

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

Monday, 24 October 2016: PVSEC-26 Conference Registration & SIEW 2016 Welcome Reception		
Venue	Time	Event
Hibiscus Level 3 (Foyer)	16:00 onwards	PVSEC-26 Conference Registration
Jasmine Level 3 (Foyer)	17:00 – 19:00	PVSEC-26 Welcome Cocktail Reception
National Gallery Singapore	18:00 onwards	SIEW 2016 – Singapore Energy Summit Networking Reception https://www.siew.sg/programme/events/ses-networking-reception

Tuesday, 25 October 2016: Joint Opening Ceremony for PVSEC-26, ACES 2016 and AWTEC 2016		
Venue	Time	Event
Jasmine Room (3801A – 3906)	08:00 – 18:00	Registration
	08:50	Guests to be seated
	09:00 – 09:10	Welcome Address by Mr Edwin KHEW, Chairman, Sustainable Energy Association of Singapore
	09:10 – 09:20	Welcome Address by Prof Armin ABERLE, CEO, Solar Energy Research Institute of Singapore, General Chair of PVSEC-26
	09:20 – 09:35	Address by Minister Masagos Zulkifl, Minister for the Environment and Water Resources (MEWR), Singapore
	09:35 – 09:45	Key Clean Energy announcements by Minister Masagos Zulkifl
	09:45 – 09:55	PVSEC Award Presentations
	09:55 – 10:15	Keynote Address by Mr Jon MOORE, Head, Bloomberg New Energy Finance (BNEF)
ACES Exhibition (Level 4, 4700 Simpor Roselle)	10:15 – 10:45	Coffee / Tea Break
Jasmine Room (3801A – 3906)	10:45 – 11:00	Keynote Address by Mr Bambang SUSANTONO, VP for Knowledge Management and Sustainable Development, Asian Development Bank
	11:00 – 11:50	Panel Discussion: Global Trends in Clean Energy Moderator: Justin WU, BNEF
	11:50 – 12:05	Keynote Address by Mr John SMIRNOW, Secretary General, Global Solar Council <i>10 Million Solar Jobs by 2030</i>
	12:05 – 12:55	Panel Discussion: Scaling Solar Power- a path to reducing emissions and providing energy access Moderator: John SMIRNOW, Global Solar Council
(Level 4, 4700 Simpor Roselle)	12:55 – 14:00	Lunch

**PVSEC-26, Full Technical Programme, Oral
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Tuesday, 25 October 2016: PVSEC-26 Conference – Keynote and Plenary talks		
Venue	Time	Event
Jasmine Room (3801A – 3906)	Session Chairs: Prof Makoto KONAGAI, Tokyo City University, Japan Prof Armin ABERLE, SERIS, Singapore	
	14:00 – 14:30	Keynote talk: Prof Ken BALDWIN Australian National University, Australia <i>Our Climate and Energy Future</i>
	14:30 – 15:00	Plenary speaker Area 5: Prof Eicke WEBER Fraunhofer Institute for Solar Energy Systems, Germany <i>Photovoltaics Moving into the Terawatt Range</i>
	15:00 – 15:30	Plenary speaker Area 1: Dr Nicholas EKINS-DAUKES Imperial College London, United Kingdom <i>Solar Power Conversion Efficiency Above 40% Short and Long Term Options</i>
	15:30 – 16:00	Plenary speaker Area 2: Dr Pierre VERLINDEN Trina Solar, China <i>Will We Have > 22% Efficient Multi-Crystalline Silicon Solar Cells?</i>
(Level 4, 4700 Simpur Roselle)	16:00 – 16:30	Coffee / Tea Break
Jasmine Room (3801A – 3906)	16:30 – 17:00	Plenary speaker Area 3: Prof Tsutomu MIYASAKA Toin University of Yokohama, Japan <i>Organo-Metal-Halide Perovskite Solar Cells – Past, Present and Future</i>
	17:00 – 17:30	Plenary speaker Area 4: Dr Shankar SRIDHARA REC Solar Pte. Ltd., Singapore <i>Technology Developments in REC: Silicon to Module</i>

Wednesday, 26 October 2016 (09:00 – 10:30): PVSEC-26 Conference sessions		
Hibiscus, Level 3 (Foyer)	08:00 – 18:00	Registration
Room 3711/3712/3713 (Posters)	09:00 – 10:30	Poster Setup (For Areas 1 & 3)
Room 3612/3613	09:00 – 10:30	CREATE Energy Symposium 2016: Grand Challenges for Solar Energy Technologies & Systems in Southeast Asia
Session 2.3.1 Room 3912/3913	Session 2.3.1: Monocrystalline silicon wafer solar cells Session Chairs: 1. Prof Junsin YI, Sungkyunkwan University, South Korea 2. Dr Shubham DUTTAGUPTA, SERIS, Singapore	
	09:00 - 09:15	2.3.1a (Invited): Dr Markus FISCHER, Hanwha Q-Cells, Germany, <i>The 7th edition of the International Technology Roadmap for Photovoltaic (ITRPV) – Current Trends and Challenges in c-Si Technology</i>
	09:15 - 09:30	2.3.1b (Invited): Prof Stuart WENHAM, University of New South Wales, Australia, <i>Advanced hydrogenation of mono-Si solar cells</i>
	09:30 - 09:45	2.3.1c: Dr Thorsten DULLWEBER, Institute for Solar Energy Research Hamelin, Germany, <i>Screen-printed Rear Al Finger Grids Enabling Bifacial PERC+ Cells and Modules</i>
	09:45 - 10:00	2.3.1d: Dr Ki Hyung KIM, Shinsung Solar Energy Co., South Korea, <i>Record High Efficiency of Screen Printed Si Al-BSF Solar Cell: 20.29%</i>
	10:00 - 10:15	2.3.1e: Dr Josef HAASE, Centrotherm photovoltaics AG, Germany, <i>Low Pressure Chemical Vapour Deposition for In Situ Doped N+ POLO Junctions in Industrial Silicon Solar Cells</i>
	10:15 – 10:30	2.3.1f: Mr Zhengshan YU, Arizona State University, United States, <i>Silicon heterojunction solar cells tuned to the infrared spectrum for use in tandems</i>
Session 3.2.1 Room 3812/3813	Session 3.2.1: CIS and CdTe thin-film solar cells Session Chairs: 1. Dr Selvaraj VENKATARAJ, SERIS, Singapore 2. Dr Negar NAGHAVI, Institut de recherche et développement sur l'énergie photovoltaïque, France	
	09:00 - 09:15	3.2.1a (Invited): Dr Katsumi KUSHIYA, Solar Frontier, Japan, <i>CIS-based Thin-film PV Technology: Unlocking the Key of High Performance</i>
	09:15 - 09:30	3.2.1b: Dr Sebastian SCHMIDT, Helmholtz-Zentrum Berlin, Germany, <i>Interface Engineering of CIGSe/ALD-Zn(O,S) Heterojunctions</i>
	09:30 - 09:45	3.2.1c: Mr Kosuke SHUDO, Tokyo University of Science, Japan, <i>Effect of Heat-Light Soaking on KF-treated CIGS Thin Film with CBD-CdS and ZnS(O,OH) Buffer Layers</i>
	09:45 - 10:00	3.2.1d: Dr Zhenhao ZHANG, Singulus Technologies AG, Germany, <i>CIGS-High Efficiency Process Technology for Photovoltaics: CIGS provides the basis for an effective PV module production</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

	10:00 - 10:15	3.2.1e: Dr Hideaki ARAKI, National Institute of Technology (Nagaoka College), Japan, <i>Effects of Sodium on Cu₂SnS₃ Thin Films Prepared By Co-Evaporation</i>
	10:15 – 10:30	3.2.1f: Mr Adiyudha SADONO, Tokyo Institute of Technology, Japan, <i>Efficiency Enhancement of Flexible Cu(In,Ga)Se₂ Deposited on Polyimide-coated Soda Lime Glass Substrates by Alkali Treatment</i>
Session 1.1.1 Room 3911	Session 1.1.1: Novel materials for future PV technologies Session Chairs: 1. Dr Sjoerd VELDHUIS, Energy Research Institute at NTU (ERI@N), Singapore 2. Dr Avishek KUMAR, REC Solar Pte Ltd, Singapore	
	09:00 - 09:15	1.1.1a (Invited): Dr Adele TAMBOLI, National Renewable Energy Laboratory (NREL), United States, <i>II-IV-V₂ materials: Inexpensive III-V Analogs for High-Efficiency Photovoltaics</i>
	09:15 - 09:30	1.1.1b: Prof Alexandre FREUNDLICH, Univ. of Houston, United States, <i>Large-Grain Near Single Crystalline Ge Thin Films on Glass</i>
	09:30 - 09:45	1.1.1c: Dr Naoya MIYASHITA, University of Tokyo, Japan, <i>Enhancement of Photocurrent in Epitaxial Lift-Off Thin Film GaInNAsSb Solar Cells By The Light Confinement Structure</i>
	09:45 - 10:00	1.1.1d: Dr Marwan DHAMRIN, Toyo Aluminium K.K., Japan, <i>Fabrication of Single-Crystalline SixGe1-x on Large Area Silicon Substrates by Screen-Printing Method</i>
	10:00 - 10:15	1.1.1e: Dr Keishiro GOSHIMA, Aichi Institute of Technology, Japan, <i>Intermediate Band in Multi Stacked InGaAs Quantum Dots</i>
	10:15 - 10:30	1.1.1f: Dr Stella Maris VAN EEK, FHR Anlagenbau GmbH, Germany, <i>Investigation of multilayer ZnO:Al/Ag/ZnO:Al transparent conductive films prepared by magnetron sputtering for solar applications</i>
Session 2.1.1 Room 3811	Session 2.1.1: Silicon feedstock & wafers Session Chairs: 1. Prof Erik Stensrud MARSTEIN, Institute for Energy Technology, IFE, Norway 2. Mr Adolphus Song, REC Solar Pte Ltd, Singapore	
	09:00 – 09:15	2.1.1a: Prof Chung-Wen LAN, National Taiwan University, Taiwan, <i>The Effect of Seed Arrangements on the Ingot Quality of N-type Mono-like Silicon Grown by Directional Solidification</i>
	09:15 - 09:30	2.1.1b: Mr Xiande DING, Bruker Optik GmbH, Germany, <i>High sensitivity FTIR oxygen quantification in complete polycrystalline silicon ingots</i>
	09:30 - 09:45	2.1.1c: Dr Anandha Babu GOVINDAN, Nagoya University, Japan, <i>Effect of different thin seed layers on the grain structure of multicrystalline silicon for photovoltaic application</i>
	09:45 - 10:00	2.1.1d: Mr Su-Hyun BAEK, Yonsei University, South Korea, <i>Recycling of poly silicon based solar cell wastes using steam plasma method</i>
	10:00 - 10:15	2.1.1e: Mr Takuto KOJIMA, Meiji University, Japan, <i>Effects of growth conditions and carbon on oxygen precipitation in Cz silicon</i>
	10:15 – 10:30	2.1.1f: Mr Kwanghun KIM, Woongjin Energy, South Korea

PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)

		<i>The Effect of Heating Position on Temperature Profile of the Czochralski method</i>
Session 4.1.1, & 4.2.1 Room 3611	Session 4.1.1: Silicon wafer based PV modules Session 4.2.1: Thin-film PV modules Session Chairs: 1. Dr Yan WANG, SERIS, Singapore 2. Mr Zhiqiang FENG, Trina Solar, China	
	09:00 – 09:15	4.1.1a (Invited): Mr Daisuke FUJISHIMA, Panasonic, Japan, <i>Silicon heterojunction photovoltaic module with conversion efficiency of 23.8%</i>
	09:15 - 09:30	4.1.1b (Invited): Dr Yong Sheng KHOO, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Bifacial photovoltaic module with superior front and rear side performance</i>
	09:30 - 09:45	4.1.1c: Dr Hisanari ONOUCHI, Nitto Denko Corporation, Japan, <i>Novel Wavelength Conversion Technology "RAYCREA" to Enhance Power Output and Reliability of PV modules</i>
	09:45 - 10:00	4.1.1d: Dr Anna J. CARR, Energy Research Centre of Netherlands (ECN), Netherlands, <i>Shade response of a full size TESSERA module</i>
	10:00 - 10:15	4.2.1a: Prof Shih-Hung LIN, TungHai University, Taiwan, <i>Influence of edge recombination on the CIGS solar module</i>
	10:15 – 10:30	4.1.1e: Dr Zhiqiang FENG, Trina Solar, China <i>Multi-crystalline Silicon Solar Module with Aperture Efficiency of 19.86%</i>
Session 1.2.1 Room 3810A & 3810B	Session 1.2.1: New PV concepts Session Chairs: 1. Dr Qiming LIU, Saitama University, Japan 2. Prof Armin ABERLE, SERIS, Singapore	
	09:00 – 09:15	1.2.1a (Invited): Prof Yoshitaka OKADA, University of Tokyo, Japan <i>Progress of Quantum Dot Intermediate-Band Solar Cells</i>
	09:15 - 09:30	1.2.1b: Prof Arno SMETS, Delft University of Technology, Netherlands <i>Hybrid multi-junction PV devices based on thin-film a-Si:H, nc-Si:H, CIGS, organic and c-Si wafer based hetero-junctions</i>
	09:30 - 09:45	1.2.1c: Dr Zhi Peng LING, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Comparison and characterization of different tunnel layers, suitable for passivated contact formation</i>
	09:45 - 10:00	1.2.1d: Dr Kenji ARAKI, Toyota Technological Institute, Japan, <i>Beyond the limit of Si solar cells – III-V on Si cell and its PCSC module concept</i>
	10:00 - 10:15	1.2.1e: Mr Prashant SINGH, CSIR-National Physical Laboratory, India <i>Light Intensity Dependent Characteristics of Micro-textured Si/PEDOT:PSS Heterojunction Solar Cell</i>
	10:15 – 10:30	1.2.1f: Dr Anna NIKOLSKAIA, Russian Academy of Sciences, Russia, <i>Efficient Four-Terminal Tandem PV Cells: from DSC/c-Si to PSC/c-Si</i>
Level 3 Jasmine Junior	10:30 – 11:00	Coffee/Tea Break

PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)

Foyer & Level 4, 4700 Simpur Roselle Room		
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Wednesday, 26 October 2016 (11:00 – 12:30): PVSEC-26 Conference sessions		
3711/3712/ 3713 (Poster)	11:00 – 12:30	Poster session 1 (Area 3, sub-area 3.1 & 3.2) (For each poster, at least one presenter must be present)
3612/3613	11:00 – 12:30	CREATE Energy Symposium 2016: Grand Challenges for Solar Energy Technologies & Systems in Southeast Asia
Session 2.3.2 Room 3912/3913	Session 2.3.2: Monocrystalline silicon wafer solar cells Session Chairs: 1. Dr Hao JIN, Jinko Solar, China 2. Dr Thorsten DULLWEBER, Institute for Solar Energy Research, Hamelin, Germany	
	11:00 – 11:15	2.3.2a (Invited): Prof Makoto KONAGAI, Tokyo City University, Japan, <i>Major research accomplishment in 5 years of "FUTURE-PV Innovation" project</i>
	11:15 – 11:30	2.3.2b (Invited): Dr Armin RICHTER, Fraunhofer-ISE, Germany, <i>Silicon solar cells with full-area passivated rear contacts: Influence of wafer resistivity on device performance on a 25% efficiency level</i>
	11:30 – 11:45	2.3.2c: Mr Christophe ALLEBE, Centre Suisse d'Electronique et de Microtechnique, Switzerland, <i>Hitting the symbolic 30% efficiency threshold of Si-based photovoltaics</i>
	11:45 – 12:00	2.3.2d: Dr Felix HAASE, Institute for Solar Energy Research Hamelin (ISFH), Germany, <i>IBC solar cells with polycrystalline on oxide (POLO) passivating contacts for both polarities</i>
	12:00 – 12:15	2.3.2e: Mr Di YAN, Australian National University, Australia, <i>Silicon Nitride/Silicon Oxide interlayer for solar cell passivating contacts based on PECVD amorphous silicon</i>
	12:15 – 12:30	2.3.2f: Kai Carstens, University of Stuttgart, Germany, <i>23.2% laser processed back contact solar cells with amorphous silicon passivation</i>
Session 3.2.2 Room 3812/3813	Session 3.2.2: CIS and CdTe thin-film solar cells Session Chairs: 1. Dr Yan WANG, SERIS, Singapore 2. Dr Marc D. HEINEMANN, PVcomB - Helmholtz Zentrum Berlin, Germany	
	11:00 – 11:15	3.2.2a (Invited): Dr Kannan RAMANATHAN, Stion, United States, <i>New emitters for CIGS: from cells to full size modules</i>
	11:15 – 11:30	3.2.2b: Dr Kong Fai TAI, Solar Frontier K.K., Japan <i>From 20.9% to 22.3% CIGS Solar Cell: Reduced Recombination Rate at the Interface and Depletion Region due to K-treatment</i>
	11:30 – 11:45	3.2.2c: Ms Xue ZHENG, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Raman Spectroscopy Studies of Cu(In,Ga)Se₂ Absorber Layers Prepared at Various Selenization Temperatures</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

	11:45 – 12:00	3.2.2d: Dr Reinhard FENDLER, FHR Anlagenbau GmbH, Germany, <i>Large Area Deposition of Contact Films by Magnetron Sputtering</i>
	12:00 – 12:15	3.2.2e: Dr Negar NAGHAVI, IRDEP, France, <i>Ultrathin CIGS based solar cells: the impact of deposition methods & light management</i>
	12:15 – 12:30	3.2.2f: Mr Takahito NISHIMURA, Tokyo Institute of Technology, Japan, <i>Interface-quality Improvement by Controlling Cu(2-x)Se layer in Three-stage Method for High Efficiency Cu(In, Ga)Se₂ Solar Cells</i>
Session 1.1.2 Room 3911	Session 1.1.2: Novel materials for future PV technologies Session Chairs: 1. Asst Prof Nripan MATHEWS, Energy Research Institute @ NTU, Singapore 2. Dr Adele TAMBOLI, National Renewable Energy Laboratory, NREL, United States	
	11:00 - 11:15	1.1.2a: Mr Maksym PLAKHOTNYUK, Technical University of Denmark, Denmark, <i>Behind the Nature of Titanium Oxide Excellent Surface Passivation and Carrier Selectivity of c-Si</i>
	11:15 - 11:30	1.1.2b: Mr Chang-Yeh LEE, University of New South Wales, Australia, <i>The Effect of Thermal Annealing on WOX Hole Selective Contacts for P-type Silicon Solar Cells</i>
	11:30 - 11:45	1.1.2c: Dr Shuhei YAGI, Saitama University, Japan, <i>Effect of Carrier Blocking Layer on Carrier Collection in Intermediate-Band Solar Cells using GaAs:N Delta-Doped Superlattice</i>
	11:45 - 12:00	1.1.2d: Dr Sjoerd VELDHUIS, Energy Research Institute at NTU (ERI@N), Singapore, <i>Highly Luminescent and Stable Organic-Inorganic Perovskite Core-shell Nanoparticles for Light Emission and PV Applications</i>
	12:00 - 12:15	1.1.2e: Mr Krit KONGURAI, Chulalongkorn University, Thailand, <i>Tandem Quantum Dot Nanostructures for Photovoltaic Applications</i>
	12:15 - 12:30	1.1.2f: Dr Hidetoshi SUZUKI, University of Miyazaki, Japan, <i>The influence of substrate orientation on strain relaxation mechanisms of InGaAs layer grown on vicinal GaAs substrates measured by in situ X-ray diffraction</i>
	Session 2.1.2: Silicon feedstock & wafers Session Chairs: 1. Prof Chung-Wen LAN, National Taiwan University, Taiwan 2. Dr Anandha Babu GOVINDAN, Nagoya University, Japan	
Session 2.1.2 Room 3811	11:00 – 11:15	2.1.2a (Invited): Prof Erik Stensrud MARSTEIN, Institute for Energy Technology (IFE), Norway, <i>New processes for producing silicon for solar cells from silane gas</i>
	11:15 – 11:30	2.1.2b: Dr Fiacre ROUGIEUX, Australian National University, Australia, <i>Carrier induced degradation in compensated n-type solar cells: Impact of temperature, light-intensity and forward bias voltage on the reaction kinetics</i>
	11:30 – 11:45	2.1.2c: Mr Chang SUN, Australian National University, Australia, <i>Activation Kinetics of the Boron-Oxygen defect in Compensated n- and p-type Silicon Studied by High-Injection Micro-</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>photoluminescence</i>
	11:45 – 12:00	2.1.2d: Mr Ryota SUZUKI, Meiji University, Japan, <i>Evaluation of Saw Damages with Diamond-Coated Wire in Crystalline Silicon Solar Cell by Photoluminescence Imaging</i>
	12:00 – 12:15	2.1.2e: Dr Boyun JANG, Korea Institute of Energy Research, South Korea, <i>Mono-crystalline silicon wafering process by using a multi-wire electrical discharge</i>
	12:15 – 12:30	2.1.2f: Mr Adolphus SONG, REC Solar, Singapore, <i>Elkem Solar Silicon: Silicon Feedstock for High Performance Multicrystalline Wafers</i>
Session 4.1.2 & 4.2.2 Room 3611	Session 4.1.2: Silicon wafer based PV modules Session 4.2.2: Thin-film PV modules Session Chairs: 1. Mr Daisuke FUJISHIMA, Panasonic Corporation, Japan 2. Dr KHOO Yong Sheng, SERIS, Singapore	
	11:00 – 11:15	4.1.2a (Invited): Mr Colin QUAN, HIUV, China <i>Advantages of using white encapsulants in PV modules</i>
	11:15 – 11:30	4.1.2b (Invited): Dr Jinseok LEE, Korea Institute of Energy Research (KIER), South Korea, <i>Recovery Technology of Intact Wafer from End-of-life c-Si Photo-voltaic Module</i>
	11:30 – 11:45	4.2.2a (Invited): Dr Dirk WEISS, First Solar, United States, <i>The bottom line: real-world performance advantage of thin-film CdTe technology</i>
	11:45 – 12:00	4.2.2b (Invited): Mr Michael van der GUGTEN, Smit Thermal Solutions, Netherlands, <i>Controllability and reproducibility measures in thermal process equipment</i>
	12:00 – 12:15	4.1.2c: Mr Stefan ROEST, Eternal Sun Group, Netherlands, <i>PERC: Critical measurement requirements for manufacturing and laboratory testing</i>
	12:15 – 12:30	4.1.2d: Mr Christophe MAYR, Austrian Institute of Technology (AIT), Austria <i>Lead-free and low silver c-Si modules – Innovative solutions from Austria</i>
	Session 1.2.2: New PV concepts Session Chairs: 1. Prof. Yoshitaka OKADA, University of Tokyo, Japan 2. Rolf STANGL, SERIS, Singapore	
Session 1.2.2 Room 3810A & 3810B	11:00 – 11:15	1.2.2a (Invited): Prof Christophe BALLIF, EPFL & CSEM, Switzerland <i>Application of silicon solar cells with passivated contacts in high-efficiency tandem solar cells</i>
	11:15 – 11:30	1.2.2b: Ms Sarah SOFIA, Massachusetts Institute of Technology (MIT), United States, <i>Metal Grid Contact Design for Four-Terminal Tandem Solar Cells</i>
	11:30 – 11:45	1.2.2c: Mr Haohui LIU, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Predicted outdoor energy yield of Si based tandem solar cells</i>
	11:45 – 12:00	1.2.2d: Dr Qiming LIU, Saitama University, Japan,

