International Conference Asia-Pacific Hybrid and Organic Photovoltaics 2018 (AP-HOPV18)

Kitakyūshū-shi, Japan, 2018 January 28th - 30th
Conference Chairs: Hiroshi Segawa, Shuzi Hayase and Juan Bisquert

Conference Program

January 28th - Day 1 (Sunday)	
16:00 - 17:00	**Registration**
17:00 - 18:00	**Welcome Drink**
January 29th - Day 2 (Monday)	
08:00 - 08:40	**Registration**
08:40 - 08:45	**Announcement of the Day**
08:45 - 09:00	**Opening**
	Session G1 Chair: Hiroshi Segawa
09:00 - 09:45 G1-K1	Michael Graetzel *(Laboratory of Photonics and Interfaces Ecole Polytechnique Fédérale de Lausanne, Suisse)* Molelcular Photovoltaics and Perovskite Solar Cells
09:45 - 10:15 G1-I1	David Ginger *(Department of Chemistry, University of Washington)* Approaching the Shockley-Queisser Limit with Interface Control in Halide Perovskites
10:15 - 10:45 G1-I2	Eric Wei-Guang Diau *(Department of Applied Chemistry and Institute of Molecular Science, National Chiao Tung University, Hsinchu 300, Taiwan)* Tin-Rich and Lead-Free Perovskite Solar Cells
10:45 - 11:15	**Coffee Break**
11:15 - 11:45 G1-I3	Songyuan Dai *(Beijing Key Laboratory of Novel Thin Film Solar Cells,Renewable Energy School, North China Electric Power University, Beijing, 102206, P. R. China)*, Xu Pan, Linhua Hu, Jianxi Yao Preparation and Optimization of Materials for Efficient Perovskite Solar Cells
11:45 - 12:15 G1-I4	Takaya Kubo *(Reseach Center for Advanced Science and Technology, The University of Tokyo)*, Haibin Wang, Jotaro Nakazaki, Hiroshi Segawa Solution-Processed Colloidal-Quantum-Dot Solar Cells Operating in the Infrared Region
12:15 - 12:45 G1-I5	Yongfang Li *(Soochow University)* Side-Chain Engineering of Photovoltaic Materials for High Performance Polymer Solar Cells
12:45 - 13:00	**Industries: Greatcellsolar & TCI**
13:00 - 14:30	**Lunch**
	Session A1 Chair: Eric Wei-Guang Diau
14:30 - 15:00 A1-IS1	Hongwei Han *(Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology)* Printable Mesoscopic Perovskite Solar Cell: From Cell to Module
15:00 - 15:15 A1-O1	Gaurav Kapil *(The University of Tokyo)*, Kengo Hamada, Yuhei Ogomi, Takeru Bessho, Takumi Kinoshita, Qing Shen, Taro Toyoda, Takurou N Murakami, Hiroshi Segawa, Shuzi Hayase Study to realize the effect of multiple monovalent cation for lead/tin mixed perovskite solar cells
15:15 - 15:30 A1-O2	Sagar Jain *(SPECIFIC IKC, College of Engineering, University of Swansea, Swansea, U.K)* Vapour Assisted Morphological Tailoring of Lead-Free Bismuth Based Perovskite Solar Cells for Improved Performance and Stability

15:30 - 15:45 A1-O3	Arpita Varadwaj *(The University of Tokyo)*, Pradeep R. Varadwaj, Koichi Yamashita Haloammonium Halide Perovskites: A Class of Newly Identified Compounds for Photovoltaics
15:45 - 16:15	**Coffee Break**
16:15 - 16:30 A1-O4	Bich Phuong Nguyen *(Department of Physics, Ewha Womans University)*, Trang Thi Thu Nguyen, Juran Kim, Hye Ri Jung, Seokhyun Yoon, Wiilam Jo Influence of iodine-to-bromine ratio on electrical properties of lead-free Sn halide perovskite solar cells
16:30 - 16:45 A1-O5	Luis Ono *(Energy Materials and Surface Sciences Unit (EMSS), Okinawa Institute of Science and Technology Graduate University (OIST))*, Matthew Leyden, Sonia Raga, Yan Jiang, Longbin Qiu, Mikas Remeika, Emilio Juarez-Perez, Shenghao Wang, Yabing Qi Up-Scaling of Organic-Inorganic Hybrid Perovskite Solar Cells and Modules
