A Project to Honor Her Royal Highness Princess
Maha Chakri Sirindhorn on the Auspicious Occasion of
Her Royal Highness's 70th Birthday Anniversary on the 2nd April 2025

PROGRAM BOOKLET

INTERNATIONAL PVSEC-36

การประชุมวิชาการนานาชาติ เรื่อง เซลล์แสงอาทิตย์ ครั้งที่ 36

The 36th International Photovoltaic Science and Engineering Conference

November 9-14, 2025
Chulalongkorn University,
Bangkok, Thailand
https://www.pvsec-36.com

A Project to Honor Her Royal Highness Princess Maha Chakri Sirindhorn on the Auspicious Occasion of Her Royal Highness's 70th Birthday Anniversary on the 2nd April 2025

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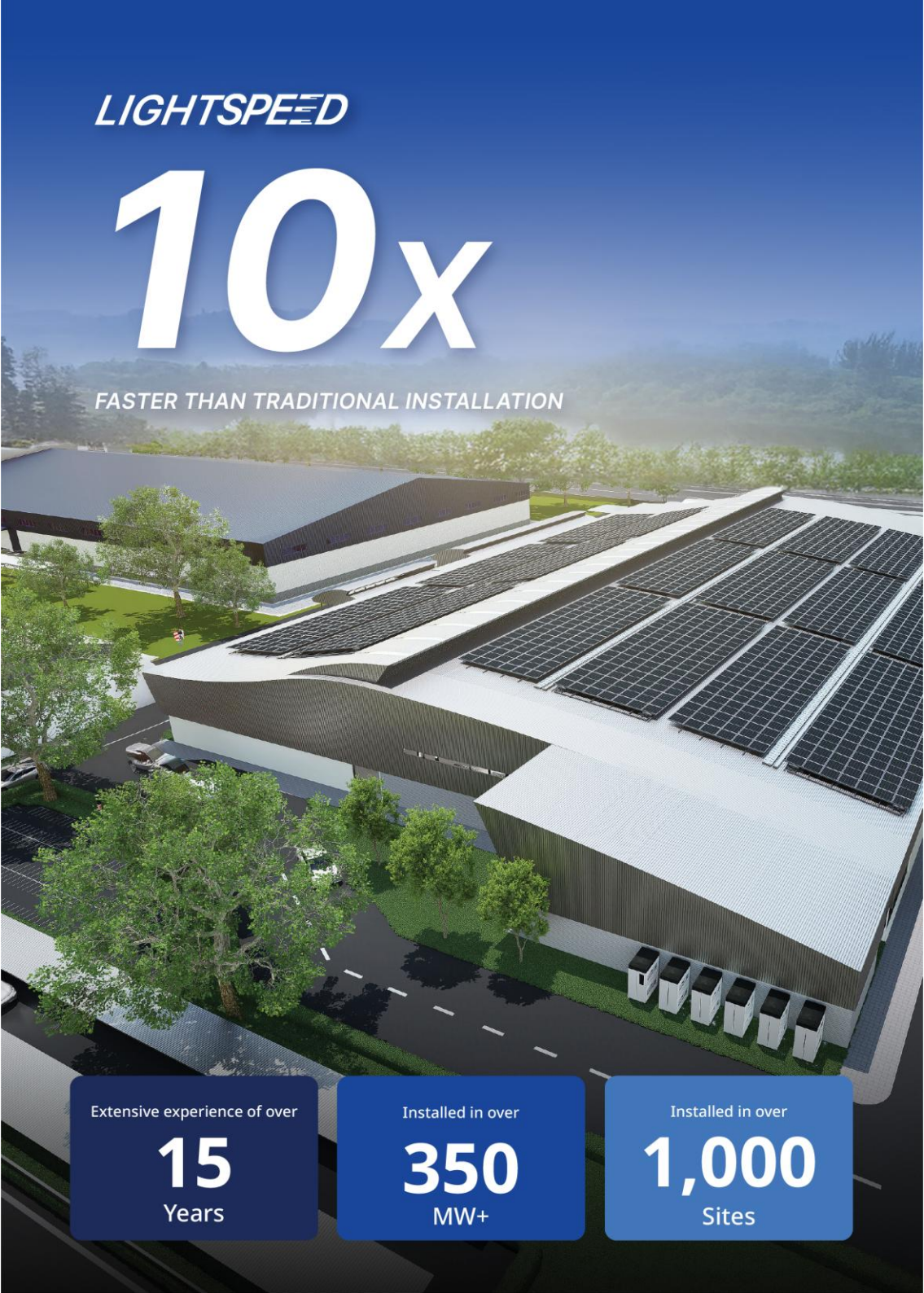