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		<i>Nafion-modified PEDOT:PSS for stable, high-performance crystalline-Si/organic heterojunction solar cells</i>
	12:00 – 12:15	1.2.2e: Prof Tomoyoshi MOTOHIRO, Nagoya University, Japan, <i>Concept of the solar-pumped laser-PV combined system and its application to laser beam power feeding to electric vehicles</i>
	12:15 – 12:30	1.2.2f: Prof Gavin CONIBEER, University of New South Wales, Australia, <i>Uncovering hot carrier cooling mechanisms in multiple quantum wells</i>
Level 3 Jasmine Junior Foyer & Level 4, 4700 Smpor Roselle Room	12:30 – 14:00	Lunch

Wednesday, 26 October 2016 (14:00 – 15:30): PVSEC-26 Conference sessions		
3711/3712/ 3713 (Poster)	14:00 – 15:30	Poster session 2 (Area 3, sub-area 3.3, 3.4, 3.5) (For each poster, at least one presenter must be present)
3612/3613	14:00 – 15:30	CREATE Energy Symposium 2016: Grand Challenges for Solar Energy Technologies & Systems in Southeast Asia
Session 3.3.1 Room 3912/3913	Session 3.3.1: Organic, dye and perovskite thin-film solar cells Session Chairs: 1. Dr Xiaxia LIAO, Helmholtz-Zentrum Berlin (HZB), Germany 2. Prof Shuzi HAYASE, Kyushu Institute of Technology, Japan	
	14:00 - 14:15	3.3.1a (Invited): Prof David MITZI, Duke Chemistry, United States, <i>Perovskite Absorbers Beyond CH₃NH₃PbI₃: Status and Challenges</i>
	14:15 - 14:30	3.3.1b (Invited): Prof Constance CHANG-HASNAIN, University of California, Berkeley, United States <i>Illumination Angle Insensitive Indium Phosphide Tapered Nanopillar Solar Cell On a Silicon Substrate</i>
	14:30 - 14:45	3.3.1c: Ms Yan CHEN, NTU, Singapore <i>Lead-free Tin (IV)-based A₂SnI₆ Perovskite Materials for Photo-voltaic Application</i>
	14:45 - 15:00	3.3.1d: Mr Santhosh SHANMUGAM, Solliance - Holst Centre, Netherlands, <i>Up-scalable sheet-to-sheet production of high efficiency perovskite module and solar cells on 6-inch substrate using slot-die coating</i>
	15:00 - 15:15	3.3.1e: Dr Mikas REMEIKA, Okinawa Institute of Science and Technology, Japan, <i>Scalable Fabrication of Perovskite Solar Cells under Ambient Conditions by Ultrasonic Spray Coating</i>
	15:15 – 15:30	3.3.1f: Mr Zhengshan YU, Arizona State University, United States, <i>Two-terminal monolithic perovskite/silicon tandem solar cells with efficiencies over 22%</i>

Session 3.2.3 Room 3812/3813	Session 3.2.3: CIS and CdTe thin-film solar cells	
	Session Chairs	
	1. Dr Kannan RAMANATHAN, Stion, United States	
	2. Dr Kong Fai TAI, Solar Frontier K.K., Japan	
	14:00 - 14:15	3.2.3a (Invited): Dr Sebastian S. SCHMIDT, Helmholtz-Zentrum Berlin, Germany, <i>Fast Atmospheric Chalcogenization of Metallic Cu-In-Ga Precursors</i>
	14:15 - 14:30	3.2.3b: Mr Weimin LI, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Investigation of Modified Molybdenum Rear Contact Stack Designs for CIGS solar cells</i>
	14:30 - 14:45	3.2.3c: Mr Seung Tae KIM, Korea Advanced Institute of Science and Technology (KAIST), South Korea, <i>Growth of a large-grained Cu-deficient CIGS film with two-stage co-evaporation process and investigation of morphology evolution</i>
Session 1.1.3 Room 3911	14:45 - 15:00	3.2.3d: Dr Jihye KIM, ISAC Research Inc., South Korea, <i>Development of high throughput batch type ALD system for Zn(OS) buffer layer for CIGS PV Module</i>
	15:00 - 15:15	3.2.3e: Dr Anjun HAN, Chinese Academy of Sciences, China, <i>Effect of heat treatment on the properties of the partially selenized Cu(In,Ga)Se₂ films</i>
	15:15 - 15:30	3.2.3f: <TBC>
	Session 1.1.3: Novel materials for future PV technologies	
	Session Chairs	
	1. Prof Alexandre FREUNDLICH, University of Houston, United States	
	2. Prof Clas PERSSON, University of Oslo, Norway	
	14:00 - 14:15	1.1.3a: Dr Vinod KUMAR, Indian Institute of Technology Delhi, India, <i>Effect of applied voltage on spray deposited gallium doped ZnO thin films for solar cell application</i>
	14:15 - 14:30	1.1.3b: Mr Arastoo TEYMOURI, University of New South Wales (UNSW), Australia, <i>Transparent Conductive Film for Emerging Heat-Sensitive Devices</i>
	14:30 - 14:45	1.1.3c: Dr Pei WANG, University of New South Wales, Australia, <i>Carrier thermalisation of titanium hydride analysed by transient absorption test</i>
	14:45 - 15:00	1.1.3d: Dr Katsuhisa YOSHIDA, University of Tokyo, Japan, <i>Simulation Analysis of Impurity-Band assisted Quantum-Dot Intermediate-Band Solar Cells</i>
	15:00 - 15:15	1.1.3e: Mr Warakorn YANWACHIRAKUL, University of Tokyo, Japan, <i>Design Structure of Free-barrier InGaAs/GaNAs Multiple Quantum Well Solar Cells with 1.2 eV Energy Gap</i>
	15:15 - 15:30	1.1.3f: Dr Francesco MADDALENA, Nanyang Technological University (NTU), Energy Research Institute @ NTU, Singapore, <i>Effect of precursor stoichiometry and device architecture on the characteristics of methylammonium lead iodide perovskite field-</i>

		<i>effect transistors</i>
Session 2.2.1 Room 3811	Session 2.2.1: Multicrystalline silicon wafer solar cells Session Chairs: 1. Dr Laurent CLOCHARD, NINES PV, Ireland 2. Dr Joel LI, SERIS, Singapore	
	14:00 - 14:15	2.2.1a (Invited): Prof Jan SCHMIDT, Institute for Solar Energy Research (ISFH), Germany, <i>Recent advances in understanding and suppressing light-induced degradation in multi-Si solar cells</i>
	14:15 - 14:30	2.2.1b: Mr Hang Cheong SIO, ANU, Australia, <i>Recombination behaviour of p-type high performance multicrystalline silicon before and after phosphorus diffusion and hydrogenation</i>
	14:30 - 14:45	2.2.1c: Dr Sieu Pheng PHANG, Australian National University (ANU), Australia, <i>N-type High-Performance Multicrystalline and Quasi-Monocrystalline Silicon Wafers with Lifetimes above 2ms</i>
	14:45 - 15:00	2.2.1d: Dr Wolfgang JOOSS, RCT Solutions, Germany, <i>Recent results on multicrystalline PERCT solar cells and modules</i>
	15:00 - 15:15	2.2.1e: Dr Abhishek KUMAR, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Total cost of ownership to manufacture solar cells: Al-BSF vs PERC</i>
	15:15 - 15:30	2.2.1f: Ms Monika BIERI, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Economic viability analysis of solar cell manufacturing</i>
Session 4.3.1 Room 3611	Session 4.3.1: PV module reliability Session Chairs: 1. Dr John WOHLGEMUTH, National Renewable Energy Laboratory, NREL, United States 2. Dr Yan WANG, SERIS, Singapore	
	14:00 - 14:15	4.3.1a (Invited): Dr Volker NAUMANN, Fraunhofer-CSP, Germany, <i>Investigations on the formation of stacking faults leading to PID-shunting</i>
	14:15 - 14:30	4.3.1b: Dr Atsushi MASUDA, National Institute of Advanced Industrial Science and Technology, Japan, <i>Potential-Induced Degradation for Heterojunction Crystalline Si Photovoltaic Modules</i>
	14:30 - 14:45	4.3.1c: Dr Renate ZAPF-GOTTWICK, University of Stuttgart, Germany, <i>Long term leaching of photovoltaic modules</i>
	14:45 - 15:00	4.3.1d: Dr Tadanori TANAHASHI, National Institute of Advanced Industrial Science and Technology (AIST), Japan, <i>Acceleration factor of high-speed degradation of photovoltaic cells exposed to acetic acid vapor against that observed in photovoltaic modules tested under damp heat stress conditions</i>
	15:00 - 15:15	4.3.1e: Dr Jacqui CROZIER, Nelson Mandela Metropolitan University, South Africa, <i>Quantification of the effects of Photovoltaic module defects and degradation using Electroluminescence imaging</i>
	15:15 - 15:30	4.3.1f: Dr Anil KOTTANTHARAYIL, IIT Bombay, India

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>Comparative study of performance of fielded PV modules in two countries</i>
Session 4.4.1 Room 3810A & 3810B	Session 4.4.1: Simulation & characterisation of PV modules Session Chairs: 1. Prof Marko TOPIC, University of Ljubljana, Slovenia 2. Dr Tetsuyuki ISHII, Central Research Institute of Electric Power Industry (CRIEPI), Japan	
	14:00 - 14:15	4.4.1a (Invited): Mr Giuseppe GALBIATI, ISC Konstanz, Germany <i>Zebra Cells and Module Technology for Bifacial System</i>
	14:15 - 14:30	4.4.1b: Mr Kenneth GOH, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Fast (NOCT) Nominal Operating Cell Temperature Indoor Measurement</i>
	14:30 - 14:45	4.4.1c: Dr Werner HERMANN, TUV Rheinland Group, Germany, <i>Advances in spectral irradiance analysis of solar simulators</i>
	14:45 - 15:00	4.4.1d: Dr Jai Prakash SINGH, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Bifacial solar cell measurements under STC and its impact on bifacial module measurements</i>
	15:00 - 15:15	4.4.1e: Dr Kenji ARAKI, Toyota Technological Institute, Japan, <i>A 2-D Monte Carlo Simulation for Analysis of the Acceptance Angle of CPV</i>
	15:15 - 15:30	4.4.1f: <TBC>
Level 3 Jasmine Junior Foyer & Level 4, 4700 Smpor Roselle Room	15:30 – 16:00	Coffee/Tea Break

Wednesday, 26 October 2016 (16:00 – 18:00): PVSEC-26 Conference sessions		
Room 3711/3712/ 3713 (Poster)	16:00 – 18:00	Poster session 3 (Area 1) (For each poster, at least one presenter must be present)
Room 3612/3613	16:00 – 18:00	CREATE Energy Symposium 2016: Grand Challenges for Solar Energy Technologies & Systems in Southeast Asia
Session 3.3.2 Room 3912/3913	Session 3.3.2: Organic, dye and perovskite thin-film solar cells Session Chairs: 1. Dr Mikas REMEIKA, Okinawa Institute of Science and Technology, Japan 2. Prof Constance CHANG-HASNAIN, University of California, Berkeley, United States	
	16:00 – 16:15	3.3.2a (Invited): Prof Shuzi HAYASE, Kyushu Institute of Technology, Japan, <i>Architecture of interface at perovskite layer and hole transport layer for perovskite solar cells</i>
	16:15 –	3.3.2b (Invited): Prof Donghwan KIM, Korean University, South Korea

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

	16:30	<i>Light- and electric field-induced degradation of perovskite solar cells</i>
	16:30 – 16:45	3.3.2c: Mr Yiliang WU, Australian National University (ANU), Australia, <i>On the Origin of Hysteresis in Perovskite Solar Cells</i>
	16:45 – 17:00	3.3.2d: Dr Sneha Avinash KULKARNI, Nanyang Technological University (NTU), Energy Research Institute @ NTU, Singapore, <i>Investigating the feasibility of symmetric guanidinium (GA, CH₆N₃⁺) based plumbate perovskites (GAPbI₃ and GA₂PbI₄) in prototype solar cell devices</i>
	17:00 – 17:15	3.3.2e: Dr Masato MAITANI, University of Tokyo, Japan, <i>Carrier Transport of Perovskite Solar Cells Controlled by Exposed Facet of Oxide Scaffold</i>
	17:15 – 17:30	3.3.2f: Dr Guifang HAN, Nanyang Technological University (NTU), Energy Research Institute @ NTU, Singapore, <i>Effect of lead source on the performance of inverted planar perovskite solar cell</i>
	17:30 – 17:45	3.3.2g: Dr Mathew SHERBURNE, University of California Berkeley, United States, <i>Identifying lead-free double perovskite photovoltaic materials by high-throughput computational screening</i>
	17:45 – 18:00	3.3.2h: Dr Mohammad Istiaque HOSSAIN, Qatar Environment and Energy Research Institute, Qatar, <i>Fabrication of Hybrid Organic-Inorganic Perovskite Solar Cells and Photoluminescence Study of the Charge Dynamics</i>
Session 3.2.4 Room 3812/3813	Session 3.2.4: CIS and CdTe thin-film solar cells Session Chairs: 1. Prof David MITZI, Duke Chemistry, United States 2. Dr Jihye KIM, ISAC Research Inc., South Korea	
	16:00 – 16:15	3.2.4a (Invited): Dr Homare HIROI, Showa Shell Sekiyu & Solar Frontier, Japan, <i>New Challenge in Se-free Cu(In,Ga)S₂ Solar Cells</i>
	16:15 – 16:30	3.2.4b: Dr Shin Woei LEOW, Nanyang Technological University (NTU), Energy Research Institute @ NTU, Singapore, <i>Grain growth in antimony doped CuIn(S,Se) thin films with 8% efficiency</i>
	16:30 – 16:45	3.2.4c: Dr Negar NAGHAVI, Institut de recherche et développement sur l'énergie photovoltaïque (IRDEP), France <i>New ammonia free, room temperature and reusable chemical bath for Zn(S,O) buffer layer in Cu(In,Ga)Se₂ based solar cells</i>
	16:45 – 17:00	3.2.4d: Dr Pedro SALOME, Instituto de Ciências Exatas, Brazil, <i>Cd and Cu interdiffusion in CIGS/CdS hetero-interfaces</i>
	17:00 – 17:15	3.2.4e: Mr Motoki WATANABE, Tokyo Institute of Technology, Japan, <i>Thiourea treatment for Cu(In,Ga)Se₂ solar cells</i>
	17:15 – 17:30	3.2.4f: Mr Kazuki HAMAMURA, Ritsumeikan University, Japan, <i>Influence of Cu/(Ge+Sn) composition ratio on photovoltaic performances of Cu₂Sn_{1-x}GexS₃ solar cell</i>
	17:30 – 17:45	3.2.4g: Dr Leng ZHANG, Tsinghua University, China, <i>The key limiting factors in CuInGaSe₂ thin film solar cells prepared by Sputtering From Quaternary Target Without Post-selenization</i>
	17:45 – 18:00	3.2.4h: Dr Nicoleta NICOARA, International Iberian Nanotechnology Laboratory, Portugal,

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>Spatially-resolved insight into the formation of the Cu(In,Ga)Se₂/CdS interface - evidence for chemical and electronic non-uniformities</i>
	18:00 – 18:15	3.2.4i: Mr Xianfeng ZHANG, Waseda University, Japan <i>Influence of Annealing Temperature on Properties of Cu₂ZnSnS₄ Thin Films Fabricated from Ball-milled Nanoparticle Inks</i>
Session 1.2.3 Room 3911	Session 1.2.3: New PV concepts Session Chairs: 1. Prof Christophe BALLIF, EPFL & CSEM, Switzerland 2. Prof Tomoyoshi MOTOHIRO, Nagoya University, Japan	
	16:00 – 16:15	1.2.3a: Dr Lewis FRAAS, JX Crystals Inc, United States, <i>Light Weight Fuel-Fired TPV Battery Replacement</i>
	16:15 – 16:30	1.2.3b: Dr Kikuo MAKITA, National Institute of Advanced Industrial Science and Technology, Japan, <i>Low Concentration InGaP/GaAs/Si 3-Junction Solar Cells with Smart Stack Technology</i>
	16:30 – 16:45	1.2.3c: Dr Zacharie JEHL, University of Tokyo, Japan, <i>Selective contacts for Hot Carrier Solar Cells using asymmetric double resonant tunnelling barriers</i>
	16:45 – 17:00	1.2.3d: Mr Prashant SINGH, CSIR-National Physical Laboratory, India, <i>Fabrication and Characterization of Silver Assisted Chemically Etched Silicon Nanowire Arrays Based Solar Cells</i>
	17:00 – 17:15	1.2.3e: Mr Zhe LIU, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Effect of Ohmic Shunts on 2T Multijunction Solar Cells</i>
	17:15 – 17:30	1.2.3f: Prof Tomah SOGABE, The University of Electro-Communications, Japan, <i>Investigation of Hot Carrier Transportation Dynamics in InAs/GaAs Quantum Dot Solar Cell</i>
	17:30 – 17:45	1.2.3g: Prof Stanko TOMIC, University of Salford, United Kingdom, <i>Global Optimisation of Multi Junction Solar Cells Under Current Matching Conditions</i>
	17:45 – 18:00	1.2.3h: Ms Sunhwa LEE, Korea Institute of Industrial Technology, South Korea, <i>Monolithic a-Si:H Thin Film/c-Si Tandem Solar Cells using Double Doped nc-Si:H Tunneling Junction</i>
	18:00 – 18:15	1.2.3i: Dr Santosh SHRESTHA, University of New South Wales, Australia, <i>Recent progress with absorber and energy selective contacts for hot carrier solar cells</i>
Session 2.2.2 Room 3811	Session 2.2.2: Multicrystalline silicon wafer solar cells Session Chairs: 1. Prof Jan SCHMIDT, Institute for Solar Energy Research (ISFH), Germany 2. Dr Abhishek KUMAR, SERIS, Singapore	
	16:00 – 16:15	2.2.2a (Invited): Dr Hao JIN, Jinko Solar, China, <i>21.63% world record large area multicrystalline silicon solar cell</i>
	16:15 – 16:30	2.2.2b: Mrs Jessica CHOU, DuPont, Taiwan, <i>The Evolution of Metallization Paste Development to Enable Fine Line Printing</i>
	16:30 – 16:45	2.2.2c: Dr Fangdan JIANG, Jinko Solar, China, <i>Effective Reduction of Light Induced Degradation in PERC Solar Cells</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>by Electro-Injection Annealing</i>
	16:45 – 17:00	2.2.2d: Prof Chung-Wen LAN, National Taiwan University, Taiwan, <i>Surface activation and gettering of multi-crystalline silicon wafers from diamond and slurry wire slicing</i>
	17:00 – 17:15	2.2.2e: Dr Ankit KHANNA, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Single-component non-acidic emitter etch-back process for both n and p-type tube-diffused crystalline silicon wafer solar cells</i>
	17:15 – 17:30	2.2.2f: Dr Yufeng ZHUANG, Shanghai Jiao Tong University, China, <i>Versatile strategies for improving the performance of diamond wire sawn mc-Si solar cells</i>
	17:30 – 17:45	2.2.2g: Mr Laurent CLOCHARD, Nines PV, Ireland, <i>Industrial Dry texturing developments for diamond-wire cut mc-Si wafers</i>
	17:45 – 18:00	2.2.2h: Dr Saravanan SOMASUNDARAM, RenewSys India, India <i>Loss Analysis on Inline Processed Multi Crystalline Silicon Solar Cells</i>
Session 4.3.2 Room 3611	Session 4.3.2: PV module reliability Session Chairs: 1. Dr Atsushi MASUDA, National Institute of Advanced Industrial Science and Technology, Japan 2. Dr Renate ZAPF-GOTTWICK, University of Stuttgart, Germany	
	16:00 – 16:15	4.3.2a (Invited): Dr John WOHLGEMUTH, National Renewable Energy Laboratory (NREL), United States <i>Reliability and Durability of PV Modules in PV Systems</i>
	16:15 – 16:30	4.3.2b: Dr Sungwoo CHOI, National Institute of Advanced Industrial Science and Technology (AIST), Japan, <i>Time-dependent changes in CIGS and CdTe photovoltaic modules due to outdoor exposure</i>
	16:30 – 16:45	4.3.2c: Dr Santosh Kumar RATH, REC Solar, Singapore, <i>PV Backsheets: An Investigation of Hydrolytic Degradation of the middle PET</i>
	16:45 – 17:00	4.3.2d: Dr Volker NAUMANN, Fraunhofer Center for Silicon Photovoltaics CSP, Germany, <i>Microstructural analysis of the soiling process in desert regions</i>
	17:00 – 17:15	4.3.2e: Mr Wei LUO, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>In-situ Characterization of Potential Induced Degradation in c-Si Photovoltaic Modules through Dark I-V Measurements</i>
	17:15 – 17:30	4.3.2f: Ms Sachiko JONAI, National Institute of Advanced Industrial Science and Technology (AIST), Japan, <i>Root Cause of Potential Induced Degradation for p-Type Crystalline Silicon Photovoltaic Modules</i>
	17:30 – 17:45	4.3.2g: Ms Yaowanee SANGPONGSANONT, King Mongkut's University of Technology Thonburi (KMUTT), Thailand, <i>Thirteen-year Long-term Monitoring and Reliability of PV Module Degradation in Thailand</i>
	17:45 –	4.3.2h: <TBC>

PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)