16:45 - 17:00 A1-O6	Namrata Pant *(University of Yamanashi)*, Masatoshi Yanagida, Yasuhiro Shirai, Kenjiro Miyano Substrate dependent morphological and electronic properties of lead halide perovskite solar cells
17:00 - 17:15 A1-O7	Zhiping Wang *(Clarendon Laboratory, Department of Physics, University of Oxford, Parks Road, Oxford, OX1 3PU, United Kingdom)*, Qianqian Lin, Francis Chmiel, Nobuya Sakai, Laura Herz, Henry Snaith Self-assembled 2D–3D heterostructured butylammonium-caesium-formamidinium lead halide perovskites for stable and efficient solar cells
17:15 - 17:30 A1-O8	Zonglong Zhu *(Department of Chemistry, Hong Kong University of Science and Technology, Hong Kong)* Highly Efficient Lead-free or Pb/Sn based Perovskite Solar Cell through Compositional Engineering
	Session B1 Chair: Hideo Ohkita
14:30 - 15:00 B1-IS1	Yabing Qi *(Energy Materials and Surface Sciences Unit (EMSS), Okinawa Institute of Science and Technology Graduate University (OIST))* Perovskite Material and Solar Cell Research by Surface Science and Advanced Characterization
15:00 - 15:15 B1-O1	Teresa S. Ripolles *(Kyushu Institute of Technology Graduate School of Science)*, Chi Huey Ng, Kengo Hamada, Siow Hwa Teo, Hong Ngee Lim, Juan Bisquert, Shuzi Hayase Origin of Open Circuit Voltage in wide band gap absorbers of all inorganic Cesium Perovskite Solar Cells
15:15 - 15:30 B1-O2	Evelyne Knapp *(Institute of Computational Physics, ZHAW)*, Beat Ruhstaller, Martin Neukom Physical model for impedance loop and negative capacitance in perovskite solar cells
15:30 - 15:45 B1-O3	Agustín Bou *(Institute of Advanced Materials, Universitat Jaume I, Spain)*, Juan Bisquert Dynamic Hysteresis in Perovskite Solar Cells
15:45 - 16:15	**Coffee Break**
16:15 - 16:30 B1-O4	Chuanjiang Qin *(OPERA, Kyushu University)*, Toshinori Matsushima, Chihaya Adachi Degradation mechanism of perovskite solar cells under standard test conditions
16:30 - 16:45 B1-O5	Xiongfeng Lin *(Monash University)* Dipole-field-assisted charge extraction in metal-perovskite-metal back-contact solar cells
16:45 - 17:00 B1-O6	James Ryan *(International Centre for Young Scientists, National Institute for Materials Science)* Understanding the Voc in Perovskite Solar Cells Using Photo-Induced Transient Optoelectronic Techniques
17:00 - 17:15 B1-O7	Jay Patel *(Clarendon Laboratory, Department of Physics, University of Oxford, Parks Road, Oxford, OX1 3PU, United Kingdom)*, Jennifer Wong-Leung, Stephan Van Reenen, Nobuya Sakai, Jacob Wang, Elizabeth Parrott, Mingzhen Liu, Henry Snaith, Laura Herz, Michael Johnston The Importance of Interface Morphology for Hysteresis-Free Perovskite Solar Cells
17:15 - 17:30 B1-O8	Hye Ri Jung *(Department of Physics, Ewha Womans University)*, Bich Phuong Nguyen, William Jo Carrier transport and potential distribution near grain boundaries of perovskite lead halide and tin halide thin films
	Session C1 Chair: Yabing Qi
14:30 - 15:00 C1-IS1	Liyuan Han *(National Institute for Materials Science, Tsukuba, 305-0047, Japan)* New Approaches for Large Area Perovskite Solar Module
15:00 - 15:15 C1-O1	David Jones, Valerie Mitchell *(School of Chemistry, University of Melbourne)* Amphiphilic block-copolymers for morphology control in OSCs