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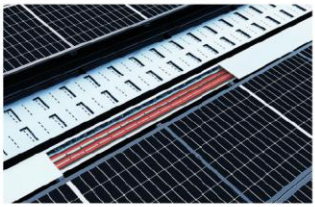

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บริการใบเสร็จรับเงิน/ใบกำกับภาษี (e-Receipt/e-Tax Invoice)
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มาสะสม MEA Point เพื่อรับสิทธิพิเศษมากมาย
MEA Point
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สมัครเลย รับทันที 500 Points
ขอรับ e-Bill รับเพิ่ม 500 Points
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Metropolitan Electricity Authority
การไฟฟ้านครหลวง MEA
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What standards we provide:

IEC61215/IEC61730

1. Performance at STC / Maximum power determination (1,000 W/m^2, 25°C)
2. Measurement of temperature coefficients (1,000 W/m^2, 25°C - 55°C)
3. Performance at NMOT (800 W/m^2 , NMOT)
4. Performance at low irradiance (200 W/m^2 , 25°C)

IEC61853: Power and Energy rating

1. Performance at STC/Maximum power determination (1,000 W/m^2, 25°C)
2. Performance at NMOT (800 W/m^2 , NMOT)
3. Performance at low irradiance (200 W/m^2 , 25°C)
4. High temperature conditions (1,000 W/m^2, 75°C)
5. Low temperature conditions (500 W/m^2 , 15°C)

Contact Us

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Mobile: 096-979-9515
Email: Jiraprabha.k@bgrimmpower.com

Khun Pisith Sophonnarin
Mobile : 089-610-6842
E-mail : Pisith.sop@egco.com

CSSC
Dr. Dhirayut Chenvidhya
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105 projects

in Thailand and Vietnam

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T-VER

GCC

VCS

OUR BUSINESS

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As a trader, we source Renewable Energy Certificates (RECs) and Carbon Credits from various partners and offer them to clients at competitive prices.

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CKPower is committed to advancing renewable energy security, preserving ecological balance, protecting the environment, and creating value for communities and society.

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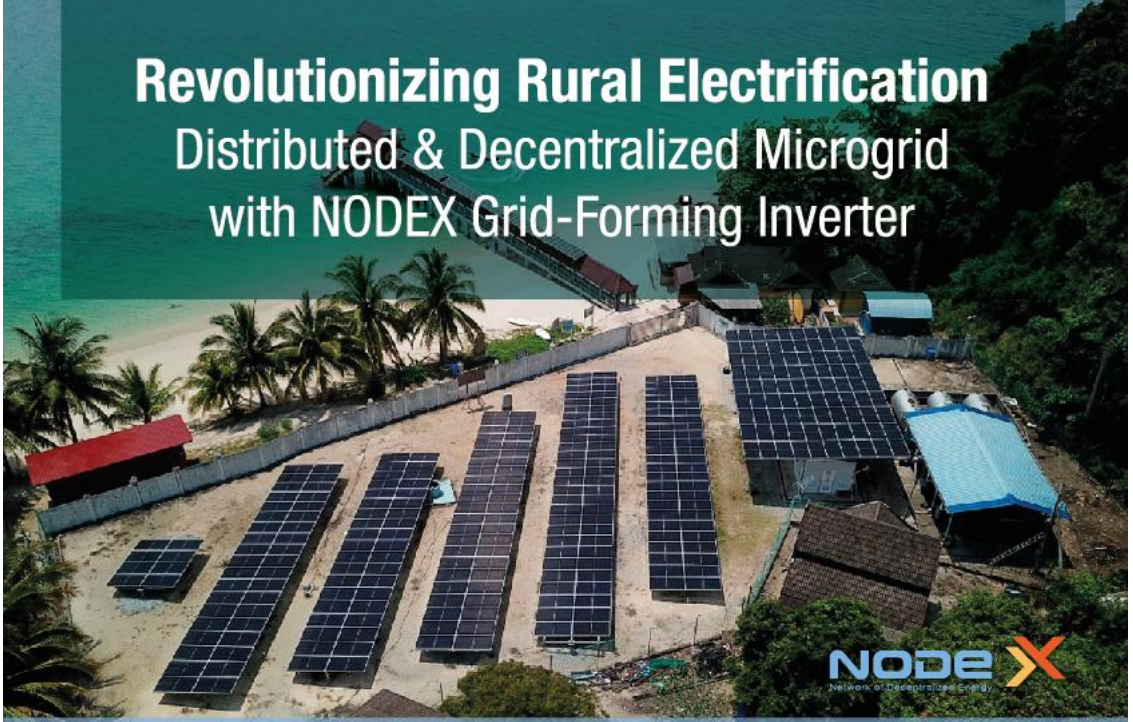

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- Scalable & Resilient – Parallel operation up to 400 m apart, fault-tolerant and easy to deploy.
- Proven Stability – Voltage ±1.5%, Frequency <0.2 Hz in real-world tests.