	18:00	
Session 4.4.2 Room 3810A & 3810B	Session 4.4.2: Simulation & characterisation of PV modules Session Chairs: 1. Mr Giuseppe GALBIATI, ISC Konstanz, Germany 2. A/Prof Arief BUDIMAN, Singapore University of Technology and Design, Singapore	
	16:00 – 16:15	4.4.2a: Prof Marko TOPIC, University of Ljubljana, Slovenia, <i>Diffuse and direct light solar spectra and mc-Si PV module performance modelling</i>
	16:15 – 16:30	4.4.2b: Dr Tetsuyuki ISHII, Central Research Institute of Electric Power Industry, Japan, <i>Development of a methodology to estimate electric power from various photovoltaic technologies</i>
	16:30 – 16:45	4.4.2c: Dr Yoshihiro HISHIKAWA, National Institute of Advanced Industrial Science and Technology (AIST), Japan, <i>Effects of Synchronous Irradiance Monitoring and Correction of I-V Curves on the Outdoor Performance Measurements of PV Modules</i>
	16:45 – 17:00	4.4.2d: Mr Jiadong QIAN, Australian National University, Australia, <i>Accurate Outdoor I-V Measurement of c-Si PV Module</i>
	17:00 – 17:15	4.4.2e: Mr Ryota SAKAMOTO, University of Miyazaki, Japan, <i>Output increase of photovoltaic module using silica based coat having anti-reflection and anti-soiling effects</i>
	17:15 – 17:30	4.4.2f: Mr Takumi SAKAI, University of Miyazaki, Japan, <i>Receiving conditions at the time of vertical installation in the bifacial photovoltaic</i>
	17:30 – 17:45	4.4.2g: Ms Min Hsian SAW, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Optical characterization and evaluation of various PV module materials for maximized module power output</i>
	17:45 – 18:00	4.4.2h: Dr Vikrant SHARMA, National Institute of Solar Energy, India, <i>Development of Current Voltage Characteristics for a Photovoltaic (PV) Module from Name Plate Specification Considering the Effect of Module Degradation</i>
	18:00 – 18:15	4.4.2i: Dr Adarsh Kumar PANDEY, University of Malaya, Malaysia <i>Performance evaluation of PV/T air collector at constant solar radiation and flow rates</i>
Room 3711/3712/ 3713 (Poster)	18:00 – 18:30	Poster removal (Area 1 & Area 3)
	From 19:00 onwards	Conference Dinner at Grand Copthorne Waterfront Hotel http://www.pvsec-26.com/conference-dinner

Thursday, 27 October 2016 (09:00 – 10:30): PVSEC-26 Conference sessions		
Hibiscus, Level 3 (Foyer)	08:00 – 18:00	Registration
Room 3711/3712/3713 (Poster)	09:00 – 10:30	Poster Setup (for Areas 2, 4 & 5)
Room 3810A & 3810B (PVPS)	09:00 – 10:30	PVPS Workshop
Session 3.3.3 Room 3912/3913	Session 3.3.3: Organic, dye and perovskite thin-film solar cells Session Chairs: 1. Dr Masato MAITANI, The University of Tokyo, Japan 2. Dr Sneha Avinash KULKARNI, ERI@N, Nanyang Technological University, Singapore	
	09:00 – 09:15	3.3.3a (Invited): Dr Lioz ETGAR, The Hebrew University of Jerusalem, Israel, <i>Two Dimensional organic-inorganic perovskite from nanostructures to solar cells</i>
	09:15 – 09:30	3.3.3b (Invited): Dr Tomas LEIJTENS, Stanford University, United States <i>(invited talk title TBC)</i>
	09:30 – 09:45	3.3.3c: Mr Yuji OKAMOTO, University of Tsukuba, Japan, <i>Effects of mesoporous BaTiO₃/TiO₂ double layer for electron transport and enhanced photovoltaic performance in perovskite solar cells</i>
	09:45 – 10:00	3.3.3d: Mr Kenta TAKAHASHI, University of Tsukuba, Japan, <i>Preparation and evaluation of perovskite solar cells with CuI inorganic hole conductor</i>
	10:00 – 10:15	3.3.3e: Dr Xiaxia LIAO, Helmholtz-Zentrum Berlin (HZB), Germany, <i>MoO₃/CH₃NH₃PbI₃-xCl_x-an inherently unstable interface?</i>
	10:15 – 10:30	3.3.3f: Mr Akio MATSUSHITA, Panasonic Corporation, Japan, <i>Degradation Mechanism in High-temperature Exposure of Perovskite Solar Cells</i>
Session 3.2.5 Room 3812/3813	Session 3.2.5: CIS and CdTe thin-film solar cells Session Chairs: 1. Dr Reinhard FENDLER, FHR Anlagenbau GmbH, Germany 2. Dr Homare HIROI, Showa Shell Sekiyu K.K. & Solar Frontier K.K., Japan	
	09:00 – 09:15	3.2.5a: Prof Tamotsu OKAMOTO, National Institute of Technology, Kisarazu College, Japan, <i>Investigation of Cu-doping Effects in CdTe Solar Cells by Junction Photoluminescence with Various Excitation Wavelengths</i>
	09:15 – 09:30	3.2.5b: Prof Dragica VASILESKA, Arizona State University, United States, <i>Understanding Self-Compensation Mechanism of Cu Doping in CdTe</i>
	09:30 – 09:45	3.2.5c: Mr Shuya KITABAYASHI, Ryukoku University, Japan,

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>CdTe solar cells with SrCuSeF and ITO bilayer back contact</i>
	09:45 – 10:00	3.2.5.d: Mr Zhengshan YU, Arizona State University, United States, <i>Monocrystalline CdTe solar cell with an a-Si:H hole contact reaches 1.1 V open-circuit voltage</i>
	10:00 – 10:15	3.2.5e: Prof Gerardo S. CONTRERAS-PUENTE, Instituto Politécnico Nacional, Mexico <i>Thermal treatment of CdTe ultra-thin films with CdCl₂</i>
	10:15 – 10:30	3.2.5.f: Dr Rogelio MENDOZA PÉREZ, UACM, Mexico, <i>CdCl₂ Thermal Treatment on CdTe Solar Cells in 100 cm² and Its Correlation With The Thermal Profiler In The CSS System</i>
Session 2.3.3 Room 3612/3613	Session 2.3.3: Monocrystalline silicon wafer solar cells Session Chairs: 1. Prof Stuart WENHAM, University of New South Wales, Australia 2. Dr Armin RICHTER, Fraunhofer-ISE, Germany	
	09:00 – 09:15	2.3.3a (Invited): Prof Allen BARNETT, University of New South Wales (UNSW), Australia, <i>Ultra-thin Silicon Solar Cell for Lightweight Steel Roofs</i>
	09:15 – 09:30	2.3.3b: Ms Erin LOONEY, Massachusetts Institute of Technology, United States, <i>Tabula Rasa: Mitigating performance limiting oxygen precipitates though rapid high temperature processing</i>
	09:30 – 09:45	2.3.3c: Dr Xinbo YANG, Australian National University, Australia, <i>Over 22% Efficient N-type Silicon Solar Cells Featuring A Full-area Electron Selective TiO₂ Contact</i>
	09:45 – 10:00	2.3.3d: Dr Jie YANG, Zhejiang Jinko Solar, China, <i>21.0% Efficient Large Area N-type Bifacial Solar Cell with Screen-printed Contacts</i>
	10:00 – 10:15	2.3.3e: Kees TOOL, Energy Research Centre of Netherlands (ECN), Netherlands, <i>Bifacial aspects of industrial n-Pasha solar cells</i>
	10:15 – 10:30	2.3.3f: Mr Thomas GROSSE, Meyer-Burger, Germany, <i>Deposition of backside AlOx/SiN stacks and front SiN for high efficient (bifacial) PERC solar cells in only one process system – MAiA 3in1</i>
	10:30 – 10:45	2.3.3g: Dr Stanley WANG, REC Solar, Singapore, <i>Voltage and Fill Factor Loss Analysis of 21.4% N-type Bifacial Silicon Solar Cells</i>
Session 5.2.1 Room 3911	Session 5.2.1: PV system testing & monitoring Session Chairs: 1. Dr Masaki SHIOYA, Kajima Corporation, Japan 2. Dr Wilfred Walsh, SERIS, Singapore	
	09:00 – 09:15	5.2.1a: Dr Jose BILBAO, University of New South Wales (UNSW), Australia, <i>Estimation of the Vmp temperature coefficient on the field</i>
	09:15 – 09:30	5.2.1b: Dr Nicholas EKINS-DAUKES, Imperial College London, England <i>Outdoor performance study of a 550X concentrator photovoltaic system in Bangalore</i>
	09:30 – 09:45	5.2.1c: Mr Tohru KOHNO, Hitachi Ltd., Japan, <TBC> <i>Experimental Verification of Fault-Diagnosis Architecture for Group-</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>Monitoring System in Large-scale Photovoltaic Power Plants</i>
	09:45 – 10:00	5.2.1d: Mr Ballang MUENPINJI, King Mongkut's University of Technology Thonburi (KMUTT), Thailand, <i>Over/Under Voltage Protection Testing for Grid-Connected Inverters in Thailand</i>
	10:00 – 10:15	5.2.1e: Ms Hiromi TOBITA, Japan Electrical Safety and Environment Technology Laboratories, Japan, <i>Solar module temperature measurement procedure in PV system field</i>
	10:15 – 10:30	5.2.1f: Mr Sergio HONWANA, Saga University, Japan, <i>Discrete-Fourier-Transform-based Interpolation Method for Missing Data of Measurement in Mega Solar Power Plant</i>
Session 5.1.1 Room 3811	Session 5.1.1: PV system technology and BOS components Session Chairs: 1. Assoc Prof Shigeomi HARA, Saga University, Japan 2. Prof AbuBakr BAHAI, University of Southampton, United Kingdom	
	09:00 – 09:15	5.1.1a (Invited): Mr Anders LINDGREN, Optistring Technologies, Sweden, <i>Energy and cost efficient inverter topology for PV and the smart grid</i>
	09:15 – 09:30	5.1.1b (Invited): Dr Krissanapong KIRTIKARA, King Mongkut's University of Technology Thonburi (KMUTT), Thailand, <i>On PV Power Plants Development in Thailand</i>
	09:30 – 09:45	5.1.1c: Dr Nasim SAHRAEI, Singapore MIT Alliance for Research and Technology (SMART), Singapore, <i>Design considerations for solar cell and battery of a persistent solar powered GPS tracker</i>
	09:45 – 10:00	5.1.1d: Dr Kenji ARAKI, Toyota Technological Institute, Japan, <i>Is it possible to track the 100 x CPV module with 30 minutes intervals?</i>
	10:00 – 10:15	5.1.1e: Mr Robert Alfie S PENA, Ateneo de Manila University, Philippines, <i>Power Recovery of Dynamic PV Arrays from Partial Shading Using a GA-based Reconfiguration Strategy</i>
	10:15 – 10:30	5.1.1f: Mr Barry CINNAMON, Spice Solar Inc., United States <i>Racking and Labor Costs Are the Biggest Challenge for Residential Installers</i>
	Session 1.3.1: Characterisation of physical phenomena in high-efficiency solar cells Session Chairs: 1. Dr Rolf STANGL, SERIS, Singapore 2. Prof Gavin CONIBEER, UNSW, Australia	
Session 1.3.1 Room 3611	09:00 – 09:15	1.3.1a (Invited): Dr Jean-Francois GUILLEMOLES, CNRS, France, <i>Characterizing the solar cell that does not exist (yet): from new concept to proof of concept</i>
	09:15 – 09:30	1.3.1b (Invited): Prof Hidefumi AKIYAMA, University of Tokyo, Japan, <i>Absolute electroluminescence measurements and radiative-efficiency analysis on high-efficiency solar cells</i>
	09:30 – 09:45	1.3.1c: Prof Stanko TOMIC, University of Salford, United Kingdom <i>A Quantum Engineering Approach to Voltage Preservation in</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>Intermediate Band Solar Cells</i>
	09:45 – 10:00	1.3.1d: Mr Wenzhu LIU, Chinese Academy of Sciences, China <i>Structural analysis and growth mechanism of holey a-Si:H film based on passivation layer of silicon heterojunction solar cells</i>
	10:00 – 10:15	1.3.1e: Dr Amaury DELMARRE, University of Tokyo, Japan, <i>Optical mapping of the transport efficiency in multi-junction solar cells</i>
	10:15 – 10:30	1.3.1f: Ms Anastasia SOERiyADI, University of New South Wales (UNSW), Australia, <i>Solar Cell Parameters Extraction Of Subcells In A Dual Junction System Through A Three Terminal Device Design</i>
Level 3 Jasmine Junior Foyer	10:30 – 11:00	Coffee / Tea Break

Thursday, 27 October 2016 (11:00 – 12:30): PVSEC-26 Conference sessions		
Room 3711/3712/ 3713 (Poster)	11:00 – 12:30	Poster session 4 (For Area 5) (For each poster, at least one presenter must be present)
Room 3810A & 3810B (PVPS)	11:00 – 12:30	PVPS Workshop
Session 3.3.4 Room 3912/3913	Session 3.3.4: Organic, dye and perovskite thin-film solar cells Session Chairs: 1. Dr Lioz ETGAR, The Hebrew University of Jerusalem, Israel 2. Dr Abhishek KUMAR, SERIS, Singapore	
	11:00 – 11:15	3.3.4a (Invited): Prof Satoshi UCHIDA, The University of Tokyo, Japan <i>Perovskite Solar Cell - Crystal Structure and Interface Architecture</i>
	11:15 – 11:30	3.3.4b: Dr Fabrizio GIODARNO, EPFL, Switzerland, <i>High efficiency perovskite solar cells</i>
	11:30 – 11:45	3.3.4c: Mr Ankur SOLANKI, Nanyang Technological University (NTU), Singapore, <i>Improved crystallization and reduced defect density by water additive for high performance single-step inverted perovskite solar cells</i>
	11:45 – 12:00	3.3.4d: Dr Annalisa BRUNO, Nanyang Technological University (NTU), Energy Research Institute @ NTU (ERI@N), Singapore, <i>MAPbI3 Solar Cell Efficiency at Cryogenic Temperatures</i>
	12:00 – 12:15	3.3.4e: Ms Bhumika CHAUDHARY, Nanyang Technological University (NTU), Energy Research Institute @ NTU (ERI@N), Singapore, <i>Polymer-based Interfacial Passivation for long term Stability and Reducing Recombination in High Voltage Perovskite Solar Cells</i>

	12:15 – 12:30	3.3.4f: <TBC>
Session 3.2.6 Room 3812/3813	Session 3.2.6: CIS and CdTe thin-film solar cells Session Chairs: 1. Dr DONG Seop Kim, CiGSone Technology Corp, South Korea 2. Dr Selvaraj VENKATARAJ, SERIS, Singapore	
	11:00 – 11:15	3.2.6a (Invited): Prof Byung Tae AHN, Korea Advanced Institute of Science and Technology (KAIST), South Korea <i>Control of point defects in CIGS films and their effect on the CIGS cell performance</i>
	11:15 – 11:30	3.2.6b (Invited): Dr Atiye BAYMAN, Miasole, United States, <i>Enabling high efficiency flexible modules with “All PVD” CIGS thin film technology</i>
	11:30 – 11:45	3.2.6c: Dr Ishwor KHATRI, Tokyo University of Science, Japan, <i>Effects of rinsing solution on KF-treated CIGS thin film solar cells</i>
	11:45 – 12:00	3.2.6d: Dr Takuya KATO, Solar Frontier K.K., Japan, <i>Recombination analysis of CIGS solar cells using temperature and illumination dependent open-circuit voltage measurement</i>
	12:00 – 12:15	3.2.6e: A/Prof Lydia Helena WONG, Nanyang Technological University (NTU), Energy Research Institute @ NTU, (ERI@N), Singapore, <i>Spray Pyrolysis of Chalcopyrite-based solar cells with efficiency > 10.5%</i>
	12:15 – 12:30	3.2.6f: Dr Jakapan CHANTANA, Ritsumeikan University, Japan, <i>Investigation of heterointerface recombination of Cu(In,Ga)(Se,S)₂ solar cells with different buffer layers</i>
Session 2.3.4 Room 3612/3613	Session 2.3.4: Monocrystalline silicon wafer solar cells Session Chairs: 1. Prof Allen BARNETT, UNSW, Australia 2. Dr Thomas MUELLER, SERIS, Singapore	
	11:00 – 11:15	2.3.4a (Invited): Prof Junsin YI, Sungkyunkwan University, South Korea, <i>Beyond 22% efficient silicon heterojunction solar cells with industrially feasible n-type front emitter</i>
	11:15 – 11:30	2.3.4b: Dr Matthieu DESPEISSE, Swiss Center for Electronics and Microtechnology (CSEM), Switzerland, <i>Advances in Solar Cells implementing Silicon Heterojunction Passivating Contacts</i>
	11:30 – 11:45	2.3.4c: Dr Mei HUANG, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>The Influence of ITO on the Performance of Heterojunction Silicon Wafer Solar Cells</i>
	11:45 – 12:00	2.3.4d: Dr Zhenhao ZHANG, Singulus Technologies, Germany, <i>Towards completing the puzzle: an overview on optimization of key industrial equipments for manufacturing silicon heterojunction solar cells</i>
	12:00 – 12:15	2.3.4e: Dr Matthieu DESPEISSE, Swiss Center for Electronics and Microtechnology (CSEM), Switzerland <i>Metallization and Interconnection Technologies for Silicon Heterojunction Solar Cells</i>
	12:15 – 12:30	2.3.4f: Mr Marcel König, Meyer Burger, Germany, <i>Silicon heterojunction solar cells in Meyer Burger's Demo line:</i>

		<i>Results of pilot production on mass production tools</i>
Session 5.2.2 Room 3911	Session 5.2.2: PV system testing & monitoring Session Chairs: 1. Dr Jose BILBAO, UNSW, Australia 2. Mr Ballang MUENPINIJ, King Mongkut's University of Technology Thonburi, Thailand	
	11:00 – 11:15	5.2.2a: Dr Masaki SHIOYA, Kajima Corporation, Japan, <i>Estimation of loss factors of mega solar systems using SV analysis</i>
	11:15 – 11:30	5.2.2b: Mr Yuhei HORIO, Ritsumeikan University, Japan, <i>Impact estimation of average photon energy of solar spectrum on short circuit current of Si based photovoltaic modules</i>
	11:30 – 11:45	5.2.2c: Dr Takuya DOI, National Institute of Advanced Industrial Science and Technology (AIST), Japan <i>PV module irradiance sensor for outdoor precise irradiance measurement - structure and response property to the module under test</i>
	11:45 – 12:00	5.2.2d: Mr Ayato LIDA, Tokyo University of Science, Japan, <i>Detection Method of the Number of Failure Module in the string by Using Module Voltage and String Current in PV Array</i>
	12:00 – 12:15	5.2.2e: Mr Pei-Chin LIN, UKC Electronics (H.K.) Co., Taiwan, <i>Photovoltaic Outdoor Performance Benchmark of Thin-Film CIS and Crystal-Silicon Technology</i>
	12:15 – 12:30	5.2.2f: <TBC>
Session 2.4.1 Room 3811	Session 2.4.1: Simulation & characterisation of c-Si materials & cells Session Chairs: 1. Dr Bram HOEX, UNSW, Australia 2. Dr Ashley MORISHIGE, Massachusetts Institute of Technology, United States	
	11:00 – 11:15	2.4.1a (Invited): Dr Johnson WONG, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Griddler 2.5 PRO: Modelling high efficiency solar cells with parameter database to calculate room for efficiency improvement</i>
	11:15 – 11:30	2.4.1b: Dr Sébastien DUBOIS, CEA/LITEN/DTS, INES, France, <i>Transitory effects in phosphorus-diffused and fired copper-contaminated multicrystalline silicon wafers</i>
	11:30 – 11:45	2.4.1c: Dr Jian Wei HO, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Optimally Contrasting Large-area Pseudo-monochromatic Illumination for Optical Inspection of Solar Wafers and Cells</i>
	11:45 – 12:00	2.4.1d: Dr Catherine CHAN, The University of New South Wales, Australia, <i>LID Mitigation in Commercial Silicon Solar Cells</i>
	12:00 – 12:15	2.4.1e: Mr Mattias JUHL, The University of New South Wales, Australia, <i>Review of determination of the effective surface recombination coefficient from minority carrier lifetime measurements</i>
	12:15 – 12:30	2.4.1f: Sven WASMER, Fraunhofer-ISE, Germany, <i>Modelling and Analysis of Solar Cell Efficiency Distributions</i>
	12:30 – 12:45	2.4.1g: Joachim Ranzmeyer, Axel Metz, H.A.L.M. Elektronik GMBH, Germany <i>Precise determination of steady-state IV-parameters on highly-</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>capacitive solar cells in high-throughput production</i>
Session 3.4.1 Room 3611	Session 3.4.1: III-V and other thin-film solar cells Session Chairs: 1. Prof Kin Man YU, City University of Hong Kong, Hong Kong 2. Dr Fen LIN, SERIS, Singapore	
	11:00 – 11:15	3.4.1a (invited): Prof Masafumi YAMAGUCHI, Toyota Technological Institute, Japan, <i>R&D activities of super high efficiency III-V multi-junction and concentrator solar cells in Japan</i>
	11:15 – 11:30	3.4.1b: Prof Alexandre FREUNDLICH, University of Houston, United States, <i>Record performance 1-1.2 eV III-V dilute nitride solar cells for tandem applications</i>
	11:30 – 11:45	3.4.1c: Mr Zekun REN, SMART, Singapore, <i>Performance potential analysis of a 21.3% GaAs on industrial c-Si tandem solar cell</i>
	11:45 – 12:00	3.4.1d: Mr Maung THWAY, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Performance Study of Bottom Silicon Solar Cells in Tandem Configuration under Filtered-Light with Different Injection Levels</i>
	12:00 – 12:15	3.4.1e: Dr Kevin NAY YAUNG, SMART, Singapore, <i>Enabling high efficiency GaAsP solar cells on GaP/Si through dislocation engineering</i>
	12:15 – 12:30	3.4.1f: Dr Takeyoshi SUGAYA, AIST, Japan, <i>The role of substrate miscut on the properties of InGaP solar cells grown on GaAs(001) by solid source molecular beam epitaxy</i>
Level 3 Jasmine Junior Foyer	12:30 – 14:00	Lunch