15:15 - 15:30 C1-O2	Xintong Zhang *(Northeast Normal University)*, Yinglin Wang, Shuaipu Zang, Jinhuan Li, Yichun Liu Interfacial Modification of Three-dimensional Heterojunctional Colloidal Quantum Dot Solar Cell
15:30 - 15:45 C1-O3	Xia Hao *(Institute of New Energy and Low-carbon Technology, Sichuan University)*, Shenghao Wang, Takeaki Sakurai, Katsuhiro Akimoto The effect of cathode buffer in small molecule organic solar cells
15:45 - 16:15	**Coffee Break**
16:15 - 16:30 C1-O4	Thu Trang Do *(School of Chemistry, Physics and Mechanical Engineering, Queensland University of Technology (QUT), 2 George Street, Brisbane, QLD-4001, Australia)*, Hong Duc Pham, Yasunori Takeda, Sergei Manzhos, John Bell, Shinzo Tokito, Prashant Sonar Conjugated 1,8-Naphthalimide Based Solution Processable n-Type Semiconductors for Organic Electronics
16:30 - 16:45 C1-O5	Endre Horvath *(EPFL SB IPHYS LPMC , station 3, 1015, Lausanne)*, Massimo SPINA, Bálint NÁFRÁDI, Eric BONVIN, Márton KOLLÁR, Andrzej SIENKIEVICZ, Anastasiia GLUSHKOVA, Alla ARAKCHEEVA, Zsolt SZEKRÉNYES, Hajnalka TÓHÁTI, Katalin KAMARÁS, Richard GAAL, László FORRÓ Organic-inorganic lead halide perovskite nanowires: formation mechanism and optoelectronic applications
16:45 - 17:00 C1-O6	Xinxing Liang *(Department of Chemistry, University of Bath)*, Wentao Deng, Kejun Wu, Robert Baker, Dominic Ferdani, Laura Torrente-Murciano, Petra Cameron Continuous Low Temperature Synthesis of MAPbX3 Perovskite Quantum Dots with Tuneable Luminescence
17:00 - 17:15 C1-O7	Aymen Yangui *(Institute of Industrial Science, University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, Japan)*, Kamel Boukheddaden, Smail Triki, Sebastien Pillet, Younes Abid White-Light Emission in two-dimensional Hybrid Perovskites
17:15 - 17:30 C1-O8	Wenxin Mao *(Department of Materials Science and Engineering, Monash University)* Controlled Growth of Monocrystalline Organo-Lead Halide Perovskite and Its Application in Photonic Devices
17:30 - 19:00	**Posters Exhibition**
20:00 - 22:00	**Social Dinner**

January 30th - Day 3 (Tuesday)

08:55 - 09:00	**Announcement of the Day**
	Session G2 Chair: Shuzi Hayase
09:00 - 09:45 G2-K1	Nam-Gyu Park *(School of Chemical Engineering and Energy Frontier Laboratory, Sungkyunkwan University (SKKU), Suwon 440-746, Korea)* Halide Perovskite Photovoltaics and X-ray Imaging
09:45 - 10:15 G2-I1	subodh Mhaisalkar *(Materials Science and Engineering, Nanyang Technological University, SG)* Metal-Halide Perovskite Nanocrystals: Unlocking Size Dependent Effects for High Performance Solar Cells and Light-Emitting Devices
10:15 - 10:45 G2-I2	Alex K-Y Jen *(Department of Materials Science & Engineering, University of Washington, Seattle, WA 98195)* Rational Material, Interface, and Device Engineering for High-Performance and Stable Perovskite Solar Cells
10:45 - 11:15	**Coffee Break**
11:15 - 11:45 G2-I3	Hyun Suk Jung *(School of Advanced Materials Science & Engineering, Sungkyunkwan University)* Interfacial Nanomaterials Engineering in Perovskite Solar Cells
11:45 - 12:15 G2-I4	Yang Yang *(Department of Materials Science and Engineering and California NanoSystems Institute, University of California, Los Angeles, California 90095, United States)*, Jin-Wook Lee, Lijian Zuo, Qifeng Han, Yao-Tsung Hsieh, Sang-Hoon Bae, Nicholas De Marco, Pengyu Sun Controlled Crystal Growth and Defect Passivation for Efficient Planar Perovskite Solar Cells