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- >75% CAPEX Savings – Smaller cables & reduced infrastructure.
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- Minimize diesel use
- Empower rural schools & Island communities

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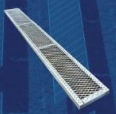
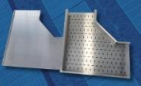


Walkway



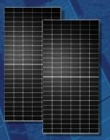
Cable Tray

Guardrail

Solar Carport

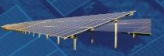
Inverter

Battery



Solar Panel

L-ROOF



Solar Farm

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Solar Cell

One Stop Solar Cell

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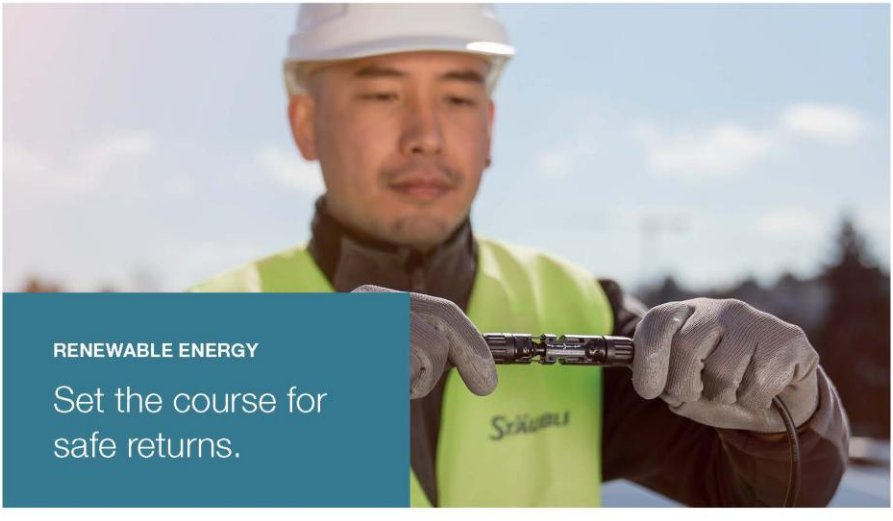

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Energizing Our Green DNA

10 Years of BCPG
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We believe that "Green DNA"
- a code of responsibility to the planet -
lives within all of us.

For the past decade, we have generated clean energy
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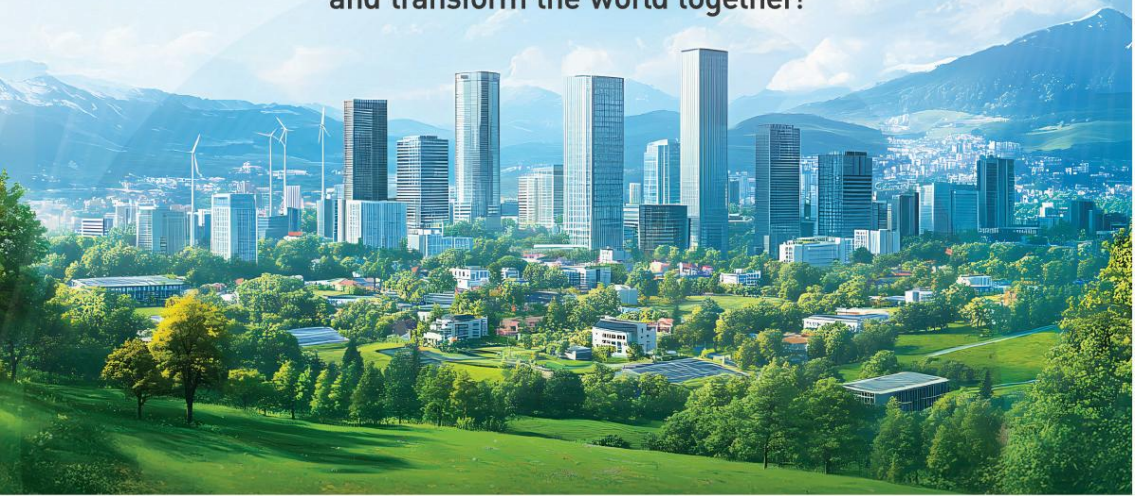
where humanity and nature coexist in harmony.

Our new decade is a defining moment to turn
every small action into a powerful movement for a greener world.

Let's awaken your Green DNA
and transform the world together!