Thursday, 27 October 2016 (14:00 – 15:30): PVSEC-26 Conference sessions		
Room 3711/3712/ 3713 (Poster)	14:00 – 15:30	Poster session 5 (For Area 4) (For each poster, at least one presenter must be present)
Session 2.3.5 Room 3810A & 3810B	Session 2.3.5: Monocrystalline silicon wafer solar cells Session Chairs: 1. Dr Bianca LIM, SERIS, Singapore 2. Dr Matthieu Despeisse, CSEM SA, Switzerland	
	14:00 - 14:15	2.3.5a: Dr Olindo ISABELLA, Delft University of Technology, Netherlands, <i>IBC c-Si solar cells based on ion-implanted poly-silicon passivating contacts</i>
	14:15 - 14:30	2.3.5b: Mr Johann-Christoph STANG, Helmholtz-Zentrum Berlin, Germany, <i>Metallisation on Interdigitated Back Contact Silicon Heterojunction Solar Cells</i>
	14:30 - 14:45	2.3.5c: Dr Agnes MEWE, ECN, Netherlands, <i>Enablers for integral IBC cell and module development and</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>implementation in PV industry</i>
	14:45 - 15:00	2.3.5d: Dr Koichi KOYAMA, Japan Advanced Institute of Science and Technology, Japan, <i>Simple Fabrication of Back Contact Hetero-Junction Solar Cells by Plasma Ion-Implantation</i>
	15:00 - 15:15	2.3.5e: Dr Do Yun KIM, Forschungszentrum Juelich, Germany, <i>Dry/Wet etching and Cat-doping Process for Interdigitated Back-Contacted (IBC) Silicon Heterojunction (SHJ) Solar Cell</i>
	15:15 - 15:30	2.3.5f: Dr Philip PIETERS, IMEC, Belgium, <i>High efficiency low cost PERT solar cells enabled by kerfless epitaxial Si wafers</i>
Session 3.3.5 Room 3912/3913	Session 3.3.5: Organic, dye and perovskite thin-film solar cells Session Chairs: 1. Prof Satoshi UCHIDA, The University of Tokyo, Japan 2. Dr Fabrizio Giordano, EPFL, Switzerland	
	14:00 - 14:15	3.3.5a (Invited): Prof Seigo ITO, University of Hyogo, Kobe, Japan, <i>Stability of Perovskite Solar Cells against Light and Heat</i>
	14:15 - 14:30	3.3.5b: Dr Teck Ming KOH, NTU, Singapore, <i>Nanostructuring mixed-dimensional perovskites: A route towards tunable, efficient photovoltaics</i>
	14:30 - 14:45	3.3.5c: Mr Swee Sien LIM, NTU, Singapore, <i>Charge Transfer from $\text{CH}_3\text{NH}_3\text{PbI}_3$ to residual PbI_2 in perovskite thin films</i>
	14:45 - 15:00	3.3.5d: Mr Atthaporn ARIYARIT, Keio University, Japan, <i>Study the thickness and crystalline of perovskite solar cell by using kriging model method</i>
	15:00 - 15:15	3.3.5e: Mr Krishnamoorthy THIRUMAL, Nanyang Technological University (NTU), Energy Research Institute @ NTU, Singapore, <i>Lead-free Germanium Iodide Perovskites for Photovoltaic Applications</i>
	15:15 - 15:30	3.3.5f: Dr Annalisa BRUNO, Nanyang Technological University (NTU), Energy Research Institute @ NTU (ERI@N), Singapore, <i>Effect of HCl additive on the efficiency of $\text{CH}_3\text{NH}_3\text{PbI}_3$ solar cells fabricated under high relative humidity</i>
	Session 3.2.7: CIS and CdTe thin-film solar cells Session Chairs: 1. Prof Byung Tae AHN, Korea Advanced Institute Sci. & Tech., South Korea 2. Prof Lydia Helena WONG, NTU, Singapore	
Session 3.2.7 Room 3812/3813	14:00 - 14:15	3.2.7a (Invited): Dr Dong Seop KIM, CiGSone Technology Corp, South Korea, <i>Towards Effective R&D and Commercialization of CIGS: Analyses of Performance Loss and Cost Structure of CIGS Modules</i>
	14:15 - 14:30	3.2.7b (Invited): Prof Jinhyeok KIM, Chonnam National University, South Korea, <i>Transparent Conductive Characteristics of Mg and Ga Doped ZnO (MGZO) Thin Film For CZTS Solar Cell With Zn(O,S) Buffer Layer</i>
	14:30 - 14:45	3.2.7c: Mr Kaiwen SUN, University of New South Wales, Australia, <i>Influence of the chemical composition of the absorber on 9.2% efficient pure sulphide $\text{Cu}_2\text{ZnSnS}_4$ solar cells employing ZnCdS buffer</i>

PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)

	14:45 - 15:00	3.2.7d: Mr Wenjie LI, NTU, Singapore, <i>Improving Performance of CZTS Solar cell with Cation Substitution</i>
	15:00 - 15:15	3.2.7e: Dr Edgardo SAUCEDO, Catalonia Institute for Energy Research, Spain, <i>Surface engineering of Cu₂ZnSn(S,Se)₄ with group III acid solutions using a facile wet chemical route</i>
	15:15 – 15:30	3.2.7f: <TBC>
Session 2.4.2 Room 3612/3613	Session 2.4.2: Simulation & characterisation of c-Si materials & cells Session Chairs: 1. Dr Johnson WONG, SERIS, Singapore 2. Dr Sebastien DUBOIS, CEA/LITEN/DTS, INES, France	
	14:00 - 14:15	2.4.2a: Dr Andreas FELL, Fraunhofer-ISE, Germany, <i>3D Simulation of Full-Area Silicon Solar Cells: Less Assumptions for High Accuracy and Confidence</i>
	14:15 - 14:30	2.4.2b: Dr Jonathon MITCHELL, National Institute of Advanced Industrial Science and Technology (AIST), Japan, <i>Terahertz Emission Spectroscopy for a-Si:H Passivated Hit Solar Cells</i>
	14:30 – 14:45	2.4.2c: Dr Ashley MORISHIGE, Massachusetts Institute of Technology, United States, <i>Lifetime Spectroscopy Investigation of The Root Cause of Light-Induced Degradation in p-type Multicrystalline Silicon PERC</i>
	14:45 – 15:00	2.4.2d: Mr Alexander TO, University of New South Wales, Australia, <i>Improved understanding of the recombination rate at inverted p+ silicon surfaces</i>
	15:00 - 15:15	2.4.2e: Jingnan Tong, The University of New South Wales, Australia, <i>Unintentional Consequences of Dual Mode Plasma Reactors: Implications for Upscaling of Record Lab Results</i>
	15:15 - 15:30	2.4.2f: Mr Naoki TOKUDA, University Miyazaki, Japan, <i>Effect of Light Irradiation on Carrier Mobility of n- and p-Type Si Substrates for Solar Cell Application</i>
Session 5.6.1 Room 3911	Session 5.6.1: PV grid integration Session Chairs: 1. Mr Raymond HUDSON, DNV GL, United States 2. Mr James HA Hoang Anh Kiet, SERIS, Singapore	
	14:00 - 14:15	5.6.1a (Invited): Prof Andrew BLAKERS, Australian National University, Australia <i>Pumped Hydro Energy Storage and the Renewable Energy Revolution</i>
	14:15 - 14:30	5.6.1b: Mr Hadrien VERBOIS, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Forecasting day-ahead solar irradiance for Singapore using Numerical Weather Prediction Model with Post-processing</i>
	14:30 - 14:45	5.6.1c: Dr Robert HUVA, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Influence of Data Assimilation on Solar Irradiance Forecasting for Singapore Using the WRF Model (WRFDA)</i>
	14:45 - 15:00	5.6.1d: Miss Alison HIGHTMAN, Waseda University, Japan, <i>Computational Modelling of Photovoltaic Systems with Battery</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>Management and Demand Response for Smoother Grid Integration</i>
	15:00 - 15:15	5.6.1e: Mr Yuichiro YANAI, Waseda University, Japan, <i>Battery Group Control with Predictive Information in Area of Massive PV Introduction</i>
	15:15 – 15:30	5.6.1f: Mr Roland BRUENDLINGER, AIT Austrian Institute of Technology, Austria, <i>The role of grid codes in the sustainable grid integration of PV - Latest developments in Europe and World-Wide</i>
Session 5.7.1 Room 3811	Session 5.7.1: Off-grid PV systems / Rural electrification Session Chairs: 1. Dr Jose BILBAO, UNSW, Australia 2. Dr Timothy WALSH, Canopy Power, Singapore	
	14:00 - 14:15	5.7.1a: Mr Oktoviano GANDHI, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>An Optimization Approach for the Sizing and Siting of Off-Grid PV Hybrid Systems</i>
	14:15 - 14:30	5.7.1b: Mr Christoph LUERSEN, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>PV Powered Air-Conditioning with Latent Heat Storage: System Concept and Monitoring Design</i>
	14:30 - 14:45	5.7.1c: Ms Sterling WATSON, Massachusetts Institute of Technology, United States, <i>Reducing battery size in PV-powered desalination systems by introducing design flexibilities</i>
	14:45 - 15:00	5.7.1d: Prof Viresh DUTTA, IIT Delhi, India, <i>Energy Management System for Photovoltaic- Fuel Cell Microgrid Operation</i>
	15:00 - 15:15	5.7.1e: Dr Teerasak SOMSAK, Rajamangala University of Technology Lanna, Thailand, <i>Techno-economic Assessment of Photovoltaic Standalone and Photovoltaic Pico-hydro Hybrid System</i>
	15:15 – 15:30	5.7.1f: Dr Nopporn Patcharaprakiti, Rajamangala University of Technology Lanna, Thailand, <i>An Energy Performance Comparison of Solar DC and AC Split Type Air Conditioner</i>
Session 5.8.1 Room 3611	Session 5.8.1: PV deployment, markets, policies & financing Session Chairs: 1. Dr Stephen TAY, SERIS, Singapore 2. Dr Matthew Peloso, Sun Electric Pte Ltd, Singapore	
	14:00 - 14:15	5.8.1a (Invited): Prof AbuBakr BAHAI, University of Southampton, United Kingdom, <i>Solarising Southampton: Deploying Solar Photovoltaics at City Scale</i>
	14:15 - 14:30	5.8.1b (Invited): Dr Johnny LH WONG, Housing and Development Board, Singapore, <i>Deployment of Solar Leasing Projects for Public Housing in Singapore</i>
	14:30 - 14:45	5.8.1c: Dr Tanokkorn CHENVIDHYA, King Mongkut's University of Technology Thonburi, Thailand, <i>Photovoltaic systems development in Thailand: from adder to feed-</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>in tariff</i>
	14:45 - 15:00	5.8.1d: Mr John MITCHELL, Arizona State University, United States <i>Industry-University Public Private Partnerships to Address the Terawatt Challenge</i>
	15:00 - 15:15	5.8.1e: Mr Takehiko SATO, NEDO, Japan, <i>Recent progress of PV R&D projects of NEDO</i>
	15:15 – 15:30	5.8.1f: Mr Mathias STECK, DNV GL, Singapore, <i>Get Smart: Smarter Solar Services for Operating Assets</i>
Level 3 Jasmine Junior Foyer	15:30 – 16:00	Coffee/Tea Break

Thursday, 27 October 2016 (16:00 – 18:00): PVSEC-26 Conference sessions		
Room 3711/3712/ 3713 (Poster)	16:00 – 18:00	Poster session 6 (For Area 2) (For each poster, at least one presenter must be present)
Session 2.3.6 Room 3810A & 3810B	Session 2.3.6: Monocrystalline silicon wafer solar cells Session Chairs: 1. Dr Olindo ISABELLA, Delft University of Technology, Netherlands 2. Dr Bianca LIM, SERIS, Singapore	
	16:00 – 16:15	2.3.6a: Prof Matthew TAN, CEC Energy, Singapore, <i>Elimination of LID with innovative new hydrogenation technology facilitates increased PERC cell efficiencies through the use of lower resistivity p-type Cz wafers</i>
	16:15 – 16:30	2.3.6b: Prof Abasifreke EBONG, University of North Carolina Charlotte, United States <i>Understanding the influence of tellurium oxide in front Ag paste for contacting silicon solar cells with homogeneous high sheet resistance emitter</i>
	16:30 – 16:45	2.3.6c: Dr Felix HAASE, Institute for Solar Energy Research Hamelin (ISFH), Germany, <i>Printable liquid silicon for local doping of solar cells</i>
	16:45 – 17:00	2.3.6d: Dr Woojun YOON, US Naval Lab, United States, <i>Metal Oxides as Full-area Rear Contacts for High-efficiency Crystalline Si Solar Cells</i>
	17:00 – 17:15	2.3.6e: Dr Fen LIN, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Interface related light induced degradation in monocrystalline silicon wafer solar cells</i>
	17:15 – 17:30	2.3.6f: Dr Hyunju LEE, Toyota Technological Institute, Japan, <i>Excellent Surface Passivation of Crystalline Silicon by Al_xMg_{1-x}O_y and Its Tunable Interface Properties</i>

PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)

	17:30 – 17:45	2.3.6g: Prof Keisuke OHDAIRA, Japan Advanced Institute of Science and Technology (JAIST), Japan, <i>Catalytic Phosphorus and Boron Doping to Amorphous Silicon Films</i>
	17:45 – 18:00	2.3.6h: <TBC>
Session 3.3.6 Room 3912/3913	Session 3.3.6: Organic, dye and perovskite thin-film solar cells Session Chairs: 1. Prof Seigo ITO, University of Hyogo, Japan 2. Dr Annalisa BRUNO, ERI@N, NTU, Singapore	
	16:00 - 16:15	3.3.6a: Dr SM LFTIQUAR, Sungkyunkwan University, South Korea, <i>High efficiency multijunction solar cell with a methyl-ammonium lead halide perovskite sub-cell</i>
	16:15 - 16:30	3.3.6b: Mr Biplab GHOSH, NTU, Singapore, <i>Tuning intrinsic defects in Bismuth-based Perovskite for Photovoltaics</i>
	16:30 - 16:45	3.3.6c: Ms Eunhong KIM, Chonbuk National Univ., South Korea, <i>In-depth study on the solvent engineering for high-performance perovskite solar cells</i>
	16:45 - 17:00	3.3.6d: Mr Jia Haur LEW, Nanyang Technological University, Singapore, <i>Characterization of TiO₂ blocking layer in perovskite solar cells</i>
	17:00 – 17:15	3.3.6e: Dr Natalia YANTARA, NTU, Singapore, <i>Evaluating the advantages of excess PbI₂ on perovskite film deposited via one pot solution method</i>
	17:15 – 17:30	3.3.6f: Dr Herlina Arianita Dewi, Nanyang Technological University (NTU), Energy Research Institute @ NTU, Singapore, <i>Bi-facial Semi-Transparent Perovskite Solar Cells for Building Integrated Photovoltaics</i>
	17:30 – 17:45	3.3.6g: <TBC>
	17:45 – 18:00	3.3.6h: <TBC>
Session 3.2.8 Room 3812/3813	Session 3.2.8: CIS and CdTe thin-film solar cells Session Chairs: 1. Dr Edgardo SAUCEDO, Catalonia Institute for Energy Research (IREC), Spain 2. Dr William XU Wei-Lun, SERIS, Singapore	
	16:00 – 16:15	3.2.8a (Invited): Prof Jinhyeok KIM, Chonnam University, South Korea, <i>CZTS Thin-film Solar Cell</i>
	16:15 – 16:30	3.2.8b: Assoc Prof. Yosuke SHIMAMUNE, National Institute of Technology (Nagaoka College), Japan, <i>CZTS Formation by Continuous Processing of Coevaporation followed by Sulfurization using MBE</i>
	16:30 – 16:45	3.2.8c: Dr Kong Fai TAI, NTU, Singapore <i>Fill Factor Losses in High Performance Cu₂ZnSn(SxSe_{1-x})₄ Solar Cells</i>
	16:45 – 17:00	3.2.8d: Dr Hitoshi TAMPO, National Institute of Advanced Industrial Science and Technology (AIST), Japan, <i>Efficiency improvement of Cu₂ZnSnSe₄ solar cell with 10.7% by Na incorporation</i>
	17:00 – 17:15	3.2.8e: Mr Ying Fan TAY, Nanyang Technological University,

		Singapore, <i>Solution processed AgxCu_{1-x}ZnSnS₄ with efficiency >6.5%</i>
	17:15 – 17:30	3.2.8f: Mr Wei-Chih HUANG, National Tsing Hua Univ., Taiwan, <i>Ag-alloyed (Ag, Cu)₂ZnSn(S, Se)₄ kesterite solar cells fabricated by spray pyrolysis</i>
	17:30 – 17:45	3.2.8g: Mr Chung-Hao CAI, National Tsing Hua Univ, Taiwan, <i>The effect of sulfurization time on Cu₂ZnSn(S,Se)₄ solar cells fabricated by sulfurization after selenization of precursors</i>
	17:45 – 18:00	3.2.8h: Dr Marc D. HEINEMANN, PVcomB - Helmholtz Zentrum Berlin, Germany <i>Evolution of Optical and Structural Properties during Cu(In,Ga)Se₂ Thin Film Growth</i>
Session 2.4.3 Room 3612/3613	Session 2.4.3: Simulation & characterisation of c-Si materials & cells Session Chairs: 1. Dr Andreas FELL, Fraunhofer ISE, Germany 2. Prof Andrew BLAKERS, ANU, Australia	
	16:00 – 16:15	2.4.3a (Invited): Dr Otwin BREITENSTEIN, Max Planck Institute, Germany, <i>Local efficiency analysis of c-Si solar cells using luminescence imaging and lock-in thermography</i>
	16:15 – 16:30	2.4.3b: Dr Jie CUI, Australian National University, Australia, <i>Highly effective electronic passivation of silicon surfaces by atomic layer deposited hafnium oxide</i>
	16:30 – 16:45	2.4.3c: Mr Rhett EVANS, Solinno Pty Ltd, Australia <i>Leveraging Virtual Wafer Tracking and Analytics in Advanced Solar Cell Production</i>
	16:45 – 17:00	2.4.3d: Dr Rolf STANGL, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>XSolar-Hetero α-1.0.0: Launching a dynamic web based solar cell simulation platform for the personalized simulation of various solar cell architectures, using various simulation programs</i>
	17:00 – 17:15	2.4.3e: Prof Marco Topič, Univ Ljubljana, Slovenia, <i>Design of Back Contact of Bifacial Silicon Heterojunction Cells</i>
	17:15 – 17:30	2.4.3f: Dr Jaap BEIJERSBERGEN, Levitech BV, Netherlands, <i>Industrial Optimization of Al₂O₃ Passivation Layers in New Cell Designs: a Comparison between PECVD and ALD</i>
	17:30 – 17:45	2.4.3g: Mr Kyung KIM, University of New South Wales, Australia, <i>In-situ diagnostics of PECVD AlOx deposition by optical emission spectroscopy</i>
	17:45 – 18:00	2.4.3h: Dr Yuji INO, Shizuoka Institute of Science and Technology, Japan, <i>A new evaluation method of Fe impurities in mc-Si solar cells by Mössbauer Spectroscopic Microscope</i>
Session 1.4.1 Room 3911	Session 1.4.1: Advanced concepts for light coupling and management Session Chairs: 1. Prof Armin ABERLE, SERIS, Singapore 2. Dr Vinodh SHANMUGAM, SERIS, Singapore	
	16:00 – 16:15	1.4.1a (Invited): Prof Tom MARKVART, University of Southampton, United Kingdom, <i>Photon management: from Planck to solar cells and beyond</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

	16:15 – 16:30	1.4.1b: Dr Rudi SANTBERGEN, Delft University of Technology, Netherlands, <i>Minimizing optical losses in flat monolithic perovskite/c-Si tandem solar cells</i>
	16:30 – 16:45	1.4.1c: Ms Bernice Mae YU JECO, The University of Tokyo, Japan, <i>Spatial Distribution of Temperature Dependent luminescence coupling Current in InGaP/GaAs/Ge Triple Junction Solar Cells</i>
	16:45 – 17:00	1.4.1d: Mr Yusuke SHIRAYANAGI, Japan Science and Technology Agency, Japan, <i>Preparation of axial type wire-structure crystalline silicon solar cells</i>
	17:00 – 17:15	1.4.1e: Ms Claire DISNEY, University of New South Wales, Australia, <i>Parasitic absorption in plasmonic light trapping structures for solar cells: Do the performance benefits outweigh the losses?</i>
	17:15 - 17:30	1.4.1f: Prof Martina SCHMID, Helmholtz-Zentrum Berlin, Germany, <i>Nano- and microconcentration for the next generation of chalcopyrite solar cells</i>
	17:30 - 17:45	1.4.1g: Dr Yasuyoshi KUROKAWA, Nagoya University, Japan, <i>Effect of Surface Morphology Randomness on Optical Properties of Si-based Photonic Nanostructures</i>
	17:45 - 18:00	1.4.1h: <TBC>
Session 1.1.4 Room 3811	Session 1.1.4: Novel materials for future PV technologies Session Chairs: 1. Dr Vinod KUMAR, Indian Institute of Technology Delhi Hauz Khas, India 2. Dr Avishek KUMAR, REC Solar Pte Ltd, Singapore	
	16:00 – 16:15	1.1.4a: Prof Tooru TANAKA, Saga University, Japan, <i>Growth of Zn_{1-x}Cd_xTe_{1-y}O_y (x=0.2~0.5) highly mismatched alloys for intermediate band solar cells</i>
	16:15 – 16:30	1.1.4b: Prof Clas PERSSON, University of Oslo, Norway, <i>Optimizing device efficiency with emerging Cu-based compounds</i>
	16:30 – 16:45	1.1.4c: Kiseok JEON, Korea Institute of Industrial Technology, South Korea, <i>Fabrication of Nano and Micro Patterns by Elastomeric Stamp Process for Solar Cell Application</i>
	16:45 – 17:00	1.1.4d: Mr Yasir ALTOWAIRQI, Durham University, United Kingdom, <i>Optimisation of Cu₂ZnSnS₄ nanoparticles using hot injection method- structural and optical study</i>
	17:00 – 17:15	1.1.4e: Mr Sungbum KANG, UNIST, South Korea <i>Self-assembled porous ferroelectric polymer for high efficient Si/PEDOT.PSS hybrid solar cell</i>
	17:15 – 17:30	1.1.4f: Dr Ramakrishnan JAYAKRISHNAN, University of Kerala, India <i>Can a Silver Plasmonic Layer alter the performance of a Cu₂O/In₂S₃ thin film Solar Cell?</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

	17:30 – 17:45	1.1.4g: Dr Kentaroh Watanabe, The University of Tokyo, Japan <i>Epitaxial growth and characterization of the direct doped PN junction with InGaAs/GaAsP superlattice</i>
	17:45 – 18:00	1.1.4h: <TBC >
Session 5.8.2 Room 3611	Session 5.8.2: PV deployment, markets, policies & financing Session Chairs: 1. Dr Thomas REINDL, SERIS, Singapore 2. Dr Johnny LH WONG, Housing and Development Board, Singapore	
	16:00 – 16:15	5.8.2a (Invited): Mr Frank HAUGWITZ, AECEA, China <i>The Role of Solar PV during China's 13th Five-Year-Plan (2016-2020) at home and along the One Belt – One Road across Asia</i>
	16:15 – 16:30	5.8.2b (Invited): Mr Yasser GAMIL, Z-One Holding FZCO, United Arab Emirates <i>PV market dynamics in Middle East and Africa</i>
	16:30 – 16:45	5.8.2c (Invited): Mr Jan NAPIORKOWSKI, Ariel Re UK Limited, United Kingdom <i>PV Project Power Outage Solutions</i>
	16:45 – 17:00	5.8.2d (Invited): Mr Alex SHOER, Seeder Cleaner Energy, China <i>The Challenges of Distributed Solar in China: What the future of Solar looks like and how to scale it up</i>
	17:00 – 17:15	5.8.2e: Dr Tsuyoshi SHIODA, Mitsui Chemicals Inc., Japan, <i>PV Module Due Diligence for Bankable PV Project</i>
	17:15 – 17:30	5.8.2f: Dr Matthew Peter PELOSO, Sun Electric Pte Ltd, Singapore, <i>Post-net-metering scheme for renewable generation</i>
	17:30 – 17:45	5.8.2g: Mr Raymond Hudson, DNV GL, United States <i>Securitization of solar PV projects</i>
	17:45 – 18:00	5.8.2h: Dr Debajyoti SARANGI, Vikram Solar, India <i>AC Smart module - the future of PV system</i>
Room 3711/3712/ 3713	18:00 – 18:30	Poster removal (for Areas 2, 4 & 5)