12:15 - 12:45 G2-I5	Hideo Ohkita *(Kyoto university)*, Hyung Do Kim Device Analysis of Lead-Halide Perovskite Solar Cells
	Invited Speaker Session Chair: Shuzi Hayase

12:45 - 13:15 Session-IS1	Paul Meredith *(Sêr Cymru Chair in Sustainable Advanced Materials Department of Physics, Swansea University, Singleton Park Swansea SA2 8PP)* Commentary on the Scaling Physics of Printable Organic and Perovskite Thin Film Solar Cells
13:15 - 14:30	**Lunch**
	Session A2 Chair: Hyun Suk Jung
14:30 - 15:00 A2-IS1	Takatyuki Negami *(Panasonic Corporation)* Improvement on Thermal Stability of Perovskite Solar Cells and Fabrication of Modules for Practical Use
15:00 - 15:15 A2-O1	Dhruba Khadka *(International Centre for Young Scientists, National Institute for Materials Science)*, Yasuhiro Shirai, Masatoshi Yanagida, Kenjiro Miyano Efficient Wide Bandgap Mixed Halide Perovskite Solar Cells Tuning with Electron Transport Layers
15:15 - 15:30 A2-O2	Masashi Ozaki, Jiewei Liu *(Institute for Chemical Research, Kyoto University, Uji, Kyoto 611-0011, Japan)*, Yukie Katsuki, Taketo Handa, Ryosuke Nishikubo, Yoshihiko Kanemitsu, Akinori Saeki, Yasujiro Murata, Atsushi Wakamiya High Purity Solvent-Coordinated Tin Halide Complexes for Lead Free Perovskite Solar Cells
15:30 - 15:45 A2-O3	Qicheng Hou *(Department of Chemical Engineering, Monash University)*, Dorota Bacal, Askhat Jumabekov, Wei Li, Ziyu Wang, Xiongfeng Lin, Soon Hock Ng, Boer Tan, Qiaoliang Bao, Anthony Chesman, Yi-Bing Cheng, Udo Bach Revealing the Relationship between Design and Performance of Back-Contact Perovskite Solar Cells with Honeycomb Charge Collecting Electrode
15:45 - 16:15	**Coffee Break**
16:15 - 16:30 A2-O4	David McMeekin *(Clarendon Laboratory, Department of Physics, University of Oxford, Parks Road, Oxford, OX1 3PU, United Kingdom)*, Zhiping Wang, Waqaas Rehman, Federico Pulvirenti, Jay Patel, Nakita Noel, Seth Marder, Laura Herz, Henry Snaith Crystallization kinetics and morphology control of formamidinium-cesium mixed-cation lead mixed-halide perovskite via tunability of the colloidal precursor solution
16:30 - 16:45 A2-O5	Oliver Filonik *(Technische Universität München, Munich School of Engineering, Lichtenbergstr. 4a, 85748 Garching, Germany)*, Margret Thordardottir, Jenny Lebert, Stephan Proeller, Sebastian Weiss, Jia Haur Lew, Anish Priyadarshi, Nripan Mathews, Peter Müller-Buschbaum, Eva M. Herzig Investigating the perovskite crystallization in fully printable mesoscopic perovskite solar cells
16:45 - 17:00 A2-O6	Moritz Futscher *(AMOLF)*, Bruno Ehrler Performance Limitations and Prospects of Perovskite/Silicon Tandem Solar Cells
17:00 - 17:15 A2-O7	Tianhao Yan, Ruiyao Wang *(Department of Chemistry, Xi'an Jiaotong-Liverpool University)* Study of Organolead Halide Perovskite Film Formation Mechanism from the View of Coordination Chemistry
	Session B2 Chair: Takaya Kubo
14:30 - 14:45 B2-O1	Jeremy Barbe *(SPECIFIC IKC, College of Engineering, University of Swansea, Swansea, U.K)*, Vikas Kumar, Michael Newman, Harrison Lee, Sagar Jain, Hu Chen, Cecile Charbonneau, Cornelia Rodenburg, Chung Tsoi Origin of dark electrical bias-induced degradation of inverted methylammonium lead iodide perovskite solar cells