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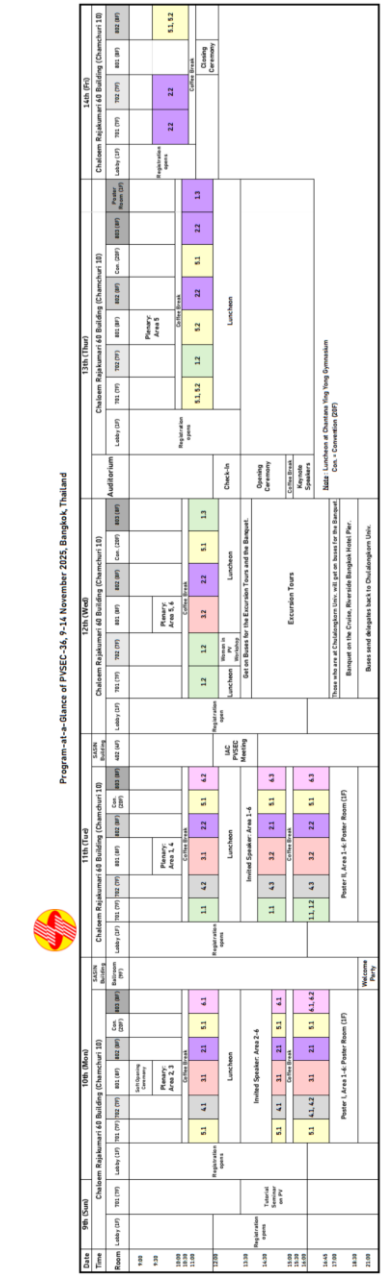


PROGRAM-AT-A-GLANCE OF PVSEC-36

Date	9th (Sun)		10th (Mon)							
Time	Chaloem Rajakumari 60 Building (Chamchuri 10)									SASIN Building
Room	Lobby (1F)	701 (7F)	Lobby (1F)	701 (7F)	702 (7F)	801 (8F)	802 (8F)	Con. (20F)	803 (8F)	Ballroom (9F)
9:00						Soft Opening Ceremony				
9:30						Plenary: Area 2, 3				
10:00										
10:30				Coffee Break						
11:00				5.1	4.1	3.1	2.1	5.1	6.1	
12:00			Registration opens	Luncheon						
13:30	Registration opens	Tutorial Seminar on PV		Invited Speaker: Area 2-6						
14:30				5.1	4.1	3.1	2.1	5.1	6.1	
15:00				Coffee Break						
15:30				5.1	4.1, 4.2	3.1	2.1	5.1	6.1, 6.2	
16:00										
16:45				Poster I, Area 1-6: Poster Room (1F)						
17:00										
18:30										
21:00										Welcome Party

Note : Luncheon at Chantana Ying Yong Gymnasium
Con. = Convention (20F)

PROGRAM-AT-A-GLANCE OF PVSEC-36

Date	11th (Tue)							
Time	Chaloem Rajakumari 60 Building (Chamchuri 10)							SASIN Building
Room	Lobby (1F)	701 (7F)	702 (7F)	801 (8F)	802 (8F)	Con. (20F)	803 (8F)	402 (4F)
9:00								
9:30				Plenary: Area 1, 4				
10:00								
10:30		Coffee Break						
11:00		1.1	4.2	3.1	2.2	5.1	6.2	
12:00	Registration opens	Luncheon						IAC PVSEC Meeting
13:30		Invited Speaker: Area 1-6						
14:30		1.1	4.3	3.2	2.1	5.1	6.3	
15:00		Coffee Break						
15:30								
16:00		1.1, 1.2	4.3	3.2	2.2	5.1	6.3	
16:45								
17:00		Poster II, Area 1-6: Poster Room (1F)						
18:30								
21:00								

Note : Luncheon at Chantana Ying Yong Gymnasium
Con. = Convention (20F)