Friday, 28 October 2016 (09:00 – 10:30): PVSEC-26 Conference sessions		
Hibiscus, Level 3 (Foyer)	08:00 – 17:00	Registration
Room 3612/3613 (Workshop)	09:00 – 10:30	Singapore-Japan Joint Workshop on Photovoltaics 2016
Session 3.3.7 Room 3912/3913	Session 3.3.7: Organic, dye and perovskite thin-film solar cells Session Chairs: 1. Dr Abhishek KUMAR, SERIS, Singapore 2. Dr Natalia YANTARA, NTU, Singapore	
	09:00 – 09:15	3.3.7a: (Invited): Prof Anders HAGFELDT, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland, <i>The Versatility of Mesoscopic Solar Cells</i>
	09:15 – 09:30	3.3.7b: Mr Shusaku KANAYA, University of Hyogo, Japan, <i>100°C Thermal Stability of CH₃NH₃PbI₃ Perovskite Solar Cells using Porous Carbon Counter Electrodes</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

	09:30 – 09:45	3.3.7c: Ms Chihiro YAMAMOTO, Tokai University, Japan, <i>Investigation of Degradation Caused by Applying Voltage in Perovskite Solar Cells</i>
	09:45 – 10:00	3.3.7d: Mr Hiroyuki KANDA, University of Hyogo, Japan, <i>Analysis of Sputtering Damage on I-V Curves for Perovskite Solar Cells and Simulation with Reversed Diode Model</i>
	10:00 – 10:15	3.3.7e: Dr Takeshi NODA, National Institute for Materials Science, Japan, <i>Efficient and stable large-area perovskite solar cells</i>
	10:15 – 10:30	3.3.7f: <TBC>
Session 3.2.9 Room 3812/3813	Session 3.2.9: CIS and CdTe thin-film solar cells Session Chairs: 1. A/Prof Lydia Helena WONG, Nanyang Technological University, Singapore 2. Dr Sebastian SCHMIDT, Helmholtz-Zentrum Berlin für Materialien und Energie, Germany	
	09:00 – 09:15	3.2.9a: Mr Sergio GIRALDO, Catalonia Institute for Energy Research, Spain, <i>Innovative bi-directional grain growth of Cu₂ZnSnSe₄ using Ge_xSe_y liquid phase as crystallization flux</i>
	09:15 – 09:30	3.2.9b: Dr Hitoshi TAMPO, National Institute of Advanced Industrial Science and Technology (AIST), Japan, <i>Ge incorporated CZTSe thin-film solar cell with efficiency of 12.3%</i>
	09:30 – 09:45	3.2.9c: Mr Takeshi UMEHARA, Tokyo Institute of Technology, Japan, <i>High efficiency Ag(In,Ga)Se₂ thin film solar cells by hybrid buffer layer</i>
	09:45 – 10:00	3.2.9d: <TBC>
	10:00 – 10:15	3.2.9e: <TBC>
	10:15 – 10:30	3.2.9f: <TBC>
Session 2.3.7 Room 3712/3713	Session 2.3.7: Monocrystalline silicon wafer solar cells Session Chairs: 1. Dr Woojun YOON, US Naval Lab, United States 2. Dr Jia GE, SERIS, Singapore	
	09:00 – 09:15	2.3.7a: Ms Naomi NANDAKUMAR, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Very low surface recombination velocities on low-resistivity n-type crystalline silicon using spatial atomic layer deposited Al₂O₃ films</i>
	09:15 – 09:30	2.3.7b: Dr Jan HASCHKE, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland, <i>Temperature Dependencies of different silicon solar cell architectures: from cells to modules</i>
	09:30 – 09:45	2.3.7c: Dr Florian LENTZ, Forschungszentrum Jülich, Germany, <i>Implementation of Microcrystalline Silicon Alloys in Silicon Wafer Solar Cells</i>
	09:45 – 10:00	2.3.7d: Ms Zheng XIN, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Surface passivation investigation on ultra-thin atomic layer deposited AlO_x layers for their potential application to form tunnel</i>

		<i>layer passivated contacts</i>
	10:00 – 10:15	2.3.7e: Mr Josua STUECKELBERGER, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland, <i>Recombination analysis of phosphorous-doped nanostructured silicon oxide passivating electron contacts for silicon solar cells</i>
	10:15 – 10:30	2.3.7f: <TBC>
Session 5.4.1 Room 3911	Session 5.4.1: PV system energy yield & LCOE Session Chairs: 1. Dr Matthew Peloso, Sun Electric Pte Ltd, Singapore 2. Dr Robert HUVA, SERIS, Singapore	
	09:00 – 09:15	5.4.1a: Ms Wilawan SEEKAEW, King Mongkut's University of Technology Thonburi, Thailand, <i>Performance Evaluation of Solar PV Rooftop Program in Thailand</i>
	09:15 – 09:30	5.4.1b: Dr Yong Sheng KHOO, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Optimal orientation and tilt angle for maximizing in-plane solar irradiation for PV applications in Japan</i>
	09:30 – 09:45	5.4.1c: Prof Hiroyuki KAWAMOTO, Waseda University, Japan, <i>Improvement of Electrostatic Cleaning System for Removal of Dust from Solar Panels</i>
	09:45 – 10:00	5.4.1d: Dr Anna J CARR, Energy Research Centre of Netherlands (ECN), Netherlands, <i>An energy yield model for bifacial photovoltaic systems</i>
	10:00 – 10:15	5.4.1e: Mr Ninad GAIKWA, Gujarat Energy & Research Management Institute, India, <i>Photovoltaic Grid Connected Plant Energy Estimation Application in MATLAB</i>
	10:15 – 10:30	5.4.1f: Dr Christoph KREMIN, Conergy Global Solutions GmbH, Germany <i>Optimization of Photovoltaic Performance Simulation Accuracy by Adjustment of Thermal Simulation Settings</i>
Session 5.3.1 Room 3811	Session 5.3.1: PV system reliability Session Chairs: 1. Dr Timothy WALSH, Canopy Power, Singapore 2. Mr Hadrien VERBOIS, SERIS, Singapore	
	09:00 – 09:15	5.3.1a (Invited): Dr Ted SPOONER, UNSW, Australia <i>PV Reliability - Seeking a quality result through standards and conformity assessment</i>
	09:15 – 09:30	5.3.1b (Invited): Mr Geoff STAPLETON, Global Sustainable Energy Solutions Pty Ltd (GSES), Australia <i>How to ensure a quality reliable PV systems: Standards, Training and Inspections</i>
	09:30 – 09:45	5.3.1c: Miss Nattkarn SAKARAPUNTHIP, King Mongkut's University of Technology Thonburi (KMUTT), Thailand, <i>Effects of dust deposition on performance of PV systems and suitable cleaning methods for PV power plants in Thailand</i>
	09:45 – 10:00	5.3.1d: Prof Kensuke NISHIOKA, University of Miyazaki, Japan, <i>Reduction of soiling on concentrator photovoltaic modules by a</i>

PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)

		<i>tracker system with downward-facing night position</i>
	10:00 – 10:15	5.3.1e: Mr Raymond HUDSON, DNV GL, United States, <i>PV Module Degradation</i>
	10:15 – 10:30	5.3.1f: Dr Bing GUO, Texas A&M University at Qatar, Qatar, <i>Photovoltaics Soiling and Mitigation in Qatar</i>
Session 3.1.1 Room 3810A & 3810B	Session 3.1.1: Silicon thin-film solar cells Session Chairs: 1. Dr Bram HOEX, University of New South Wales, Australia 2. Dr Johnson WONG, SERIS, Singapore	
	09:00 – 09:15	3.1.1a (Invited): Prof Miro ZEMAN, Delft University of Technology, Netherlands, <i>Thin-Film Silicon for High-Efficiency PV Technologies</i>
	09:15 – 09:30	3.1.1b: Dr Daniel AMKREUTZ, HZB, Germany, <i>Recent progress in liquid phase crystallized silicon on glass: integrated processing and interdigitated silicon hetero-junction cells</i>
	09:30 – 09:45	3.1.1c: Dr Olindo ISABELLA, Delft University of Technology, Netherlands, <i>Strategies towards high-efficiency quadruple-junction thin-film silicon-based solar cells</i>
	09:45 – 10:00	3.1.1d: Christian EHLERS, Leibniz-Institute for Crystal Growth, Germany, <i>Growth of Si on porous silicon and glass substrates from Sn solution</i>
	10:00 – 10:15	3.1.1e: Dr Hitoshi SAI, AIST, Japan, <i>Stable nip a-Si:H solar cells and their application to multi-junction thin-film silicon solar cells</i>
	10:15 – 10:30	3.1.1f: Ms Naomi NANDAKUMAR, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Progress with industrial-scale spatial atomic layer deposited Ga-doped ZnO films for application in photovoltaics</i>
Session 3.5.1 Room 3611	Session 3.5.1: Simulation & characterisation of thin-film solar cells Session Chairs: 1. Dr Qingzhu WEI, Zhongli Talesun Solar, China 2. Kenji ARAKI, Toyota Technological Institute, Japan	
	09:00 – 09:15	3.5.1a: Ms Meilin LI, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Coarse-grained Forcefield for Polyfluorene Copolymers</i>
	09:15 – 09:30	3.5.1b: Dr Takashi TAYAGAKI, AIST, Japan, <i>Optical characterisation of smart stack four junction InGaP/GaAs//InGaAsP/InGaAs solar cells</i>
	09:30 – 09:45	3.5.1c: Dr Joel Ming Rui TAN, NRF-NTU-HUJ-BGU Programme, Singapore, <i>Structural Investigation of Phase Transformation of Cu₂ZnSnS₄ nanoparticles via Cation Exchange</i>
	09:45 – 10:00	3.5.1d: Ms Meilin LI, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Cation-controlled Aggregation in Fluorene-Triarylamine Copolymers</i>
	10:00 – 10:15	3.5.1e: Mr Zhe LIU, Solar Energy Research Institute of Singapore (SERIS), Singapore

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>Techno-Economic Considerations for Tandem Solar Cells</i>
	10:15 – 10:30	3.5.1f: Mrs Sangita ROOPAK, Indian Institute of Technology Delhi, India, <i>Numerical Simulation of Plasmon Coupling of Metal Nanoparticles embedded in Perovskite Medium</i>
Level 3 Jasmine Junior Foyer	10:30 – 11:00	Coffee/Tea Break

Friday, 28 October 2016 (11:00 – 12:30): PVSEC-26 Conference sessions		
Room 3612/3613 (Workshop)	11:00 – 12:30	Singapore-Japan Joint Workshop on Photovoltaics 2016
Session 3.3.8 Room 3912/3913	Session 3.3.8: Organic, dye and perovskite thin-film solar cells Session Chairs: 1. Dr Teck Ming KOH, NTU, Singapore 2. Prof Anders HAGFELDT, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland	
	11:00 – 11:15	3.3.8a: Prof Der-Ray HUANG, National Dong Hwa University, Taiwan, <i>Properties of DSSCs at Very Low Intensity Condition</i>
	11:15 – 11:30	3.3.8b: Mr Daisuke SAKAMOTO, Kyushu University, Japan, <i>Effects of particle size on catalytic characteristics of polymer counter electrode containing Si nanoparticles in dye-sensitized solar cells</i>
	11:30 – 11:45	3.3.8c: Dr Masatoshi YANAGIDA, National Institute for Materials Science, Japan, <i>Quasi-Solid State Dye-Sensitized Solar Cells based on I-/I³⁺- Ion Transport</i>
	11:45 – 12:00	3.3.8d: Dr Sergei MANZHOS, National University of Singapore, Singapore <i>Band alignment of small vs large organic molecule and a semiconductor substrate: a comparative DFT and DFTB study</i>
	12:00 – 12:15	3.3.8e: Mr Chia-Cheng CHOU, Industrial Technology Research Institute, Taiwan, <i>Durability Test for Organic Photovoltaic (OPV) and Dye Sensitized Solar Cell (DSSC)</i>
	12:15 – 12:30	3.3.8f: <TBC>
Session 2.3.8 Room 3812/3813	Session 2.3.8: Monocrystalline silicon wafer solar cells Session Chairs: 1. Dr Jan HASCHKE, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland 2. Abasifreke EBONG, University North Carolina Charlotte, United States	
	11:00 – 11:15	2.3.8a: Dr Stephanie ESSIG, École Polytechnique Fédérale de Lausanne, PV-Lab, Switzerland, <i>Analysis and optimization of MoOx based carrier selective contacts for c-Si solar cells</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

	11:15 – 11:30	2.3.8b: Dr Ashley MORISHIGE, Massachusetts Institute of Technology, United States, <i>Correlative elemental and electrical micro-analysis of laser fired contacts in silicon solar cells</i>
	11:30 – 11:45	2.3.8c: Dr Jia GE, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Ambient Plasma Treatment of Silicon Wafers for Surface Passivation Recovery</i>
	11:45 – 12:00	2.3.8d: Dr Jian YU, Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences (CAS), China, <i>Improved optical-electrical properties of silicon hetero-junction solar cells with SiO_x/IWO stacks</i>
	12:00 – 12:15	2.3.8e: Mr Takeo KONISHI, Japan Advanced Institute of Science and Technology (JAIST), Japan, <i>Recovery of ITO Sputtering Damage for Various Types of Cat-CVD Amorphous Silicon Passivation Films</i>
	12:15 – 12:30	2.3.8f: Dr Takefumi KAMIOKA, Toyota Technological Institute, Japan <i>Novel Silver Paste to n- and p-Layers for Fabricating High Efficiency Crystalline Si Solar Cells</i>
Session 2.4.4 Room 3712/3713	Session 2.4.4: Simulation & characterisation of c-Si materials & cells Session Chairs: 1. Dr Otwin BREITENSTEIN, Max Planck Institute, Germany 2. Dr Jie CUI, Australian National University, Australia	
	11:00 – 11:15	2.4.4a: Dr Cangming KE, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Theoretical investigation of metal-semiconductor-insulator-semiconductor (MSIS) passivated hole contacts based on atomic layer deposited AlO_x</i>
	11:15 – 11:30	2.4.4b: Dr Jason NUTTER, Wavelabs Solar Metrology Systems GmbH, Germany, <i>Spectral Mismatch and Solar Simulator Quality Factor In Advanced LED Solar Simulators</i>
	11:30 – 11:45	2.4.4c: Dr Takefumi KAMIOKA, Toyota Technological Institute, Japan, <i>Interfacial Workfunctions of Transition Metal Oxides in Carrier-Selective Contact Stacks</i>
	11:45 – 12:00	2.4.4d: Mr Chung-Tse LEE, National Sun Yat-Sen University, Taiwan, <i>Using Wet etching method to form Nano-pillar HIT solar cell with silicon-carbide-based emitter</i>
	12:00 – 12:15	2.4.4e: Mr Ramachandran AMMAPET VIJAYAN, SASTRA University, India, <i>Silicon heterojunction solar cells with workfunction-based hole contacts: Numerical simulation of carrier transport</i>
	12:15 – 12:30	2.4.4f: Dr Jonathon MITCHELL, National Institute of Advanced

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		Industrial Science and Technology (AIST), Japan <i>Adaptive Particle Tracking of Hydrogen within the a-Si:H/c-Si Interface using PTS-MESH for planar and dislocated surface</i>
	12:30 – 12:45	2.4.4g: Mr Rhett EVANS, University of New South Wales, Australia, <i>Using the approaches of "Big Data" to generate insights into PV Manufacturing</i>
Session 5.5.1 Room 3911	Session 5.5.1: Building integrated PV systems (BiPV) Session Chairs: 1. Dr Martin REED, SERIS, Singapore 2. Veronika SHABUNKO, SERIS, Singapore	
	11:00 – 11:15	5.5.1a (Invited): Dr A.H.M.E. REINDERS, University Twente, Netherlands, <i>Opportunities for luminescent solar concentrating PV in building integrated PV</i>
	11:15 – 11:30	5.5.1b (Invited): <TBD>
	11:30 – 11:45	5.5.1c: Dr Huacong YU, Hanergy PV Science & Technology Co., Ltd., <TBC> <i>Research on a new type of BIPV modules constructed by Thin-film Photovoltaic Panel(or Module)PUCOLOR organic-coated Steel Plate</i>
	11:45 – 12:00	5.5.1d: Dr Olindo ISABELLA, Delft University of Technology, Netherlands, <i>Solar Tracking Issues and Partial Shading Effects of an Ideal Interior Photovoltaic Shading Model</i>
	12:00 – 12:15	5.5.1e: Mr Philip KWANG, NUS Department of Architecture, Singapore, <i>Solar Architecture</i>
	12:15 – 12:30	5.5.1f: <TBC>
Session 3.5.2 Room 3811	Session 3.5.2: Simulation & characterisation of thin-film solar cells Session Chairs: 1. Dr Takashi TAYAGAKI, AIST, Japan 2. Dr Joel Ming Rui TAN, NRF-NTU-HUJ-BGU Programme, Singapore	
	11:00 – 11:15	3.5.2a: Dr Qingzhu WEI, Zhongli Talesun Solar, China, <i>Investigation of the LID and regeneration of PERC solar cells by using the electrical injection hydrogen passivation (EiHP) method</i>
	11:15 – 11:30	3.5.2b: Mr Maung THWAY, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Parameter Analysis for III-V/Si Tandem Structures</i>
	11:30 – 11:45	3.5.2c: Dr Joel Ming Rui TAN, NRF-NTU-HUJ-BGU Programme, Singapore, <i>Temporal Growth Studies of CMTS (M=Zn, Fe, Co, Mn) Nanoparticles Using Surface Enhanced Raman Spectroscopy (SERS)</i>
	11:45 – 12:00	3.5.2d: Dr Kenji ARAKI, Toyota Technological Institute, Japan, <i>Hypothesis: Optimization of the Bandgap Combination at the Specific Site, Considering Ever-changing Spectrum, May Be Determined by the Matching Condition to the Sun Height at the Culmination on the Winter Solstice</i>
	12:00 – 12:15	3.5.2e: Mr Yuki TAKIGUCHI, Tokyo Institute of Technology, Japan, <i>Investigation of Optical Confinement Structure for Cu₂O</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>Heterojunction Solar Cells Using Two Dimensional Device Simulations</i>
	12:15 – 12:30	3.5.2f: Dr Yoshihiro HISHIKAWA, AIST, Japan, <i>Precise characterization of novel PV cells and modules</i>
Session 3.1.2 Room 3810A & 3810B	Session 3.1.2: Silicon thin-film solar cells Session Chairs: 1. Prof Miro ZEMAN, Delft University of Technology, Netherlands 2. Dr Hitoshi SAI, AIST, Japan	
	11:00 – 11:15	3.1.2a (Invited): Prof Junsin YI, Sungkyunkwan University, South Korea, <i>Silicon Thin-film Tandem Solar Cell Properties using Multi-scale architecture</i>
	11:15 – 11:30	3.1.2b: Mr Maarten Dörenkämper, Energy Research Centre of the Netherlands (ECN), Netherlands, <i>Near-Infrared Reflecting Layer Stack in a Semi-Transparent Thin Film Solar Cell for BIPV Application</i>
	11:30 – 11:45	3.1.2c: Prof Debajyoti DAS, Indian Association for the Cultivation of Science, India, <i>Nanocrystalline Silicon Solar Cells with Si-ncs of Dominant <220> Crystallographic Orientation Prepared by 27.12 MHz Plasma in PECVD</i>
	11:45 – 12:00	3.1.2d: Miss Pei-Ling CHEN, National Chiao Tung University, Taiwan, <i>Development of P-type Hydrogenated Silicon Oxide as Window Layer Deposited near Phase Transition for High-performance a-Si:H/a-Si_{1-x}Gex:H Tandem Solar Cells</i>
	12:00 – 12:15	3.1.2e: <TBC>
	12:15 – 12:30	3.1.2f: <TBC>
Session 3.4.2 Room 3611	Session 3.4.2: III-V and other thin-film solar cells Session Chairs: 1. Dr Fen LIN, SERIS, Singapore 2. Prof Gavin CONIBEER, UNSW, Australia	
	11:00 – 11:15	3.4.2a (invited): Prof Kin Man YU, City University of Hong Kong, Hong Kong <i>Multicolor Emission in Intermediate Band Solar Cell Materials</i>
	11:15 – 11:30	3.4.2b: Dr Hassanet SODABANLU, University of Tokyo, Japan, <i>Effect of various dopants on properties of GaAs tunnelling junction and p-i-n solar cell</i>
	11:30 – 11:45	3.4.2c: Dr Asim GUCHHAIT, Nanyang Technological University, Singapore, <i>Tandem solar cells configuration between perovskite and CIGS solar cells</i>
	11:45 – 12:00	3.4.2d: Mr Kouki MATSUOCHI, University of Miyazaki, Japan, <i>Optical Evaluation of Miniband Formation in InGaAs/GaAsP Quantum Well Solar Cells</i>
	12:00 – 12:15	3.4.2e: Mr Hao XU, The University of Tokyo, Japan, <i>GaAs Solar Cells with Low-V/III-Ratio MOVPE for Low-Cost Power Generation</i>
	12:15 – 12:30	3.4.2f: Mr Raymond CHAN, MicroLink Devices, Inc., United States,

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>High-Efficiency, Lightweight, Flexible Solar Sheets for High-Altitude, Long Endurance Flight Applications</i>
	12:30 – 12:45	3.4.2g: Dr Charles HO, Temasek Laboratories at NTU, Singapore, <i>First demonstration of Photovoltaic Power Convertor at ~ 1070 nm</i>
Level 3 Jasmine Junior Foyer	12:30 – 14:00	Lunch