14:45 - 15:00 B2-O2	Hiroki Uratani *(The University of Tokyo)*, Koichi Yamashita Inorganic Lattice Fluctuation Induces Charge Separation in Lead Iodide Perovskites: Theoretical Insights
15:00 - 15:15 B2-O3	Satoshi Uchida *(The University of Tokyo)*, Tae Woong Kim, Ludmila Cojocaru, Takashi Kondo, Hiroshi Segawa Perovskite Solar Cells: Crystal Structure and Interface Architecture with High Resolution TEM Observations
15:15 - 15:30 B2-O4	Simon Bretschneider *(Max-Planck-Institute for Polymer Research)*, Frédéric Laquai, Mischa Bonn Trap-Free Hot Carrier Relaxation in Lead-Halide Perovskite
15:30 - 15:45 B2-O5	Arthur Marronnier *(LPICM, CNRS, Ecole Polytechnique, Université Paris Saclay)*, Heejae Lee, Bernard Geffroy, Yvan Bonnassieux, Jacky Even, Guido Roma Anharmonicity and Disorder in the Black Phases of CsPbI3
15:45 - 16:15	**Coffee Break**

16:15 - 16:30 B2-O6	Jongchul Lim *(Photovoltaic and Optoelectronic Device Group, Department of Physics, Oxford University)*, Henry J. Snaith Effective Lateral Mobility and Diffusion Length Determined by Refractive Index Change of Perovskite at the Sub-Bandgap : Photoinduced Reflection Spectroscopy
16:30 - 16:45 B2-O7	Shufeng Wang *(Physics Department, Peking University, Beijing, China)* Revealing subgrain morphology in organolead perovskite films by spectroscopic method
16:45 - 17:00 B2-O8	Manabu Sugimoto *(Kumamoto University)*, Jing-Shuang Dang, Wei-Wei Wang, Ryota Jono, Hiroshi Segawa Chemistries of Materials in Perovskite Solar Cells Revealed by Electronic-Structure Informatics
17:00 - 17:15 B2-O9	Ramon Arcas, Elena Mas-Marza, Francisco Fabregat-Santiago *(Institute of Advanced Materials, Universitat Jaume I, Spain)* Electrical properties of perovskite solar cells
	Session C2 Chair: Alex K-Y. Jen
14:30 - 15:00 C2-IS1	Qing Shen *(The University of Electro-Communications, Japan)*, Chao Ding, Yaohong Zhang, Feng Liu, Shuichiro Fujino, Yuhei Ogomi, Taro Toyoda, Kenji Yoshino, Takashi Minemoto, Shuzi Hayase Charge Transfer Dynamics and Photovoltaic Properties of Perovskite Solar Cells: Effects of the Energy Level Alignment of Zn1-xMgxO Electron Selective Layer
15:00 - 15:15 C2-O1	Ivan Turkevych *(Chemical Materials Evaluation and Research Base (CEREBA), AIST Central 5-2, Tsukuba, 305-8565, Japan)*, Said Kazaoui, Nikolai A. Belich, Aleksei Y. Grishko, Sergey A. Fateev, Andrey A. Petrov, Toshiyuki Urano, Shinji Aramaki, Sonya Kosar, Michio Kondo, Eugene A. Goodilin, Michael Graetzel, Alexey B. Tarasov Strategic advantages of reactive polyiodide melts for scalable perovskite photovoltaics
15:15 - 15:30 C2-O2	Badrou Reda Aïch *(Information and Communications Technologies Portfolio, National Research Council of Canada, Ottawa, ON, Canada, K1A 0R6, National Research Council of Canada, ON, Canada)*, Jianping Lu, Salima Alem, Neil Graddage, Raluca Movileanu, Eric Estwick, Ye Tao Sustainable ink formulated using non-toxic solvents for organic solar cells
15:30 - 15:45 C2-O3	Pavao Andricevic *(École Polytechnique Fédérale de Lausanne EPFL)*, Xavier Mettan, Márton Kollár, Bálint Náfrádi, Andrzej Sienkiewicz, Tonko Garma, Klára Hernádi, László Forró, Endre Horváth Vertically aligned carbon nanotube-perovskite light emitting electrochemical cells
15:45 - 16:15	**Coffee Break**
16:15 - 16:30 C2-O4	Shyam S. Pandey *(Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology)*, Anusha Pradhan, Maryala Saikiran, Shuzi Hayase Prospects and Challenges with Dye-Sensitized Solar Cells utilizing Far-red Sensitive Dyes and Cobalt Complex Redox Electrolyte