PROGRAM-AT-A-GLANCE OF PVSEC-36

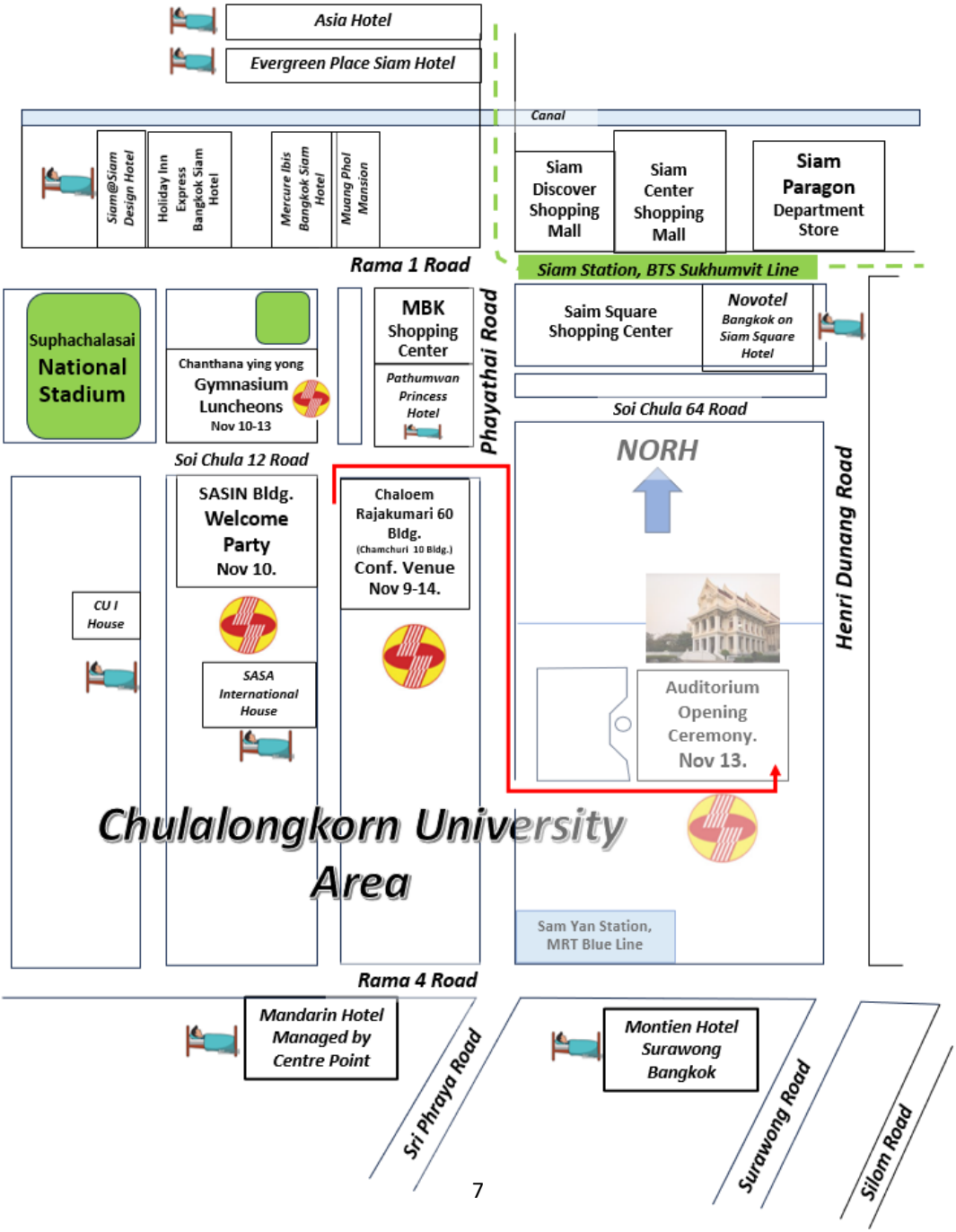
<table>
<tr><td>Date</td><td colspan="7">12th (Wed)</td></tr>
<tr><td>Time</td><td colspan="7">Chaloem Rajakumari 60 Building (Chamchuri 10)</td></tr>
<tr><td>Room</td><td>Lobby (1F)</td><td>701 (7F)</td><td>702 (7F)</td><td>801 (8F)</td><td>802 (8F)</td><td>Con. (20F)</td><td>803 (8F)</td></tr>
<tr><td>9:00
9:30
10:00
10:30
11:00</td><td rowspan="5">Registration open</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Plenary: Area 5, 6</td><td></td><td></td><td></td></tr>
<tr><td colspan="6">Coffee Break</td></tr>
<tr><td></td><td>1.2</td><td>1.2</td><td>3.2</td><td>2.2</td><td>5.1</td><td>1.3</td></tr>
<tr><td>12:00</td><td>Luncheon</td><td>Women in PV Workshop</td><td colspan="4">Luncheon</td></tr>
<tr><td>13:30</td><td colspan="6">Get on Buses for the Excursion Tours and the Banquet.</td></tr>
<tr><td>14:30
15:00
15:30
16:00</td><td colspan="6" rowspan="2">Excursion Tours</td></tr>
<tr><td>16:45</td><td rowspan="3"></td></tr>
<tr><td>17:00</td><td colspan="6">Those who are at Chulalongkorn Univ. will get on buses for the Banquet.</td></tr>
<tr><td>18:30</td><td colspan="6">Banquet on the Cruise, Riverside Bangkok Hotel Pier.</td></tr>
<tr><td>21:00</td><td colspan="6">Buses send delegates back to Chulalongkorn Univ.</td></tr>
<tr><td colspan="8">Note : Luncheon at Chantana Ying Yong Gymnasium
Con. = Convention (20F)</td></tr>
</table>