Friday, 28 October 2016 (14:00 – 15:30): PVSEC-26 Conference sessions		
Room 3612/3613 (Workshop)	14:00 – 15:30	Singapore-Japan Joint Workshop on Photovoltaics 2016
Room 3812/3813	14:00 – 15:30	Preparation for closing ceremony
Session 2.4.5 3812/3813	Session 2.4.5: Simulation & characterisation of c-Si materials & cells Session Chairs: 1. Dr Takefumi KAMIOKA, Toyota Technological Institute, Japan 2. Dr Cangming KE, SERIS, Singapore	
	14:00 - 14:15	2.4.5a: Ernest SNG, REC Solar Pte Ltd, Singapore <i>N-type Bifacial Module Energy Yield Modelling</i>
	14:15 – 14:30	2.4.5b: Ms Mengjie LI, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Advanced Simulation of Industrially Feasible nBiFAB Silicon Solar Cells with an Efficiency Potential of More than 22%</i>
	14:30 – 14:45	2.4.5c: Mr Kotaro HIROSE, Tohoku University, Japan, <i>Quantitative Analysis of Two-dimensional Carrier Concentration in Phosphorus-implanted Emitter Solar Cell using Scanning Nonlinear Dielectric Microscopy</i>
	14:45 – 15:00	2.4.5d: Mr Ryosuke SATO, Tokyo City University, Japan, <i>Device Simulation and Experimental Approaches of Silicon Heterojunction Low-Concentrator Solar Cells</i>
	15:00 – 15:15	2.4.5e: Dr Abasifreke EBONG, University North Carolina Charlotte, United States, <i>Optimization of Bandgap and Electron Affinity of Zinc Oxide for n-ZnO/p-Si Heterojunction Solar Cell</i>
	15:15 – 15:30	2.4.5f: Mr Kwan Bum CHOI, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Modulated Photoluminescence Lifetime Measurement of Bifacial Solar Cells</i>
Session 5.5.2 Room 3911	Session 5.5.2: Building integrated PV systems (BiPV) Session Chairs: 1. Dr A.H.M.E. REINDERS, Univ Twente, Netherlands 2. Veronika SHABUNKO, SERIS, Singapore	
	14:00 - 14:15	5.5.2a (Invited): Mr Tjerk REIJENGA, BEAR-iD, China <i>Acceleration of BIPV IEA PVS Task 15</i>
	14:15 – 14:30	5.5.2b: Ms Monika BIERI, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>An Economic Viability Study for Building-Integrated Photovoltaic</i>

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>(BIPV) in the Tropics</i>
	14:30 – 14:45	5.5.2c: Dr Le XU, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Modelling Solar Potential for Urban Rooftops</i>
	14:45 – 15:00	5.5.2d: Mr Mohammad SHAKERI, The National University of Malaysia, Malaysia, <i>Online Scheduling with PV System Supplementary Source Usage in Home Energy Management Systems (HEMS)</i>
	15:00 – 15:15	5.5.2e: Dr Martin REED, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>A full 3D Ray Tracing Algorithm with a Perez Sky Model for Solar Insolation Studies of Urban Areas</i>
	15:15 – 15:30	5.5.2f: This talk has been transferred to 5.7.1f as requested by author on 24/10
Session 2.3.9 Room 3811	Session 2.3.9: Monocrystalline silicon wafer solar cells Session Chairs: 1. Dr Jian YU, Chinese Academy of Sciences, China 2. Dr Ankit KHANNA, SERIS, Singapore	
	14:00 - 14:15	2.3.9a: Ms Sisi WANG, University of New South Wales, Australia, <i>Selective Emitter Formation through Simultaneous Laser doping and Grooving of Silicon Followed by Self-aligned Metal Plating</i>
	14:15 – 14:30	2.3.9b: Mr Alexander John CRUZ, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Copper-Based Metallization Material for Heterojunction Silicon Wafer Solar Cells</i>
	14:30 - 14:45	2.3.9c: Mr Martijn ZWEGERS, Meco Equipment Engineers BV, Netherlands, <i>High Volume Manufacturing Plating Equipment for Metallization of High Efficiency Silicon Solar Cells</i>
	14:45 – 15:00	2.3.9d: Dr Anamaria MOLDOVAN, Fraunhofer ISE, Germany <i>Ozone-based surface conditioning: Combining excellent surface passivation and industrial feasibility for advanced silicon solar cells</i>
	15:00 – 15:15	2.3.9e: Dr Ziv HAMEIRI, The University of New South Wales, Australia <i>Development of Low-Absorption and Thermally-Stable Silicon Nitride Films for Surface Passivation of Silicon Solar Cells</i>
	15:15 – 15:30	2.3.9f: Ms Gurleen KAUR, National University of Singapore, Singapore <i>Effect of surface treatment and thickness of ultrafast ALD grown AlOx films on the passivation of c-Si CZ wafers</i>
Session 5.6.2 Room 3810A & 3810B	Session 5.6.2: PV grid integration Session Chairs: 1. Prof Andrew BLAKERS, Australian National University, Australia 2. Dr Robert HUVA, SERIS, Singapore	
	14:00 - 14:15	5.6.2a (Invited): Mr Raymond HUDSON, DNV GL, United States <i>Keeping the Lights On: Best Practices in Achieving High PV Grid Penetration</i>
	14:15 – 14:30	5.6.2b: Ms Congmiao LI, Solar Energy Research Institute of Singapore (SERIS), Singapore,

**PVSEC-26, Full Technical Programme, Oral
(as of 24 October 2016)**

		<i>Secured Online Solar PV Impact Assessment Framework for Smart Grid</i>
	14:30 – 14:45	5.6.2c: Mr Kevin J.-P.M. WINTER, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Statistical Solar Irradiance Forecasts: A Comparison using Different Spatial and Temporal Resolution Input Data</i>
	14:45 – 15:00	5.6.2d: Ms Dhivya SAMPATH KUMAR, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Fault Diagnosis of PV-dominated distribution feeders</i>
	15:00 – 15:15	5.6.2e: Mr Zibo DONG, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>Comparison of the State-of-the-Art Machine Learning Methods in Hourly Solar Irradiance Forecasting for Tropical Regions</i>
	15:15 – 15:30	5.6.2f: Mr Goutam MAJI, Philips Lighting India Ltd., India, <i>Validation of Performance Prediction by HOMER Pro for Grid feed-in DC-Centralized Solar Street Lighting System in Test Bed Situ</i>
Session 3.4.3 Room 3611	Session 3.4.3: III-V and other thin-film solar cells Session Chairs: 1. Dr Charles HO, Temasek Laboratories at NTU, Singapore 2. Mr Raymond CHAN, MicroLink Devices, Inc., United States	
	14:00 - 14:15	3.4.3a: Mr Hiroshi NAKAI, Tokyo University of Science, Japan, <i>Electrical properties of undoped or Li-doped NiO/ZnO heterojunction for visible-light-transparent solar cells</i>
	14:15 – 14:30	3.4.3b: Mr Stener LIE, Nanyang Technological University, Singapore <i>Effect of Mn substitution in Cu₂MnxZn_{1-x}Sn(S,Se)₄ thin films solar cell</i>
	14:30 – 14:45	3.4.3c: Dr Nobuaki KOJIMA, Toyota Technological Institute, Japan <i>Study of recombination center in GaAsN grown by chemical beam epitaxy</i>
	14:45 – 15:00	3.4.3d: Dr Nguyen Tam Nguyen TRUONG, Yeungnam University, South Korea, <i>Fabrication and Enhancement of Zinc Oxide Nanorods/Polymer Compositied Vacuum Free-Hybrid Solar Cells</i>
	15:00 – 15:15	3.4.3e: Firdaus bin SUHAIMI, Energy Research Institute @NTU, Singapore, <i>Energy Band Modelling of the Work Function Shift and Charge Transport Mechanism of Al-doped MoO₃ in Single and Tandem Organic Solar Cells</i>
	15:15 – 15:30	3.4.3f: Prof Viresh DUTTA, Indian Institute of Technology Delhi, India <i>A novel method for MoO₃ thin film fabrication for application in organic solar cells</i>
Room 3711/3712/ 3713	15:30 – 16:30	Closing Ceremony and Best Presentation Awards (Orals, Posters)

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

Wednesday, 26 October 2016: PVSEC-26 Conference Poster Sessions		
08:00 – 18:00 Hibiscus, Level 3 (Foyer)	Registration	
09:00 – 10:30 Room 3711/3712/3713	Poster Setup (For Areas 1 & 3)	
11:00 – 12:30 Poster session 1 Room 3711/3712/3713	Posters in Area 3: Thin-Film Materials and Solar Cells (For each poster, at least one presenter must be present)	
	3_1-0003	Mr Chang-Yeh LEE, UNSW, Australia <i>Solid Phase Crystallization/ Annealing of Silicon Thin Films using Raman laser</i>
	3_1-0005	Mr Po-Wei CHEN, National Chiao Tung University, Taiwan <i>Enhancement of Carrier Collection by Graded a-SiO_x:H Buffer Layer in a-Si:H Solar Cell for a-Si:H/μc-Si_{1-x}Gex:H Tandem Solar Cell Applications</i>
	3_1-0009	Dr Yasushi SOBAJIMA, Osaka University, Japan <i>Reduction of growth-end dangling bonds of high-grown temperature amorphous silicon</i>
	3_1-0011	Ms Yuanchih CHANG, UNSW, Australia <TBC> <i>Large-scale plasmonic nanostructures fabricated by nanosphere lithography for improved absorption in thin c-Si solar cells</i>
	3_1-0014	Dr Jinjoo PARK, Sungkyunkwan University, South Korea <i>High efficiency 2 terminal Si-Ge thin film silicon/Si tandem junction solar cell</i>
	3_1-0015	Ms Xiaojie XU, Lawrence Berkeley National Laboratory, United States <TBC> <i>CuS)_x:(ZnS)_{1-x} Contacts for Si Heterojunction Solar Cells Deposited by Chemical Bath Deposition</i>
	3_1-0016	Ms Alaa HAMDOH, Tokai University, Japan <i>Epitaxial growth of crystalline silicon-germanium thin films on silicon substrates by solid phase crystallization</i>
	3_1-0021	Ms Pei-Yu SUN, National Taiwan University, Taiwan <i>Low-Temperature Kerf-less Silicon Spalling by Inducing Thermal-mismatch Stress</i>
	3_1-0024	Mr Jiyeon NAM, Kyungpook National University, South Korea <i>Flexible and stretchable amorphous silicon thin film solar cells</i>
	3_1-0026	Dr SM IFTIQUAR, Sungkyunkwan University, South Korea <TBC> <i>High efficiency single junction amorphous silicon thin film solar cell</i>
	3_1-0027	Dr Trupti Ranjan LENKA, National Institute of Technology Silchar, India <TBC> <i>Structural and Optical Properties of Au Nanoparticles Assisted Vertically Aligned TiO₂ Nanowires deposited by GLAD Technique</i>
	3_2-0001	Dr Wei-Lun XU, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Spectroscopic Ellipsometry Analysis of Chemical Bath Deposited Cadmium Sulphide Thin Films</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

11:00 – 12:30 Poster session 1 Room 3711/3712/3713	3_2-0002	Dr Xia YAN, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Investigation of Pulsed DC Sputter Deposited Highly Resistive ZnO:Al Buffer Layers for Copper Indium Gallium Selenide Solar Cells</i>
	3_2-0007	Dr Hongbing ZHU, Hebei University, China <i>Air-annealing effect on Cu(In, Ga)Se₂/CdS and solar cells</i>
	3_2-0008	Prof Ming-Jer JENG, Chang Gung University, Taiwan <i>A flat and homogeneous In layers deposited by pulse electrodeposition for preparing CIGS solar cells</i>
	3_2-0016	Mr Tomohiro OGIHARA, Tokyo Institute of Technology, Japan <i>High efficient Cu(In,Ga)Se₂ solar cells with a single-graded band profile by control of the valence band offset at low temperature deposition</i>
	3_2-0022	Dr Shogo ISHIZUKA, National Institute of Advanced Industrial Science and Technology (AIST), Japan <i>Effects of post p-n junction formation process conditions on CuGaSe₂ thin-film solar cells</i>
	3_2-0023	Prof Gerardo S. Contreras-Puente, Escuela Superior de Física y Matemáticas del Instituto Politécnico Nacional, Mexico <i>Comparative Study Of CuInGaSe₂ Solar Cells with CdS the Window Material as Processed by Differents Techniques</i>
	3_2-0024	Mr Chan Moon SONG, Korea National University of Transportation, South Korea <i>Effect of Heat Treatment on ZnS Buffer Layer Deposited by Chemical Bath Deposition</i>
	3_2-0025	Mr Taewoo EOM, Korea National University of Transportation, South Korea <i>Improvement of CIGS thin film by using cracked selenium and RTP process</i>
	3_2-0028	Prof JunHo KIM, Incheon National University, South Korea <i>Surface treatment and Cd-free double buffer layer for CIGS solar cell</i>
	3_2-0029	Mr SeongYeon KIM, Incheon National University, South Korea <i>Fabrication of CIGSe and CZTSe Solar Cells by Chemical Spray Pyrolysis</i>
	3_2-0037	Dr Yoji AKAKI, National Institute of Technology, Miyakonojo College, Japan <i>Effects of H₂S Annealing for Sn-S Thin Films Deposited at High Substrate Temperature</i>
	3_2-0039	Mr Seon Hong MUN, KAIST, South Korea <i>Low-temperature growth of a large-grained CIGS film from a CuGa/In:Se stacked precursor and investigation of its morphology and phase evolution</i>
	3_2-0044	Prof Jin Young KIM, Seoul National University, South Korea <i>Strategies for improving performances of CZTSSe thin film solar cells prepared via electrodeposition</i>
	3_2-0052	Prof Junho KIM, Incheon National University, South Korea <i>Fabrication of Cd-free CZTSSe Solar Cells from Sputtered Stack Layers and Post-Annealing</i>
	3_2-0054	Mr Kensuke TSUJI, Ryukoku University, Japan <i>Cu₂Zn(Ge, Sn)(S, Se)₄ solar cells prepared by slit coating and</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

11:00 – 12:30 Poster session 1 Room 3711/3712/3713		<i>sintering process</i>
	3_2-0055	Dr Jihye KIM, ISAC RESEARCH INC., South Korea <i>Characterization of atomic layer deposited Sn(O,S)₂ thin films as Cd-free buffer layers for CIGS solar cells</i>
	3_2-0057	Prof Clas PERSSON, University of Oslo, Norway <TBC> <i>High activation energy for Se diffusion limits anion gradient in Cu₂ZnSn(S,Se)₄</i>
	3_2-0058	Dr Hisashi MIYAZAKI, National Defense Academy, Japan <TBC> <i>Surface Treatment of CZTS Thin Films Using H₂O₂ and H₂SO₄ Solution</i>
	3_2-0062	Prof Kenji YOSHINO, University of Miyazaki, Japan <i>Low Temperature Growth of CuInS₂ Thin Films from Metal Xanthate Precursors</i>
	3_2-0063	Dr Ara CHO, Korea Institute of Energy Research (KIER), South Korea <i>Cu-Sb-S Thin Film Synthesis using Hybrid Ink</i>
	3_2-0064	Ms Himeka TOMINAGA, University of Miyazaki, Japan <i>Low Resistivity Sprayed Ga-doped ZnO Films for CuInGaSe₂ Solar Cells</i>
	3_2-0065	Prof Hironori KATAGIRI, National Institute of Technology, Nagaoka College, Japan <i>Fabrication of CZTS Thin Films by Tin Vapor Transport Method</i>
	3_2-0066	Mr Yuuki HONMA, National Institute of Technology, Nagaoka College, Japan <i>Impact of Flash Lamp Annealing on CZTS Thin Film Solar Cells</i>
	3_2-0068	Ms Youngmin KO, KAIST, South Korea <i>Synthesis of a uniform Cu₂SnS₃ thin film from a stacked Cu/SnS₂ precursor by an intermediate annealing and control of carrier concentration by Na₂S doping</i>
	3_2-0069	Mr K.S. RAHMAN, The National University of Malaysia, Malaysia <i>Influence of Growth Temperature on the Properties of Close-Spaced Sublimation (CSS) Grown CdTe Thin Films for Photovoltaic Application</i>
	3_2-0070	Prof Nowshad AMIN, Universiti Kebangsaan Malaysia, Malaysia <i>Modified Atmospheric Pressure (AP) CVD – A Cost Effective Deposition Method for ZnS, CdS and Cd_{1-x}Zn_xS Thin Films as Buffer Layers in Thin Film Solar Cells</i>
	3_2-0074	Prof Nowshad AMIN, Universiti Kebangsaan Malaysia, Malaysia <i>Impact of CdCl₂ Treatment on Microstructural and Electronic Properties of CdTe Thin Films Deposited by Close-Spaced Sublimation (CSS) Technique</i>
	3_2-0079	Dr Leng ZHANG, Tsinghua University, China <i>The Fabrication of CIGS Solar Cell by Sputtering From Quaternary Target Without Post-selenization</i>
	3_2-0084	Prof Sungwook HONG, Daegu University, South Korea <i>Effects of Air-annealed Temperature on Cu₂ZnSnS₄ thin films formed by Spray Pyrolysis</i>
	3_2-0085	Sung-Min YOUN, Korea Institute of Industrial Technology, South Korea <i>Monolithic serial interconnects with picosecond laser pulses for scale-up of CIGS solar cells on flexible substrates</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

11:00 – 12:30 Poster session 1 Room 3711/3712/3713	3_2-0086	Dr Chan KIM, Kyungpook National University, South Korea <i>Effect of NaF layer on Crystallization of Amorphous Cu(In,Ga)Se₂ Films deposited by Co-evaporation</i>
	3_2-0087	Mr Sang Hyeop LEE, Korea National University of Transportation, South Korea <i>Optimization of Ga Contents for Co-evaporated CIGS Thin Film</i>
	3_2-0090	Mr In Young KIM, Gwangju Institute of Science and Technology, South Korea <TBC> <i>Highly transparent and conductive Mg and Ga doped ZnO thin film for CZTS thin film solar cell</i>
	3_2-0091	Myeng Gil GANG, Chonnam National University, South Korea <i>Influence of S, Se partial pressure on the properties of Cu₂ZnSn(S,Se)₄ thin film and their application to solar cell</i>
	3_2-0096	Dr Kang Min KIM, National Institute of Advanced Industrial Science and Technology, Japan <TBC> <i>Growth and characterization of Cu₂FexSnS_{3+x} thin films for photovoltaic applications</i>
	3_2-0098	Ms Himeka TOMINAGA, University of Miyazaki, Japan <i>Room Temperature Growth of ZnO Films by Atmospheric Spray Pyrolysis using Diluted Diethylzinc Solution</i>
	3_2-0099	Mr Dongha LIM, Chonnam National University, South Korea <i>The formation of phase-pure tin sulfide thin films by vapor phase deposition</i>
	3_2-0101	Dr Hamide KAVAK, Cukurova University, Turkey <i>Deposition of Cu₂ZnSnS₄ Absorber Layer for Solar Cell Applications</i>
	3_2-0102	Mingyang ZHU, Yeungnam University, South Korea <i>Influence of Experimental Parameters on Synthesis of CuIn_{1-x}GaxSe₂ solar cells with spray-CFR process</i>
	3_2-0103	Ho Young JUN, Yeungnam University, South Korea <i>Key parameters in the deposition of CIGS solar cells with Zn(O,S) buffer layer using CFR-spin process</i>
	3_2-0104	Mr Koichi SUZUKI, Ritsumeikan university, Japan <i>Enlargement of Cu₂SnS₃ grain size induced by Na for improvement of its photovoltaic performances</i>
	3_2-0106	Mr Soohyun HWANG, Sungkyunkwan University, South Korea <i>Characteristics of Cu₂ZnSnS₄ thin films deposited by RF sputtering from a single quaternary target</i>
	3_2-0107	Prof Takashi ITOH, Gifu University, Japan <TBC> <i>Optical Absorption in Compound Thin Film Solar Cells by Fourier Transfer Photocurrent Spectroscopy</i>
	3_2-0108	Mr Hongxu ZHANG, Institute for Solar Energy Systems (ISES), Sun Yat-sen University, China <TBC> <i>CIGS thin films prepared by RF magnetron sputtering from a single quaternary target</i>
	3_2-0109	Mr Zhao WU, Sun Yat-Sen University, China <i>Optimization of the back contact layers in CIGS solar cells by doping NaF</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

14:00 – 15:30 Poster session 2 Room 3711/3712/3713	Posters in Area 3: Thin-Film Materials and Solar Cells (For each poster, at least one presenter must be present)	
	1_3-0009 (reclassified)	Mr Mohammad Shamimul HAQUE CHOUDHURY, Nagoya Institute of Technology, Japan <i>Effect of Hot-compression on Structural, Optical, and Electrical Properties of Electrophoretically Deposited Dye-sensitized Solar Cell</i>
	3_3-0004	Mr Yan-Hao CHEN, National Cheng Kung University, Taiwan <i>Improved Perovskite Solar Cells with Crystallization of Active Layer By Dripping of Mixed Nonsolvents</i>
	3_3-0005	Dr Kenji HARAFUJI, Ritsumeikan University, Japan <i>Morphological Analysis of Solar Cells with Pentacene Anode Buffer</i>
	3_3-0006	Ms Wafa Syakira BINTI AZMI, Ritsumeikan University, Japan <i>Interface Analysis of Ultraviolet-Ozone Treated Anode Surface of Organic Solar Cells</i>
	3_3-0007	Mr Yan-Hao CHEN, National Cheng Kung University, Taiwan <i>Improved Perovskite Solar Cells With Solution-Processed Lithium-Doped Nickel Oxide As Hole Transport Layer</i>
	3_3-0008	Mr Yan-Hao CHEN, National Cheng Kung University, Taiwan <i>Fa-Perovskite Solar Cells By Solvent Annealing Process</i>
	3_3-0009	Mr Yan-Hao CHEN, National Cheng Kung University, Taiwan <i>Enhanced Performance Of Perovskite Solar Cells With Triple Solvents</i>
	3_3-0010	Dr Jiandong FAN, Jinan University, China <TBC> <i>Highly thermal stable Perovskite Solar Cells via Additional Solvent Mediation</i>
	3_3-0011	Dr Hideo UCHIDA, Chubu University, Japan <i>Carbon based p-i-n solar cells</i>
	3_3-0012	Dr Gowri Manohari A, Southeast University, China <i>Active layer of methylammonium lead tri-iodide in the fabrication of hybrid Perovskite solar cells</i>
	3_3-0016	Mr Jun-Ho BAE, Chonbuk National University, South Korea <i>3D printing carbon-based transparent electrodes for perovskite solar cells</i>
	3_3-0018	Mr Jae Hun YU, Chonbuk National University, South Korea <i>Highly stable perovskite solar cells using carbon based material as a hole transporting layer</i>
	3_3-0019	Prof Shruti Aggarwal, Guru Gobind Singh Indraprastha University India <i>Performance studies of dye-sensitized solar cell (DSSC) by swift heavy ion (SHI) irradiation</i>
	3_3-0025	Dr Mohammad Istiaque HOSSAIN, Qatar Environment and Energy Research Institute, Qatar <i>Fabrication of Electron Transport Material Free and Inverted Perovskite Solar Cell Structure Using Sputtered Cu(I)2O as Hole Transport Material</i>
	3_3-0028	Ms BhumiKA CHAUDHARY, Energy Research Institute @ NTU (ERI@N), Singapore, <i>Engineering the PbI2 Layer Morphology by O-donor Solvent Additive</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

