransportingLayer	Vincent Obiozo Eze	Aichi Institute of Technology
P-S-02	Low Temperature Fabrication of Inverted Organic Perovskite Solar Cells Using Air-Assisted Flow	Hiroyuki Okada	Aichi Institute of Technology
P-S-03	Neutral-Colored Semitransparent Solar Cells Based on Pseudohalide (SCN ⁻)-Doped Perovskite	Chen Si	Peking University
P-S-04	Organic Dye-Sensitized Photovoltaic Fibers	Bin Dong	Peking University

P-S-05	An excellent bulk heterojunction for high performance organic photovoltaic and low dark current organic photodetector application	Ya-Ze Li	National Taiwan University of Science and Technology
P-S-06	The effects of electron transport layers in PTB7:PCBM based polymer solar cells	Wen-Shuo Liang	National Dong Hwa University
P-S-07	Influence of polymer surface modifier in inverted polymer solar cells	Zhen-Wei Huang	National Dong Hwa University
P-S-08	Degradation Mechanism of Perovskite Solar Cells under Standard Test Conditions	Chuanjiang Qin	Kyushu University
P-S-09	Elaborately Controlled Method for High Performance Perovskite Fiber Solar Cells	Buxin Chen	Peking University
P-S-10	Enhanced performance via incorporation of ZnO or AZO nanoparticle-based electron transport layer in inverted perovskite solar cells	Tian-Jing, Jiang	National Dong Hwa University
P-S-11	A series of low-cost soluble squaraine derivatives with branched alkyl chains for efficient photovoltaic cells	Yuya Hayashi	Yamagata University
P-S-12	High efficiency and low temperature processed perovskite solar cells	Jing-Rong, Cheng	National Taiwan University
P-S-13	Bonding of back electrodes for solution-processed solar cell applications	Honggyun Kim	Sejong University
P-S-14	How to Achieve the Perfect Light Trapping for Thin-film Photovoltaic Cells?	Changsoo Cho	KAIST
P-S-15	Nanomorphology Control of Spontaneous Spreading Polymer Films	Yoori Sung	KAIST
P-S-16	Fabrication of high performance PbS-colloidal quantum dot solar cell by two-steps post annealing treatment	Changjo Kim	KAIST
P-S-17	Design of the Organic-Inorganic hybrid solar cell using bilayer structure	Kim Byeong-Su	KAIST
P-S-18	Design of the Homo-Tandem Structure for Approaching Ideal External Quantum Efficiency in Small Molecular Organic Solar Cells	Sang-Hoon Lee	KAIST
P-S-19	Side Chain Engineering of Ethanol-Processable Fullerene to Improve Electron Mobility for Eco-Friendly Polymer Solar cells	Youngkwon Kim	KAIST
P-S-20	Comparing the Decohesion Mechanism of All-Polymer and PCBM-Polymer Solar Cells: The Importance of Polymer Acceptor for High fracture Resistance	Joonhyeong Choi	KAIST
P-S-21	Incorporation of Acrylonitrile Group into Naphthalenediimide (NDI)-Based Polymer Acceptor for Efficient Charge Generation in High-Performance All-Polymer Solar Cells	Han-Hee Cho	KAIST
P-S-22	Ethanol-Processable p- and n-type Organic Semiconductors for Eco-Friendly Fabrication of Organic Field-Effect Transistors and Solar Cells	Changyeon Lee	KAIST
P-S-23	Rationally Designed Donor-Acceptor Random Copolymers with Optimized Complementary Light Absorption for Highly Efficient All-Polymer Solar Cells	Sang Woo Kim	KAIST
P-S-24	Comparative Study of Thermal Stability and Performance of All-Polymer, Fullerene-Polymer, and Ternary Blend Solar Cells Based on the Same Polymer Donor	Taesu Kim	KAIST
P-S-25	Improved Thermal Stability of Organometal Halide Perovskite Solar Cells via Grain Boundary Passivation Using a Molecular Additive	Chanuei Park	POSTECH
P-S-26	Semi-transparent perovskite solar cells on flexible substrates	Jaewon Ha	KAIST
P-N-01	Elucidating the Detectivity Limits in Shortwave Infrared Organic Photodiodes	Zhenghui WU	University of California San Diego
P-N-02	Facile Preparation of Poly (3, 4-ethylenedioxythiophene) (PEDOT)/MnO ₂ Composite Electrodes for Efficient Supercapacitors	Xue Gao	Peking University
P-N-03	Organic optoelectronic devices for pulse oximetry application	Hyeonwoo Lee	KAIST
P-N-04	Three-dimensional size controllable microporous ultrasensitive pressure sensor via microfluidic assisted self-assembly	Se Young Kwon	KAIST
P-N-05	Vacuum- and solution- processed n-doping of organic radicals for efficient organic optoelectronics	Zhengyang Bin	Tsinghua University