PROGRAM-AT-A-GLANCE OF PVSEC-36

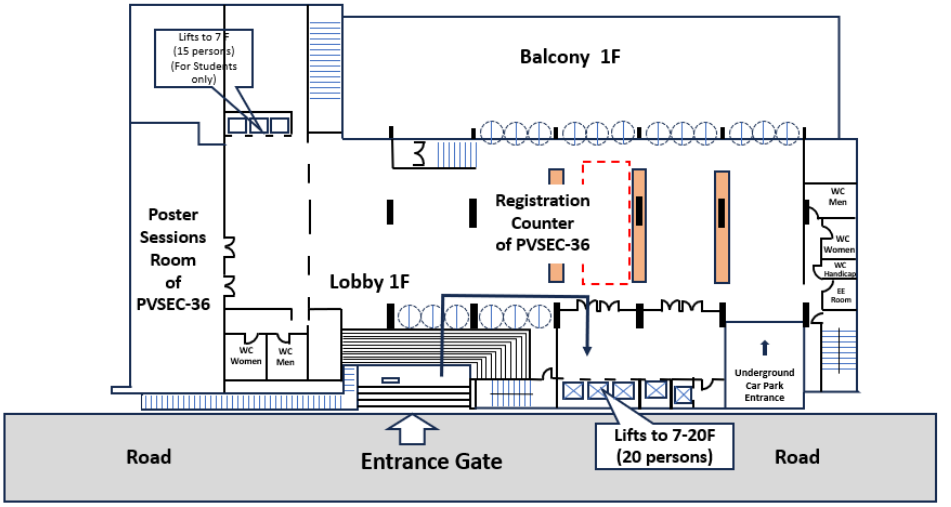
Date	13th (Thur)								
Time	Auditorium	Chaloem Rajakumari 60 Building (Chamchuri 10)							
Room		Lobby (1F)	701 (7F)	702 (7F)	801 (8F)	802 (8F)	Con. (20F)	803 (8F)	Poster Room (1F)
9:00		Registration opens			Plenary: Area 5				
9:30									
10:00			Coffee Break						
10:30									
11:00			5.1, 5.2	1.2	5.2	2.2	5.1	2.2	1.3
12:00	Check-In		Luncheon						
13:30	Opening Ceremony								
14:30									
15:00	Coffee Break								
15:30	Keynote Speakers								
16:00									
16:45	Note : Luncheon at Chantana Ying Yong Gymnasium								
17:00	Con. = Convention (20F)								
18:30									
21:00									

Date	14th (Fri)				
Time	Chaloem Rajakumari 60 Building (Chamchuri 10)				
Room	Lobby (1F)	701 (7F)	702 (7F)	801 (8F)	802 (8F)
9:00	Registration opens				
9:30		2.2	2.2		5.1, 5.2
10:00					
10:30					
11:00		Coffee Break			
12:00				Closing Ceremony	