16:30 - 16:45 C2-O5	Muhammad Akmal Kamarudin *(Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology)*, Yuhei Ogomi, Shen Qing, Taro Toyoda, Kenji Yoshino, Takashi Minemoto, Shuzi Hayase Introduction of “spike-like” conduction band of TiO2 compact layer for perovskite solar cells
16:45 - 17:00 C2-O6	Ammar Khan *(Lahore University of Management Sciences)*, Muhammad Akmal Kamarudin, Sehrish Iqbal, Hafiyya Malik, Habib-ur Rehman, Timothy Wilkinson Liquid crystalline physical-gel electrolytes for stable dye sensitized solar cells
17:00 - 17:15 C2-O7	Fengjiu Yang *(Institute of Advanced Energy, Kyoto University)*, HongEn Lim, Masashi Ozaki, Ai Shimazaki, Yuhei Miyauchi, Atsushi Wakamiya, Yasujiro Murata, Kazuanri Matsuda Roles of Polymer Layer in Interfacial Engineering Perovskite Solar Cells with High Photovoltaic Performance
	Session G3 Chair: Juan Bisquert
17:15 - 17:45 G3-I1	Martin Green *(University of New South Wales)* Photovoltaic Industry Development and Role of Energing Technologies
17:45 - 18:15 G3-I2	Tsutomu Miyasaka *(Toin university of Yokohama)* Towards developnment of heat tolelant and durable perovskite solar cells with stable high efficiency

18:15 - 18:30	**Closing Ceremony**

Poster Contribution

015	Masatoshi Yanagida *(National Institute for Materials Science(NIMS))*, Md Bodiul Islam, Namrata Pant, Yasuhiro Shirai, Kenjiro Miyano Effect of NiOx Properties as Hole Transport Layer on Lead Halide Perovskite Solar Cells
024	Quang-Duy Dao *(Division of Electrical, Electronic and Information Engineering, Graduate School of Engineering, Osaka University, Suita, Osaka, Japan)*, Akihiko Fujii, Ryotaro Tsuji, Masanori Ozaki Improving stability and efficiency of perovskite solar cell utilizing phthalocyanine-tetrabenzoporphyrin hybrid macrocycle hole transport layer
025	Said Kazaoui *(National Institute of Advanced Industrial Science and Technology (AIST), Japan)* Environmental Stability of Mixed Perovskite Solar Cells at 1 sun
029	Pradeep R. Varadwaj *(The University of Tokyo)*, Arpita Varadwaj, Koichi Yamashita Halogen in Materials Design: Perovskite Solar Cell Semiconductors as Prototypes
042	Kazuhiro Marumoto *(University of Tsukuba)*, Miki Namatame, Yuhei Ogomi, Shuzi Hayase Direct observation of dramatically enhanced hole formation in a perovskite-solar-cell material spiro-OMeTAD by Li-TFSI doping
068	Putao Zhang *(Kyusyu institute of technology)*, Kengo Hamada, Gaurav Kapil, Fu Yang, Shuzi Hayase Application of a quartz crystal microbalance to measure interface structure between carbon and perovskite materials for carbon based perovskite solar cells
070	Kumiko Yamamoto *(Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology)*, Satoshi Iikubo, Jun Yamasaki, Yuhei Ogomi, Shuzi Hayase First-principles study of partially substituted perovskite Solar Cells
078	Chu Zhang *(Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology)*, Tingli Ma, Zhanglin Guo, Liguo Gao, Shuai Zhao Design and Synthesis of a New Lead-free Double Perovskite Cs2NaBiI6