		<i>to Boost Open Circuit Voltage and Performance of Perovskite Solar Cells</i>
3_3-0034	Mr GOVINDARAJ R, SSN College of Engineering, India <TBC>	<i>Reduction of Charge Recombination in Dye-Sensitized Solar Cells Using TiO₂ Nanorods-Nanoparticles</i>
3_3-0035	Mr Takayuki OKANO, University of Tsukuba, Japan	<i>Bi-Based (CH₃NH₃)₃Bi₂I₉ Perovskite Solar Cells Prepared by Gas-Assisted Spin-Coating</i>
3_3-0038	Dr Ajay Kumar BARANWAL, University of Hyogo, Japan	<i>Hole transport layer free printable perovskite solar cell with surfactant systems</i>
3_3-0039	Mr Toshiyuki TAKASAKI, Kyushu University, Japan	<i>Effect of photocatalyst TiO₂ on the long-term stability of dye-sensitized solar cells</i>
3_3-0044	Mr Dickson KINDOLE, Ashika Institute of Technology, Japan	<i>Experimental Study on Enhancement of Photovoltaic Performance of DSSCs by Crystallization of TiO₂ Films using ASPPS</i>
3_3-0051	Mr Daisuke SAKAMOTO, Kyushu University, Japan,	<i>Low cost dye-sensitized solar cells based on polymer composite catalyst</i>
3_3-0059	Mr Issei TAKENAKA, Keio University, Japan	<i>Reducing recombination in 3D-structured SnO₂ electron transport layer for perovskite solar cells</i>
3_3-0065	Mr Ifeanchio ANYADIEGWU, Ashikaga Institute of Technology, Japan	<i>Rapid Deposition of Photo-Catalytic TiO₂ film for DSSC by 1KW Class Atmospheric Plasma Spray Equipment Using Ar/N₂ Working Gas</i>
3_3-0066	Prof Kenji YOSHINO, University of Miyazaki, Japan	<i>Sprayed SnO₂/FTO Buffer Layer for Perovskite based Solar Cell</i>
3_3-0069	Mr Katsunori MAEDA, Tokai University, Japan	<i>Influence of hole transport layer on the hysteresis and degradation in CH₃NH₃PbI₃ perovskite solar cells</i>
3_3-0075	Prof Qing SHEN, The University of Electro-Communications, Japan	<i>PbS quantum dot heterojunction solar cells: ligand dependent exciton dissociation, recombination and photovoltaic property</i>
3_3-0077	Su-Mi BANG, Chonbuk National University, South Korea	<i>Photovoltaic Properties of New Terpolymers Containing TPD Donor Unit for Polymer Solar Cell</i>
3_3-0078	You-Sun LEE, Chonbuk National University, South Korea	<i>The effect of various conjugated polymers as carrier transporting materials in perovskite solar cells</i>
3_3-0079	Ji-Ho JEONG, Chonbuk National University, South Korea	<i>A controlled polymer material as an anode interfacial layer for perovskite solar cells</i>
3_3-0082	Prof Liudmila LARINA, Chungnam National University, South Korea	<i>PtFe bimetallic nanoparticles for the counter electrode of dye-sensitized solar cell: Effect of Ar⁺ ion plasma etching on electronic structure of the nanoparticles</i>
3_3-0083	Mi Jung CHOI, Chonbuk National University, South Korea	<i>Highly efficient and stable planar perovskite solar cells with a</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

14:00 – 15:30 Poster session 2 Room 3711/3712/ 3713		<i>solution-processed transition metal oxide layer</i>
	3_3-0084	Ms Se phin CHO, Chonbuk National University, South Korea <i>Solution processed metal oxide hole transporting layer for efficient and stable perovskite solar cells</i>
	3_3-0093	Mr Mohammad Shamimul Haque Choudhury, Nagoya Institute of Technology, Japan <i>Linear And Nonlinear Optical Properties of Trifluoroethoxy-coated Zinc Phthalocyanine Thin Films Prepared by Spin Coating</i>
	3_3-0101	Mr Firdaus SUHAIMI, Energy Research Institute @ NTU, Singapore <i>Current Matching and Light Distribution in Organic Stacked Solar Cells</i>
	3_4-0001	Mr Chang-Yeh Lee, UNSW, Australia <TBC> <i>Solid Phase Annealing of Kesterite Cu₂ZnSnS₄ Thin Films using Raman laser</i>
	3_4-0004	Mr Kannan PK, Indian Institute of Technology Hyderabad, India <TBC> <i>Effects of S/Se Ratio on the Bandgap of CZTSSE Thin Films Deposited Using Electron Beam Evaporation</i>
	3_4-0007	Tomohiko NISHIDA, Kansai University, Japan <i>Formation and evaluation of Cu₂ZnSnS₄ films prepared by electroplating and sulfurization with CS₂</i>
	3_4-0009	Mr Wei-Chung KUO, National Central University, Taiwan <i>Growth of high quality GaAs on thin Ge buffer layer on Si substrate and its applications</i>
	3_4-0017	Mr Stener LIE, NTU, Singapore <i>Photovoltaic Effect in Earth Abundant Solution Processed Cu₂MnSnS₄ and Cu₂MnSn(S,Se)₄ Thin Films</i>
	3_4-0019	Mr Hiroki SUMI, Tokyo University of Science, Japan <i>Band Alignment of n-type Semiconductor/p-type SnS Heterojunction for Earth-Abundant SnS solar cells</i>
	3_4-0020	Mr Tsubasa YOKOI, Tokyo University of Science, Japan <i>Effect of Alkali-metal Post-deposition Treatment on SnS Thin Films and Solar Cells</i>
	3_4-0026	Mr Wenjie LI, ERI@N, NTU, Singapore <TBC> <i>CZTSSe solar cell with ALD ZTO buffer layer</i>
	3_4-0027	Mr Wenjie LI, ERI@N, NTU, Singapore <i>Alkali Doping in Solution Processed CZTSSe Solar Cells</i>
	3_4-0028	Prof JunHo KIM, Incheon National University, South Korea <i>Growth of SnS films and solar cell application</i>
	3_4-0038	Mr Shigeru NAKATSUKA, Kyoto University, Japan <i>Photovoltaic performance of ZnSnP₂ bulk crystals with the efficiency over 1%</i>
	3_4-0042	Mr Ryota KATAYAMA, Toyota Technological Institute, Japan <i>N incorporation at the surface step in CBE grown GaAsN film on GaAs(111) vicinal substrate</i>
	3_4-0045	Dr Yu-Cian WANG, Toyota Technological Institute, Japan <i>Selective-area growth of GaAs on patterned Si substrates by using chemical beam epitaxy</i>
	3_4-0052	Hayato AKITA, Miyakonojo National Institute of Technology, Japan <i>Fabrication of Ag₂SnS₃ thin films by sulfurization of vacuum</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

14:00 – 15:30 Poster session 2 Room 3711/3712/ 3713		<i>evaporated Ag/Sn and Ag/SnS precursors</i>
	3_4-0053	Dr Trupti Ranjan LENKA, National Institute of Technology Silchar, India <TBC> <i>Optimization of Phase Separation Effect on Performance of Single Core-Shell InGaN/GaN Nanowire</i>
	3_4-0056	Mr Yuki ISHII, Tokai University, Japan <i>Effects of ZnO thin film by inductively coupled plasma-assisted sputtering</i>
	3_5-0001	Mr Chia-Cheng CHOU, Industrial Technology Research Institute, Taiwan <i>I-V Characteristics of emerging PV measured under Dim-indoor light sources</i>
	3_5-0010	Mr Hansong XUE, Solar Energy Research Institute of Singapore (SERIS), Singapore, <i>A device model for perovskite solar cells</i>
	3_5-0011	Dr FaJun MA, University of New South Wales, Australia <i>Device Model Analysis of Se-free Cu₂ZnSnS₄ solar cell using Sentaurus TCAD</i>
	3_5-0013	Prof Ayodeji AWODUGBA, Ladoke Akintola University of Technology, Nigeria <i>Numerical simulation of CZTS/ZnO/FTO hetero-junction solar cell</i>
	3_5-0014	Dr Hao WANG, ERI@N, NTU, Singapore <i>Optical study of light absorption behaviour in Perovskite/CIGS tandem solar Cells</i>
	3_5-0019	Yutaka NIIZAWA, Ritsumeikan University, Japan <i>Optical design for tandem solar cell based on chalcopyrite and perovskite materials</i>
	3_5-0020	Dr Lay Theng TAN, Republic Polytechnic, Singapore <i>Light intensity dependence of I-V parameters of various solar cell structures</i>
	3_5-0021	Mr Akira NAKANISHI, Tokyo Institute of Technology, Japan <i>Numerical simulation of CH₃NH₃PbI₃ perovskite/heterojunction crystalline silicon tandem solar cells using Silvaco-Atlas software</i>
	3_5-0024	Dr Anna NIKOLSKAIA, Russian Academy of Sciences, Russia <i>Perovskite/ZnPC solar cells: action spectra of photocurrent and effect of bulk photoconductivity</i>
	3_5-0025	Dr Kazuyoshi NAKADA, Tokyo Institute of Technology, Japan <i>Numerical Simulation on the Effect of Tunnel Recombination Layer Band Profile on the Performance of Perovskite / Cu(In, Ga)Se₂ Tandem Solar Cells</i>
	3_5-0026	Prof Nowshad AMIN, The National University of Malaysia, Malaysia <i>Effects of Interfacial p-MoS₂ Layer in Cu₂ZnSnS₄ (CZTS) Thin Film Solar Cells from Numerical Analysis</i>
	3_5-0028	Dr Rob PATTERSON, University of New South Wales, Australia <i>Temperature dependent current contributions from mobile vacancy-type defects in lead halide perovskites</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

16:00 – 18:00 Poster session 3 Room 3711/3712/ 3713	Posters in Area 1: Novel PV Materials and Concepts (For each poster, at least one presenter must be present)	
	1_1-0002	Dr Adel GOUGAM, Masdar Institute of Science and Technology, United Arab Emirates <i>Passivation studies using Atomic Layer Deposition technique for SiO₂/ Al₂O₃ and HfO₂/Al₂O₃ stacks</i>
	1_1-0003	Dr Takeshi TAYAGAKI, National Institute of Advanced Industrial Science and Technology (AIST), Japan <i>Wide-bandgap InGaP-based InP quantum dot solar cells for intermediate-band solar cells</i>
	1_1-0009	Prof Mikihiro NISHITANI, Graduate School of Engineering Osaka University Japan, Japan <TBC> <i>The investigation of transition metal oxide materials applied for solar cell material with intermediate band</i>
	1_1-0011	Dr Kosuke HARA, University of Yamanashi, Japan <i>Fabrication of BaSi₂ thin films passivated by amorphous Si using a single evaporation source</i>
	1_1-0014	Dr Yukimi ICHIKAWA, FUTURE-PV Innovation / JST, Japan <i>Properties of Silicon Nano-walls for Wide Bandgap Solar Cells</i>
	1_1-0016	Dr Rob PATTERSON, UNSW Australia, Australia <i>Hot carrier properties of PbS colloidal quantum dots revealed by power and temperature dependent photoluminescence spectroscopy</i>
	1_1-0017	Prof Koichi YAMAGUCHI, The University of Electro-Communications, Japan <i>Photoluminescence and Photovoltaic Properties of Ultrahigh-Density InAs Quantum Dots on InAsSb/GaAs(001)</i>
	1_1-0019	Dr Marit KAUK-KUUSIK, Tallinn University of Technology, Estonia <i>Growth and characterization of Cu₂CdSnS₄ single crystalline powder for solar cell applications</i>
	1_1-0021	Dr Olindo ISABELLA, Delft University of Technology, Netherlands <i>Organometallic Halide Perovskite / Barium Di-Silicide Thin-Film Double-Junction Solar Cells</i>
	1_1-0025	Mr Chulmoon CHOI, Chonbuk National University, South Korea <TBC> <i>Conductive polymeric yarn-based fiber-shaped perovskite solar cells</i>
	1_1-0035	Mr Soohyun HWANG, Sungkyunkwan University Department of Electrical and Computer Engineering, South Korea <i>Novel Low Temperature Sintering Method of Self-Cleaning Coating for Photovoltaic System Applications</i>
	1_1-0050	Dr Yasushi SHOJI, The University of Tokyo, Japan <i>Multi-stacked GaSb/GaAs type-II quantum nanostructure for application to intermediate band solar cells</i>
	1_1-0057	Mr Anupam NANDI, Indian Institute of Engineering Science and Technology, Shibpur, India <i>Opto-Electrical Property Study of RGO-ITO Composite Thin Film and Its Benefit over the Standard ITO Thin Film as Transparent Conducting Oxide</i>
	1_1-0058	Prof Horng-Show KOO, Minghsin University of Science and

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

16:00 – 18:00 Poster session 3 Room 3711/3712/ 3713		Technology, Taiwan <TBC> <i>Investigation on Degradation Mechanism of the Dye-sensitized Solar Cells with NiO-doped ZnO Film Electrodes</i>
	1_1-0059	Prof Horng-Show KOO, Minghsin University of Science and Technology, Taiwan <TBC> <i>Effect of Y2O3-doped ZnO Film Electrodes on the Optoelectronic Characterization of the Dye-sensitized Solar Cells</i>
	1_1-0067	Prof Nowshad AMIN, Universiti Kebangsaan, Malaysia <i>Nearly 1.8 eV InGaN top cells design on Si for tropical region efficient solar cell</i>
	1_2-0004	Dr Kan-Hua LEE, Toyota Technological Institute, Japan <i>Design Considerations and Efficiency Prospects of III-V on Silicon Solar Cells</i>
	1_2-0005	Dr Lewis FRAAS, JX Crystals Inc, United States <i>ThermoPhotoVoltaics (TPV): Cogenerating Electricity from Hot Steel</i>
	1_2-0006	Dr Kenji ARAKI, Toyota Technological Institute, Japan <i>Design optimization on static low concentrator PVs installed to various non-optimized locations including the car-roof.</i>
	1_2-0007	Dr Sergei MANZHOS, National University of Singapore, Singapore <i>Density Functional Theory – Time-Dependent Density Functional Theory Study of Interfacial Charge Transfer Complexes of 2-Anthracic Acid and TiO2 Nanoparticles</i>
	1_2-0009	Dr Liangliang TANG, Hohai University, China <i>The Performance of GaInAsSb and GaSb cells vs IR Emitter Temperature in Thermophotovoltaic Systems</i>
	1_2-0010	Mr Satoshi TAKIMOTO, Nagoya University, Japan <i>Photovoltaic unit for optical output from solar-pumped lasers (II) perovskite solar cells for 532nm monochromatic light</i>
	1_2-0011	Mr Hidetaka TERAZAWA, Nagoya University, Japan <i>Calculation of theoretical conversion efficiency via ray tracing and simulation of laser oscillation in Nd:YAG ceramic rod for micro-solar-pumped laser-PV cell combined system</i>
	1_2-0014	Mr Kangmin LEE, Ulsan National Institute of Science and Technology (UNIST), South Korea <i>Nano/micro hybrid radial junction silicon solar cells</i>
	1_2-0015	Ms Suchismita MITRA, Indian Institute of Engineering Science and Technology Shibpur, India <i>Numerical modeling of rear passivated carrier selective tunnel contact solar cell</i>
	1_2-0016	Mr Kemmei WATANABE, Nagoya University, Japan <i>Photovoltaic unit for optical output from solar-pumped lasers (i) : outspread and mitigation of the optical output power from an optical fiber by a light guide plate</i>
	1_2-0024	Ms Wan Ru LEOW, Nanyang Technological University, Singapore <i>Al2O3 Surface Complexation for Photocatalytic Organic Transformations</i>
	1_2-0044	Dr Alexander AXELEVITCH, Holon Institute of Technology (HIT), Israel <TBC> <i>Metal Nanostructures for Solar Cells Efficiency Improvement</i>
	1_3-0004	Prof Naoteru SHIGEKAWA, Osaka City University, Japan

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

16:00 – 18:00 Poster session 3 Room 3711/3712/ 3713		<i>Electrical Characterisation of Coupling Properties in InGaP/GaAs/Si Triple-Junction Cells</i>
	1_3-0019	Dr Shanmugan S., Vel Tech Multitech Dr.Rangarajan Dr.Sakunthala Engineering College, India <TBC> <i>Synthesis and Characterization of Doped Silver-Organic Nanocomposites (ONPs/Ag) with NaBH₄ Organic-Inorganic Hybrid Nanoparticles used in Photovoltaic's from innovation through industry</i>
	1_3-0032	Prof Der-Ray HUANG, National Dong Hwa University, Taiwan <i>Research on Solar Diffuse Fraction in Eastern Taiwan</i>
	1_3-0033	Mr Toshiyuki TAKASAKI, Kyushu University, Japan <i>Room temperature fabrication of high-mobility amorphous In₂O₃:Sn films via nitrogen-mediated amorphization method</i>
	1_3-0035	Dr Changheon KIM, Green Energy Institute, South Korea <i>Effects on Film Stress of Hydrogenated Silicon Nitride Passivation Layer</i>
	1_4-0003	Prof Noritaka USAMI, Nagoya University, Japan <i>Geometry control of silicon-based photonic nanostructures by modulated stacking conditions of germanium dots</i>
	1_4-0005	Ms Puqun WANG, SERIS, Singapore <i>Periodic upright nanopyramid texturing for ultra-thin crystalline silicon solar cells</i>
	1_4-0007	Ms Sudarshana BANERJEE, Indian Institute of Engineering Science and Technology, India <i>ITO embedded Ag₂S nano-particles as back reflector layer for increasing optical path length within thin film silicon solar cells</i>
	1_4-0010	Mr Hemanta GHOSH, Indian Institute of Engineering Science and Technology Shibpur, India <i>Embedded Silicon nitride (SiN) nanoparticles as plasmonic back scatterers for crystalline silicon solar cell</i>
	1_4-0014	Dr Santhosh Kumar K., Southeast University, China <i>Down-conversion for an enhancement in efficiency of solar cell using Tb³⁺/Ce³⁺/Bi³⁺ - Yb³⁺ co-doped Y₃Al₅O₁₂ phosphors</i>
	1_4-0019	Mr Zhengshan YU, Arizona State University, United States <i>Spectrum-splitting GaAs/Si tandem module with 28% outdoor efficiency</i>
	1_4-0021	Prof Srinivas Reddy K., Indian Institute of Technology Madras, India <i>Luminescent solar concentrator using high contrast gratings</i>
18:00 – 18:30 Poster session 3 Room 3711/3712/3713	Poster removal (Area 1 & Area 3)	

Thursday, 27 October 2016: PVSEC-26 Conference Poster Sessions		
08:00 – 18:00 Hibiscus, Level 3 (Foyer)	Registration	
09:00 – 10:30 Room 3711/3712/3713	Poster Setup (For Areas 2, 4 & 5)	
11:00 – 12:30 Poster session 4 Room 3711/3712/ 3713	Posters in Area 5: PV Systems, Deployment and Grid integration (For each poster, at least one presenter must be present)	
	5_1-0002	Mr Ke Rong Kenny TAN, Newcastle University International Singapore - Singapore Institute of Technology, Singapore <TBC> <i>Demonstration of Innovative Smart Home Strategies on LabVolt System</i>
	5_1-0004	Mr Yuichi MASUTANI, Tokyo University of Science, Japan <i>Evaluation of Angle-of-Incidence Effects on Low Magnification Condensing Spectrum-splitting PV System with One Axis Tracking</i>
	5_2-0005	Dr Angele REINDERS, ARISE, University of Twente, The Netherlands <i>A simple phenomenological model for the determination of spectrally distributed irradiance in the Netherlands</i>
	5_2-0007	Prof Tomonao KOBAYASHI, Gifu University, Japan <i>Characteristics of Solar Irradiance Fluctuation and Corresponding Weather Condition</i>
	5_2-0009	Prof Shigeomi HARA, Saga University, Japan <i>Construction of Fast Measurement System in Yoshinogari Mega Solar Power Plant</i>
	5_2-0010	Prof Shigeomi HARA, Saga University, Japan <i>Development of Computer Program for Large-scale Measurement data of Yoshinogari Mega Solar Power Plant</i>
	5_2-0011	Mr Hiroyuki MANO, Ritsumeikan University, Japan <i>Correlation of short circuit current ratio of various photovoltaic modules and average photon energy of solar spectrum</i>
	5_2-0012	Dr Kohji MASUDA, Japan Electrical Safety & Environment Technology Laboratories (JET), Japan, <i>Investigation into Spatial Distribution of Irradiance for Performance Measurement of Photovoltaic Modules at Photovoltaic Systems</i>
	5_2-0020	Mr Jukkavat SUNJAI, Rajamangala University of Technology Lanna, Thailand <i>The monitoring energy and efficiency of very small solar roofs top grid connected power system under difference inverter models</i>
	5_2-0024	Prof Der-Ray HUANG, National Dong Hwa University, Taiwan <i>Photovoltaic Effect of Solar Cell Modules under Sun Radiation with Different Directions</i>
	5_3-0001	Mr Naotaka OKA, Doshisha University, Japan <i>Power generation performance evaluation of mega solar power plant with different module connection</i>
	5_3-0003	Dr Amornrat LIMMANEE, National Science and Technology Development Agency, Thailand

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

		<i>Degradation Behaviour of PV Modules under Thailand's Climate</i>
5_3-0008	Dr Anil Kottantharayil, Indian Institute of Technology Bombay, Japan	<i>Evaluation of increase in the energy yield of PV modules by inverting the panels during the non – sunshine hours</i>
5_3-0010	Dr Hailing LI, Institute of Electrical Engineering, Chinese Academy of Science, China	<i>Evaluation of the performance of large scale PV plant in West China</i>
5_4-0004	Mr Cheng-Lien WANG, Winaico, Taiwan	<i>Comparison of outdoor performance between PERC and HJT solar systems</i>
5_4-0007	Dr Yasuo CHIBA, National Institute of Advanced Industrial Science and Technology (AIST), Japan	<i>Relationship between performance ratio and indoor power output measurements for various photovoltaic modules at AIST Kyusyu Center</i>
5_4-0008	Mr Mattias Gustafsson, University of Gävle, Sweden	<i>Effects of different time resolution when self-consumed and produced excess electricity is predicted in a single family house – case study in cold climate, Sweden</i>
5_4-0016	Mr Daksh DAVE, United World College of South East Asia, Singapore	<i>An Alternative Way of Reporting PR That Is Fair to Both Investors and System Owners</i>
5_4-0018	Mr Mike WANEBO, Sunprime Inc., United States	<i>Enhancing Bifacial Module Yield with Active Albedo</i>
5_5-0010	Ms Dhivya SAMPATH KUMAR, Solar Energy Research Institute of Singapore (SERIS), Singapore	<i>A novel microinverter technique for highly built environments and difficult to access building integrated PV systems</i>
5_6-0003	Dr Keping YOU, Solar Energy Research Institute of Singapore (SERIS), Singapore	<i>High Penetration of Photovoltaic Energy Needs Modification of Grid Standards for Future PV Applications - A Study of Singapore's Low-Voltage Grid Codes of Practice in Comparison with IEC and IEEE Requirements</i>
5_6-0010	Mr Aloysius Wishnu ARYAPUTERA, Solar Energy Research Institute of Singapore (SERIS), Singapore	<i>Power Output Forecast of a Photovoltaic Network</i>
5_6-0017	Eiki ARAI, Tokyo University of Science, Japan	<i>Heuristics Estimation Model of Aggregated Residential Load</i>
5_7-0002	Dr Maifi LYES, University Mentouri Constantine, Algeria, <TBC>	<i>Influence of operational parameters on the production of a plane solar distiller coupled to a hybrid photovoltaic thermal sensor</i>
5_7-0007	Dr Worrajak MUANGJAI, Rajamangala University of Technology Lanna, Thailand	<i>Energy management depend on 5kWp PV system control by IoT at Posor Rural school in Mae Hong Son Province Thailand</i>
5_7-0008	Khawar MEHMOOD, Zhongli Talesun Solar Co. Ltd, China	<i>Solar Water Pumping System</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