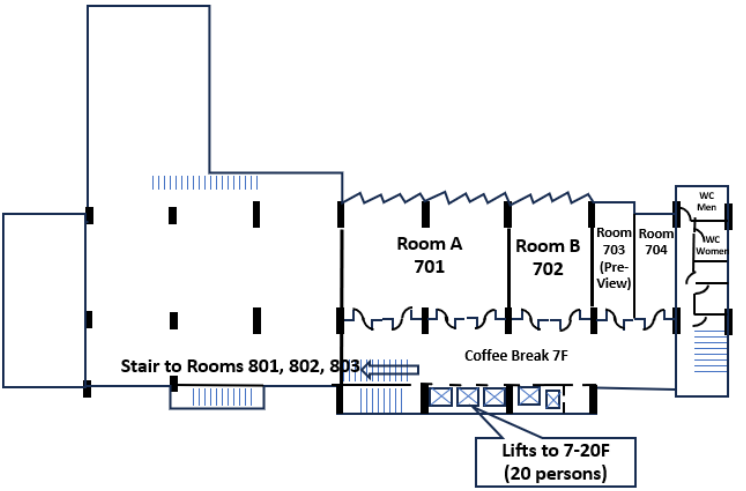
MAP OF CONFERENCE VENUE (CHUALALONGKORN UNIVERSITY



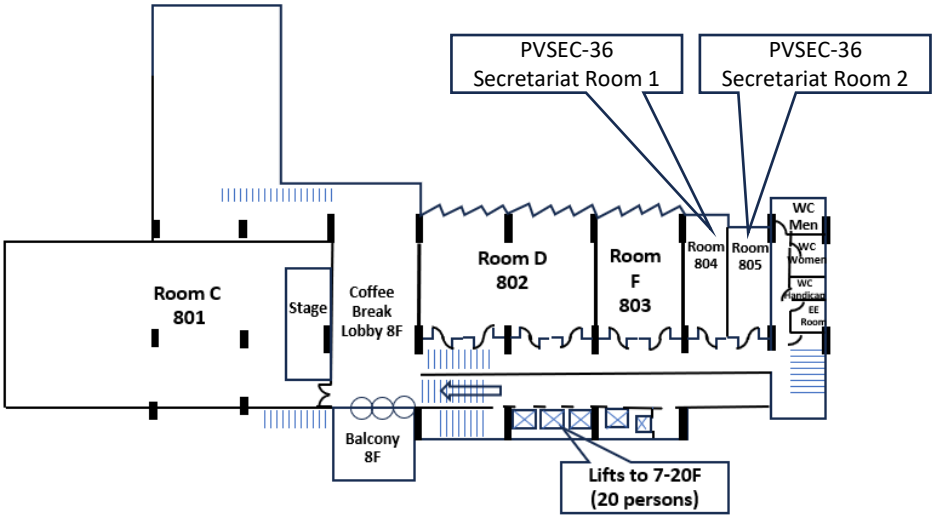
FLOOR PLANS OF MAIN CONFERENCE BUILDING



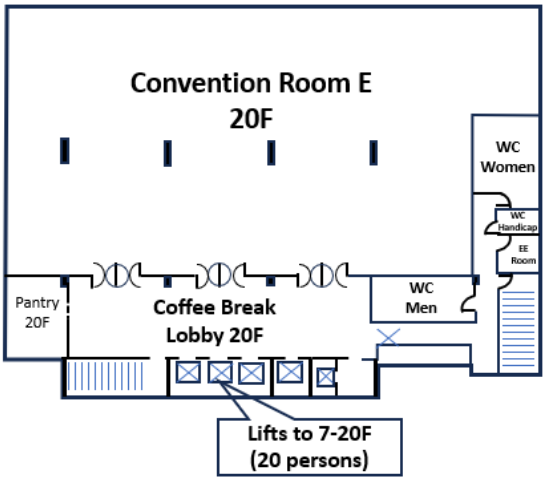
Floor Plan, 1st Floor (1F), Chaloem Rajakumari 60 Bldg. (Chamchuri 10)



Floor Plan, 7th Floor (7F), Chaloem Rajakumari 60 Bldg. (Chamchuri 10)