079	Hong Duc Pham *(School of Chemistry, Physics and Mechanical Engineering, Queensland University of Technology (QUT), 2 George Street, Brisbane, QLD-4001, Australia)*, Hongwei Hu, Zhifang Wu, Thu Trang Do, Luis K. Ono, Krishna Feron, Sergei Manzhos, Hongxia Wang, Nunzio Motta, Yeng Ming Lam, Yabing Qi, Sagar Motilal Jain, Prashant Sonar Novel Low Cost Triphenylamine Derivatives based Hole Transporting Organic Materials for Highly Efficient and Stable Perovskite Solar Cells
080	Yueh-Chien Lee, Sheng-Yao Hu *(Department of Digital Technology Design, Tungfang Design University, Hunei, Kaohsiung, Taiwan)*, Cheng-Han Wu, Tzu-Fan Hsu Effects of Rose Bengal Dye on the Photovoltaic Performance of Dye-sensitized ZnO Solar Cell
081	Mi-Ra Kim *(Dept. Polymer Science & Engineering, Pusan National University)* Photovoltaic Effects of TiO2 Pastes for Low-Temperature Process for Dye-Sensitized Solar Cells
082	Kengo Hamada *(Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology)*, Ryo Tanaka, Qing Shen, Taro Toyoda, Yuhei Ogomi, Shuzi Hayase Effect of TiO2 surface passivation on perovskite solar cells
083	Md Emrul Kayesh *(Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Ibaraki 305-8573, Japan)*, Towhid Hossain Chowdhury, Kiyoto Matsuishi, Ashraful Islam Effects of reducing salt on Sn-based perovskite films and their solar cell performance
084	Yuta Shirogane *(Department of Applied Chemistry, Waseda Univerisity, Tokyo 169-8555, Japan)*, Suguru Tanaka, Takeo Suga, Hiroshi Segawa, Hiroyuki Nishide Perovskite Layer Formation with Polymer-Scaffold: Grain Structure Analysis and in-situ Conductive AFM Characterization

085	Mayu Yamaguchi *(Department of Applied Chemistry, Waseda University, Tokyo, Japan)*, Kenichi Oyaizu, Hiroshi Segawa, Hiroyuki Nishide Arylamine Polymer as the Hole-Transporting Material for a Perovskite Solar Cell with 1 cm2 Active Area
086	Yoshiyuki Seike *(Aichi Institute of Technology)*, Daiki Tangiku, Hiroto Katsuta, Taichi Ishikawa, Tatsuo Mori Influence of Metal Contamination in the Organic Active Layer of the Organic Thin Film Solar Cell
087	Molang Cai *(1Photovoltaic Materials Group, Center for Green Research on Energy and Environmental Materials, Japan)*, Ishida Nobuyuki, Liyuan Han, Takeshi Noda ELECTRICAL POTENTIAL DISTRIBUTION FOR HIGH PERFORMANCE PEROVSKITE SOLAR CELLS
089	Zhanglin Guo *(Kyushu Institute of Technology, Japan)*, Chu Zhang, Liguo Gao, Tingli Ma Design and fabrication of two-dimensional materials based perovskite solar cells
091	Greyson Christoforo *(Department of Physics, Clarendon Laboratory, University of Oxford,)* Spray Deposited Nanoparticle Films for Perovskite and Organic Solar Cells
092	Ryo Tanaka *(Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology)*, Kengo Hamada, Qing Shen, Taro Toyoda, Yuhei Ogomi, Shuzi Hayase Improvement of efficiency for mixed metal Sn/Pb perovskite solar cells
093	Dae Woon Lee *(Department of Molecular Science and Technology, Ajou University, 206 World cup-ro, Yeongtong-gu, Suwon 443-739, Korea)*, Su-Kyo Jung, O-Pil Kwon, Jong H. Kim Investigations on Molecular Stacking and Charge Transport Properties of Naphthalene diimide-Based Small Molecules for Solar Cell Applications As an Electron Transport Layer
094	Hidenori SAITO *(Kanagawa Institute of Industrial Science and Technology)*, Daisuke AOKI, Shinichi MAGAINO, Katsuhiko TAKAGI, Shuzi HAYASE Photoelectric conversion performance, stability and durability evaluation of Perovskite solar cell performance under the controlled atmosphere conditions.