	5_7-0010	Asst. Prof Nopporn PATCHARAPRAKITI, Rajamangala University of Technology Lanna, Thailand, <i>A System Performance Comparison of Solar DC Water Pumping with and without Battery Energy Storage</i>
	6_1-0001	Prof Tonio BUONASSIS, Massachusetts Institute of Technology, United States <TBC> <i>The 10TW Goal – How to Scale PV Economically to Meet Climate Targets?</i>
	6_1-0003	Dr Saravanan VASUDEVAN, Arunai Engineering College, Indi <i>Development of Solar Parks in India</i>
	6_1-0006	Mr Yousuke NOZAKI, NTT FACILITIES, Inc., Japan <TBC> <i>Our historical contribution activities for Asian PV deployment</i>
	6_1-0008	Dr Stephen TAY, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Initiatives Towards Solarising Singapore</i>
	6_1-0009	Prof AbuBakr BAHAI, University of Southampton, United Kingdom <i>Photovoltaic Driven Mini Grids as Energy Access Platforms for Rural Communities</i>
	6_1-0010	Mr Takafumi SATO, Mizuho Information & Research Institute, Inc., Japan <i>The Potential of On-Board PV for Electrified Vehicles to Reduce Lifecycle CO2 Emissions</i>
	6_1-0011	Prof Kung-Jeng WANG, National Taiwan University of Science and Technology, Taiwan <i>Intelligent manufacturing of a prism-based solar concentrator system – a modelling perspective</i>
14:00 – 15:30 Poster session 5 Room 3711/3712/3713	Posters in Area 4: PV Modules (For each poster, at least one presenter must be present)	
	4_1-0001	Dr Yu-Hsien LEE, Industrial technology research institute, Taiwan <TBC> <i>Mechanical and electrical characterization of HeatCap solar cell modules</i>
	4_1-0004	Mr Haruo WATANABE, Affinity Co., LTD., Japan <i>New PV Modules with Silicone Oil by the whole process consisting of Room Temperature</i>
	4_1-0006	Dr Changsoon HAN, Laser Advanced System Industrialization Center, South Korea <i>Characteristics of the surface modification of PV module glasses utilizing the ultrashort laser pulses</i>
	4_2-0003	Dr Song-Yeu TSAI, Industrial Technology Research Institute, Taiwan <i>Characteristic Analysis of Printing Flexible CIGSS Sub-modules</i>
	4_2-0005	Phasapon MANOSUKRITKUL, King Mongkut's Institute of Technology, Ladkrabang, Thailand, <i>Performance Degradation of a-Si Thin Film PV Arising from the Dust in Thailand</i>
	4_3-0003	Mr Goutam SAMANTA, Orange Renewable Power, India <TBC> <i>Long term reliability of crystalline modules</i>
	4_3-0004	Mr Guoqing CHEN, Zhongli Talesun Solar Co., Ltd., China <TBC> <i>The study on the impact of the WVTR of the backsheets to the anti-</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

		<i>PID performance of the module</i>
4_3-0006	Dr Volker NAUMANN, Fraunhofer Center for Silicon Photovoltaics CSP, Germany	<i>Outdoor PID testing of modules in PV systems</i>
4_3-0013	Dr Volker NAUMANN, Fraunhofer Center for Silicon Photovoltaics CSP, Germany	<i>Advanced laboratory soiling test to simulate realistic dust deposition</i>
4_3-0019	Mr Manit SEAPAN, King Mongkut's University of Technology Thonburi, Thailand	<i>PV module reliability as installed in hot and humid climate of Thailand</i>
4_3-0020	Mr Vincent HANDARA, Singapore University Technology and Design, Singapore	<i>Solar Photovoltaics Module Reliability: Degradation Study under Extreme Tropical Environment</i>
4_3-0021	Mr Seira YAMAGUCHI, Japan Advanced Institute of Science and Technology, Japan	<i>Time dependence and saturation behavior of the potential-induced degradation of n-type front-emitter photovoltaic modules</i>
4_3-0022	Kazuki NOGUCHI, Nara Institute of Science and Technology, Japan	<i>Temperature dependence of EL imaging and VOC estimation</i>
4_3-0025	Dr Fumitaka OHASHI, Gifu University, Japan	<i>Migration and distribution analysis of Na in photovoltaic modules by potential induced degradation test</i>
4_3-0026	Mr Panom PARINYA, King Mongkut's University of Technology Thonburi (KMUTT), Thailand	<i>Comparison between Measured Power and Nameplate Power Rating of PV Modules in Thailand</i>
4_3-0033	Mr Junhui LIU, Zhejiang Jinko Solar Co., Ltd., China	<i>Research for the vapor transmission performance of the encapsulation materials of PV module</i>
4_3-0034	Dr Laure-Emmanuelle PERRET-AEBI, CSEM, Switzerland,	<i>"Solarstratos", pushing the solar technology to the edge of space</i>
4_3-0035	Dr Wayne MA, Dow Chemical (China) Investment Co., Ltd, China	<i>Maximizing Reliability Performance with Polyolefin Encapsulants</i>
4_4-0009	Markus Schweiger, TÜV Rheinland Energy GmbH, Germany	<i>Electrical Characteristics of Bifacial PV Modules Measured in the Laboratory</i>
4_4-0010	Ms Husyira AL HUSNA, Loughborough University, United Kingdom	<i>Uncertainty in Spectral Response Measurement of Photovoltaic Modules</i>
4_4-0014	Mr Taisei KITAMOTO, Tokyo University of Science, Japan	<i>The development of PV module degradation analysis method</i>
4_4-0018	Mr Hyeong-Seok KIM, Korea Aerospace University, South Korea,	<i><TBC></i> <i>Equivalent circuit modeling of Dye-sensitized solar cell module induced from electrochemical impedance spectroscopy</i>
4_4-0019	Mr Yoshihide HIDAKA, University of Miyazaki, Japan	<i>Influence of silicone on glass lens temperature on concentrator photovoltaic modules with and without secondary optics</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

	4_4-0022	Prof Terubumi SAITO, Tohoku Institute of Technology, Japan <i>Solar Cell Conversion Efficiency Measurements Based on Electrical Substitution Method</i>
	4_4-0023	Dr Mauro PRAVETTONI, University of Applied Sciences and Arts of Southern Switzerland, Switzerland <i>Reliability of Spectral Measurement in the UV and NIR: Evidence from Previous International Spectral Measurement Intercomparisons</i>
	4_4-0027	Prof Frank HAMELMANN, University of Applied Sciences, Germany <i>Performance analysis of different silicon-based solar cells mounted in Thailand and Germany</i>
	4_4-0028	Mr Ihor RADCHENKO, Singapore University of Technology and Design, Singapore <i>Residual Stress Evaluation in Thin Silicon Photovoltaic Modules using Synchrotron X-ray Micro-diffraction and Finite Element Analysis</i>
	4_4-0030	Mr Ninad GAIKWAD, Gujarat Energy & Research Management Institute (GERMI), India <i>Photovoltaic Module PV-IV Curve Generator with Shading Analysis in MATLAB</i>
	4_4-0033	Dr Soo Min KIM, Gumi Electronics & Information Technology Research Institute, South Korea <TBC> <i>Characteristics of bifacial solar cell module with optical spectrum as site conditions</i>
16:00 – 18:00 Poster session 6 Room 3711/3712/3713	Posters in Area 2: Crystalline Silicon Materials and Solar Cells (For each poster, at least one presenter must be present)	
	2_1-0008	Mr Sunho CHOI, Korea Institute of Energy Research, South Korea <i>Ultrathin single crystalline Si wafers by using a slurry based multi-wire sawing process for photovoltaics</i>
	2_2-0001	Mr Tao LI, Institute of Electrical Engineering, China <TBC> <i>The effect of silver crystallites on electrical performances of silicon solar cells</i>
	2_2-0004	Dr Chunlai HUANG, State Key Lab of Silicon Materials and School of Materials Science & Eng., Zhejiang University, China <i>Ga-doped Quasi-single Crystalline Silicon</i>
	2_2-0005	Mr Shuai YUAN, Zhejiang University, China <i>Growth and performance of cast high performance multicrystalline silicon in nitrogen atmosphere</i>
	2_2-0012	Mr Sumukh RAMPRASAD, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Crack Detection in Multi-Crystalline Silicon Wafer Solar Cells</i>
	2_2-0015	Miss Romika SHARMA, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Investigating the role of hydrogen and surface passivation in light induced degradation of multicrystalline silicon solar cells</i>
	2_2-0021	Mr Pi-Chen TSAI, National Taiwan University, Taiwan <i>HF-HNO₃-H₂SO₄ system for texturing diamond wire sawn multi-crystalline silicon wafer</i>
	2_2-0022	Jong HEO, KITECH, South Korea <i>Multi-crystalline silicon solar cells with production line fitted nanoscale pyramid texture</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

16:00 – 18:00 Poster session 6 Room 3711/3712/ 3713	2_2-0023	Miss Mrinalini PADMANABHAN, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Light and elevated temperature induced degradation of multicrystalline silicon Al-BSF and PERC solar cells</i>
	2_2-0024	Mr Sagnik CHAKRABORTY, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>A comparison of phosphorous and boron diffusion gettering responses in traditional and high-performance multicrystalline silicon</i>
	2_3-0004	Dr Dong-Youn SHIN, Pukyong National University, South Korea <i>Novel approach to construct finger electrodes finer than the nozzle opening in dispensing printing for crystalline silicon solar cells</i>
	2_3-0005	Dr Kyotaro NAKAMURA, Meiji University, Japan <i>P-type Bi-facial PERT Solar Cell using Less Than 100 μm thick Cz Wafer and Cu Paste</i>
	2_3-0011	Dr Benjamin STRAHM, Meyer Burger Research AG, Switzerland <TBC> <i>Si-HJT 2.0: using exceptional surface passivation properties of amorphous silicon to increase power output by structure and material changes in Si-HJT solar cells</i>
	2_3-0020	Ms Taeko SEMBA, Namics corporation, Japan <i>Ag paste for high Voc and high FF on textured and flat solar cells</i>
	2_3-0021	Dr Porponth SICHANUGRIST, Japan Science and Technology Agency, Japan <i>Development of high quality p-type microcrystalline silicon oxycarbide using additional Trimethylboron as carbon source gas</i>
	2_3-0027	Mr Jaffar Moideen YACOBALI, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Nanosecond laser ablation properties of widely used dielectric layers for solar cell applications</i>
	2_3-0028	Mrs Shu Yunn CHONG, REC Solar Pte. Ltd, Singapore <i>The effect of alkaline textured pyramid size on the cell efficiency of homogeneous doped emitter screen printed silicon solar cells</i>
	2_3-0030	Ms Jeong Eun PARK, Korea National University of Transportation, South Korea <i>Electrical Characterization of c-Si Solar Cell with Various Emitter Layer using Adjustable Gas Flow</i>
	2_3-0031	Mr Jun Seok PARK, Korea National University of Transportation, South Korea <i>Effect of Surface Damage Removal for Optimizing Reactive Ion Etching of c-Si Solar Cell</i>
	2_3-0032	Gulsen BAYTEMIR, Middle East Technical University, Turkey <i>Radial Junction Crystalline Silicon Solar Cells By Metal Assisted Electroless Etching</i>
	2_3-0034	Ms Xinhang LI, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Investigation of IPA free alkaline texturing for p-type Al-BSF mono-Si wafer solar cells – impact of pyramid size</i>
	2_3-0037	Mr Muzhi TANG, REC Solar Pte. Ltd., Singapore <i>Optimization of the back surface morphology for 21% n-type bi-</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

16:00 – 18:00 Poster session 6 Room 3711/3712/ 3713		<i>facial mono crystalline silicon solar cells</i>
	2_3-0044	Dr Chunlan ZHOU, Institute of Electrical Engineering, Chinese Academy of Sciences, China <TBC> <i>Improvement of passivation on MCCE fabricated Blank silicon</i>
	2_3-0049	Dr Young Joon CHO, Chungnam National University, South Korea <TBC> <i>Characteristics of ALD-Al₂O₃ passivation in thin crystalline silicon wafer</i>
	2_3-0053	Dr Woojun YOON, U.S. Naval Research Laboratory, United States <i>Advanced Surface Passivation of Epitaxially Grown Emitters for High-efficiency Ultrathin Crystalline Si Solar Cells</i>
	2_3-0057	Mr Yutaro TAKEI, Tokyo Institute of Technology, Japan <i>Sputtered Cu₂O:N Emitter for Silicon Heterojunction Solar Cells</i>
	2_3-0058	Dr Jeong In LEE, Korea Institute of Energy Research, South Korea <i>Characterization of Al₂O₃ Passivation Layer Deposited by Plasma-Assisted Atomic Layer Deposition in c-Si Solar Cells</i>
	2_3-0059	Dr Min Gu KANG, Korea institute of Energy Research, South Korea <i>Analysis of blister formation during annealing process for the tunneling oxide passivation layer</i>
	2_3-0062	Mr Myeong Sang JEONG, Korea University, South Korea <i>Electrode formation using electroless Ni-Cu plating in the crystalline silicon solar cells with double anti-reflection layers</i>
	2_3-0063	Mr Kwan Hong MIN, Korea University, South Korea <i>Interface properties of Al₂O₃/SiO_x/Si(100) using wet chemical oxidation for crystalline Si solar cell applications</i>
	2_3-0072	Mr Tae-hyeon BAEK, Chungbuk National University, South Korea <i>Bow Removal In Thin Crystalline Silicon Solar Cell</i>
	2_3-0074	Dr Renfang CHEN, Research Center for New Energy Technology, Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China <i>Improved silicon heterojunction solar cells via n-type amorphous silicon window layer deposited by CAT-CVD</i>
	2_3-0075	Mr Tsuyoshi KAWAKAMI, University of Hyogo, Japan <i>Laser Formation of Point Contact in Aluminum Passivation layer for High-efficiency Crystalline Silicon Solar cells</i>
	2_3-0077	HyunJung PARK, Korea University, South Korea <TBC> <i>Doping concentration analysis of POCl₃ diffused emitter using quasi-steady-state photoconductance</i>
	2_3-0078	Dr Dominik LAUSCH, Fraunhofer Center for Silicon-Photovoltaics CSP, Germany <TBC> <i>Light-Induced Degradation and Regeneration of Back Surface Field (BSF) and PERC Monocrystalline Silicon Solar Cells</i>
	2_3-0080	Mr Inseol SONG, Korea University, South Korea <TBC> <i>Ultraviolet stability of thermally deposited Al₂O₃ on crystalline silicon solar cells</i>
	2_3-0081	Je-Min YEON, Shinsung Solar Energy, South Korea <i>Screen printed p-type Al-BSF solar cell with efficiency of 20% fabricated in an industrial production line</i>
	2_3-0082	Ms Min Ji LEE, Korea National University of Transportation, South Korea

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

16:00 – 18:00 Poster session 6 Room 3711/3712/ 3713		<i>Influence of saw mark defect density for silicon wafer texturing</i>
	2_3-0083	Prof Fanying MENG, Chinese Academy of Sciences, China <TBC> <i>Performance evaluation of n-type mono-Si wafer application in amorphous/crystalline Si heterojunction solar cells</i>
	2_3-0085	Dr Lujia XU, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>The influence of laser opening patterns and metallization conditions on localized back surface field solar cells</i>
	2_3-0090	Dr Xinyu Zhang, Zhejiang JinkoSolar Co., Ltd., China <TBC> <i>Optimization for Industrial Thermal ALD AlOx Surface Passivation Film for Mass-production</i>
	2_3-0092	Mr Dong WANG, Zhejiang Jinko Solar Co., Ltd., China <TBC> <i>Comparison of industrial feasible chemical cleaning techniques and their applications on monocrystalline silicon solar cells</i>
	2_3-0093	Mr Young Min LEE, Korea National University of Transportation, South Korea <i>Optimization of Front Laser Patterning to Form Ni/Cu Electrode of c-Si Solar Cell</i>
	2_3-0101	Seiya YOSHINAGA, Nara Institute of Science and Technology, Japan <i>Nanoimprinted-Textured Crystalline Silicon Solar Cells with Si-rich-SiN layer for Low Surface Reflectance</i>
	2_4-0008	Prof Moustafa GHANNAM, Kuwait University, Kuwait <i>Restoration of the Fill Factor and I-V characteristics of HIT cells with deficient a-Si:H p+ doping</i>
	2_4-0009	Prof Terubumi SAITO, Tohoku Institute of Technology, Japan <i>Spectral Dependence of Photovoltaic Cell Conversion Efficiency For Monochromatic Radiation</i>
	2_4-0010	Carlos Andres VARGAS CASTRILLON, University of New South Wales, Australia <i>Revision of the temperature dependence of iron-acceptors association rate</i>
	2_4-0016	Prof Abasifreke EBONG, UNC Charlotte, United States <i>Computer simulation of the impact of interface trap density on n-ZnO/p-Si single heterojunction solar cells</i>
	2_4-0018	Prof Shih-Hung LIN, TungHai University, Taiwan <i>Metrology of in-line PL image inspection and analysis platform</i>
	2_4-0027	Mr Kyung KIM, The University of New South Wales, Australia <i>Impact of Deposition Condition and Thermal Process on Industrial PECVD AlOx Layer for Surface Passivation</i>
	2_4-0029	Mr Amit Singh RAJPUT, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>'Smart PL' (Photoluminescence) Imaging Technique for Solar Cell Characterisation</i>
	2_4-0030	Dr Jian Wei HO, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Temperature-dependent Photoconductance-based Characterisation of Minority Carrier Trapping Effects in Multicrystalline Silicon</i>
	2_4-0031	Dr Jimmy MELSKENS, Delft Spectral Technologies B.V., Netherlands <i>Fourier Optical Measurement System: enabling ultrafast external</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

16:00 – 18:00 Poster session 6 Room 3711/3712/ 3713		<i>quantum efficiency measurements on crystalline silicon solar cells</i>
	2_4-0032	Dr Laytheng TAN, Republic Polytechnic, Singapore <i>Effects of temperature and spectral variation on light-induced degradation of silicon solar cells</i>
	2_4-0033	Victor CUNHA, Pontifical Catholic University, Brazil <i>Optimization Of Solar Cell Power Using Genetic Algorithm (TBC)</i>
	2_4-0036	Mr Samuel RAJ, Solar Energy Research Institute of Singapore (SERIS), Singapore <i>Impact of Non-Uniform Illumination and Probe Bar Shading on Solar Cell I-V Measurement</i>
	2_4-0037	Dr Shude ZHANG, Zhongli Talesun Solar Co., Ltd., China <i>Study on the Suitability of Pulsed Solar Simulators for the Measurement of High Efficiency Silicon Solar Cells</i>
	2_4-0040	Mr Takashi HARADA, University of Hyogo, Japan <i>Mist chemical vapor deposited yttrium oxide films deposited by for crystalline silicon surface passivation</i>
	2_4-0041	Mr Yuki MIKI, University of Hyogo, Japan <i>Study of aluminum oxide passivation films deposited by reactive sputtering with assistance of low inductance antenna</i>
	2_4-0042	Mr Shor KITANO, University of Hyogo, Japan <i>X-ray reflectivity study of structural change in atomic layer deposited AlOx films by post deposition thermal treatment</i>
	2_4-0045	Ms Erin LOONEY, Massachusetts Institute of Technology, United States <i>The Thin Silicon Advantage: Low Cost, low capex, high performance</i>
	2_4-0046	Mr Takahisa MASUDA, Tokyo Institute of Technology, Japan <i>Characterization of the Passivation Effect of Al₂O₃ for Crystalline Silicon by Using Temperature Dependence of Effective Carrier Lifetime</i>
	2_4-0049	Mr Jun-Kyu LEE, Korea Institute of Energy Research, South Korea <i>Effect of current density on the morphology of silver electrochemically recovered from c-Si solar cell</i>
	2_4-0050	Mr Eun-Hyuk YANG, Korea Institute of Energy Research, South Korea <i>Extraction Behaviors of silver from c-Si Solar Cell in Various Mixing Ratios of Organic Acid and Oxidizing Agent</i>
	2_4-0051	Mr Maksym PLAKHOTNYUK, Technical University of Denmark, Denmark <i>Phosphorous Doping of Nanostructured Crystalline Silicon</i>
	2_4-0053	Dr Seungkyu AHN, Korea Institute of Energy Research, South Korea <i>Development of solar cell test JIG for the performance evaluation of bifacial solar cells</i>
	2_4-0054	Mr Robert DUMBRELL, The University of New South Wales, Australia <i>Effective lifetime of full rear metallized cells by quasi-steady-state photoluminescence</i>
	2_4-0056	Dr Toshimitsu MOCHIZUKI, National Institute of Advanced Industrial Science and Technology (AIST), Japan <i>Evaluation of Rear Surfaces of PERC Solar Cells Using Internal Quantum Efficiency Mapping</i>

PVSEC-26 Full Technical Programme, Posters
(as of 22 October 2016)

16:00 – 18:00 Poster session 6 Room 3711/3712/ 3713	2_4-0057	Dr Fumihiko YAMADA, Toyota Technological Institute, Japan <i>Development of an AFM/KFM System Capable of Local workfunction Mapping of Solar Cells under Light Illumination</i>
	2_4-0060	Dr Fa-Jun MA, University of New South Wales, Australia <i>Advanced evaluation of surface passivation nonuniformity from photoluminescence imaging of undiffused lifetime samples</i>
	2_4-0062	Dr Anon NAMIN, Rajamangala University of Technology Lanna, Thailand <i>Study of Capacitance –frequency Characteristics of Multi–crystalline Photovoltaic Cell using Intensity Modulation Current Transfer Function Spectroscopy</i>
	2_4-0064	Prof Der-Ray HUANG, National Dong Hwa University, Taiwan <i>The Characteristics of Solar Cell Modules Affected by Different Vibrating Testing Conditions</i>
	2_4-0071	Mr Yu-Yan HU, National Sun Yat-Sen University, Taiwan <i>PERC Solar Cell with Local Cover Thin-Film Heterojunction</i>
	2_4-0072	Mr Srinivasan MANICKAM, SSN college of Engineering, India <i>Numerical modeling on influence of dimensionless numbers on second phase impurities SiC, Si₂N₂O and Si₃N₄ in grown mc-silicon by modified DS furnace for PV applications</i>
18:00 – 18:30 Room 3711/3712/3713	Poster removal (Area 2, 4 & 5)	