095	Masashi Ozaki *(Institute for Chemical Research, Kyoto University, Uji, Kyoto 611-0011, Japan)*, Ai Shimazaki, Naoki Maruyama, Mina Jung, Alwani Rafiehm, Yumi Nakaike, Tomoko Aharen, Takahiro Sasamori, Norihiro Tokitoh, Yasujiro Murata, Atsushi Wakamiya Fabrication of Efficient Perovskite Solar Cells and Module by a Solution Process Using a CH3NH3PbI3·DMF as a Key Precursor
096	Daisuke AOKI *(Kanagawa Institute of Industrial Science and Technology)*, Keita ANDOU, Hidenori SAITO, Shinichi MAGAINO, Katsuhiko TAKAGI Study on Evaluation Methods of Perovskite Solar Cells
097	Kwan-Woo Ko *(Korea Institute of Energy Research)*, Sungjun Hong, Soon-Gil Yoon, Chi-Hwan Han Enhanced Efficiency of Hole-conductor Free Perovskite Solar Cells with carbon electrode
098	Daiki Tangiku *(Aichi Institute of Technology)*, Tatsuo Mori, Yoshiyuki Seike Performance Enhancement of Organic Photovoltaic Cell by Electrospray Method
099	Yong Woon Han *(Nano and Information Materials Lab. (NIMs Lab.), Department of Materials Chemistry and Engineering, Konkuk University, 1 Hwayang-dong, Gwangjin-gu, Seoul, Republic of Korea)*, Jun Young Choi, Ran Hee Choi, Hyoung Seok Lee, Sung Jae Jeon, Eui Jin Ko, Doo Kyung Moon Efficient Organic-inorganic Hybrid Hole Extraction Layers to Enhancing Performance and Stability of Hybrid Organic Solar Cells
100	Jae Sung Yun *(School of Materials Science and Engineering, University of New South Wales)* Humidity Induced Degradation via Grain Boundaries of HC(NH2)2PbI3 Planar Perovskite Solar Cells
101	Nozomi ITO *(Kyushu Institute of Technology, Japan)*, Koichiro Chijiiwa, Shen Qing, Yuhei Ogomi, Shuzi Hayase Pb free Sn perovskite solar cells
102	Kenji Yoshino *(University of Miyazaki)*, Himeka Tominaga, Yuhei Ogomi, Takashi MInemoto, Qing Shen, Shuzi Hayase High quality of FTO films grown by spray pyrolysis for perovskite-based solar cell
103	Xing Zhao *(School of Chemical Engineering, Sungkyunkwan University, Suwon 440-746, Korea)*, Jiangzhao Chen, Nam-Gyu Park Dependence of Photovoltaic Performance on NiO Thin Layers Annealed at Different Atmospheres

104	Sung Jae Jeon *(Nano and Information Materials Lab. (NIMs Lab.), Department of Materials Chemistry and Engineering, Konkuk University, 1 Hwayang-dong, Gwangjin-gu, Seoul, Republic of Korea.)*, Doo Hun Kim, Jeong Eun Yu, Ye Jin Lee, Yong Woon Han, Young Hun Kim, Doo Kyung Moon Desin of Chemical Structure Based on D-A copolymers via Tuning the Alkyl Side Chain in Efficient Polymer Solar Cells
105	Su-Kyo Jung *(Department of Molecular Science and Technology, Ajou University, 206 World cup-ro, Yeongtong-gu, Suwon 443-739, Korea)*, Jin Hyuck Heo, Dae Woon Lee, Seung-Chul Lee, Hoseop Yun, Sang Hyuk Im, O-Pil Kwon Non-fullerene electron transporting materials based on naphthalene diimides for inverted perovskite solar cells
106	Ryuji Kaneko *(Photovoltaic Materials Group, National Institute for Materials Science)*, Guohua Wu, Kosuke Sugawa, Ashraful Islam, Joe Otsuki Synthesis and fabrication of NiOx based hole transporting layer for high efficiency low temperature processed perovskite solar cells
107	Jong-Hoon Lee *(Gwangju Institute of Science and Technology)*, Soyeong Jeong, Byoungwook Park, Kwanghee Lee Reinforcing the built-in field for efficient charge collection in polymer and perovskite solar cells
108	Soyeong Jeong *(Gwangju Institute of Sicence & Technology (GIST))*, Hongkyu Kang, Byoungwook Park, Seok Kim, Kwanghee Lee Novel ultra-thin silver electrodes using an amine-containing nucleation inducer for organic solar cells
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