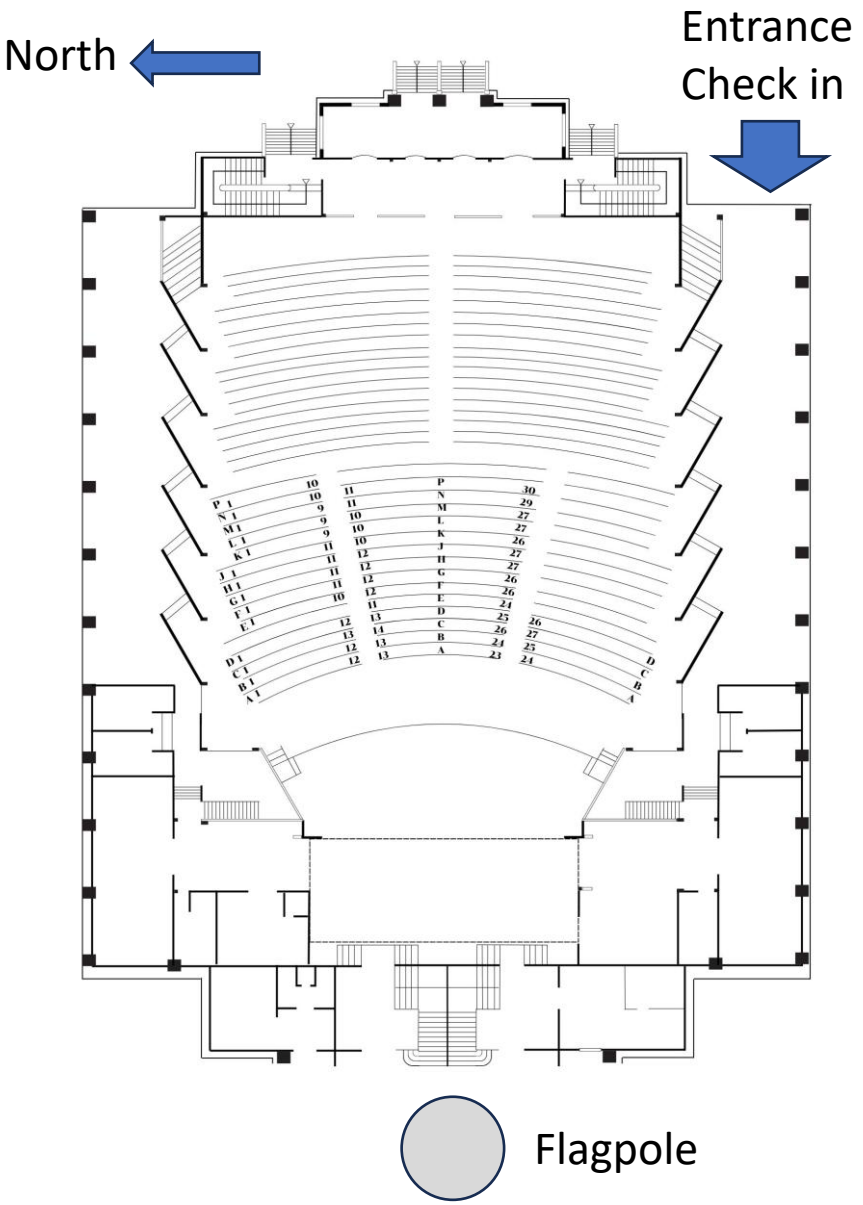


Floor Plan, 8th Floor (8F),
Chaloem Rajakumari 60 Bldg. (Chamchuri 10)
(Please take the lift to the 7th Floor.)



Floor Plan, 20th Floor (20F),
Chaloem Rajakumari 60 Bldg. (Chamchuri 10)

FLOOR PLAN OF OPENING CEREMONY HALL (AUDITORIUM, CHULALONGKORN UNIVERSITY)



Auditorium, Chulalongkorn University
(Opening Ceremony Hall)

Chaloem Rajakumari 60 Building (Chamchuri 10 Building),
Chulalongkorn University (Conference Venue)

MESSAGE FROM THE GENERAL CHAIR

Prof. Dr. Dusit Kruangam
Thai Photovoltaic Industries Association (TPVA)

On behalf of the Organizing Committee, I would like to welcome you to participate in the 36th International Photovoltaic Science and Engineering Conference (PVSEC-36), which will be held at Chulalongkorn university, Bangkok, Thailand, from 9th to 14th in November 2025. The Conference is of particular significance to the Thai community as it will be organized as "A Project to Honor Her Royal Highness Princess Maha Chakri Sirindhorn on the Auspicious Occasion of Her Royal Highness's 70th Birthday Anniversary on the 2nd April 2025". HRH Princess Maha Chakri Sirindhorn will preside over the Opening Ceremony and present the PVSEC Awards on the 13th November 2025

PVSEC-36 will provide an excellent platform for the world's photovoltaic scientists and engineers to showcase and share the latest developments in solar PV technologies. It is my great pleasure to chair this PVSEC-36 Conference which will stimulate worldwide awareness of solar electricity in improving the quality of life.

You can expect traditional Thai atmosphere, a tropical country, from the welcome party, the banquet party on cruise along the Chao-pra-ya river, and throughout the Conference. I wish you would enjoy the Conference and bring your spouses who will be able to join our excursion programs. The PV community in Thailand is relatively small. However, we will do our best to share with you our knowledge and experience in the PV technology.

Sincerely Yours,

Prof. Dr. Dusit Kruangam
General Chair,
PVSEC-36 Organizing Committee,
Bangkok, Thailand

MESSAGE FROM THE PROGRAM CHAIR

Dr. Krissanapong Kirtikara
King Mongkut's University of Technology Thonburi, and Kasetsart University.

Dear distinguished Guests, Colleagues, and Friends,

On behalf of the Organizing Committee, it is our great honor and pleasure to welcome you to the **36th International Conference on Photovoltaic Science and Engineering Conference (PVSEC-36)**, held from November 9 to 14, 2025 in the vibrant city of **Bangkok, Thailand**.

PVSEC-36 continues its tradition as one of the leading global platforms for the exchange of knowledge, ideas, and innovations in photovoltaic science, technology, and engineering. This year's conference brings together over 500 registered participants and more than 470 papers from researchers, industry leaders, academics, and policymakers around the world to explore the latest developments and future trends in photovoltaic science and technology.

We have arranged a rich and intense program of keynote speakers, technical sessions, poster presentations, and workshops during these 6 days. Whether your expertise lies in materials, devices, systems, or policy, PVSEC-36 is a unique opportunity to connect, learn, inspire one another, and be reminded of the importance of collaboration in driving forward clean energy solutions towards a better future.

We are especially delighted to host this event in Thailand, a country actively investing in renewable energy and playing an increasingly important role in the global clean energy transition. We hope you will also take some time to enjoy the hospitality, culture, and culinary delights that Bangkok has to offer.

Thank you for joining us and for your continued contributions to the photovoltaic community. We wish you a productive, engaging, and enjoyable conference experience

Warmest regards,

Dr. Krissanapong Kirtikara
Program Chair,
PVSEC-36 Organizing Committee,
Bangkok, Thailand

AWARDS

The recipients of the following Awards will receive the Awards from HRH Princess Maha Chakri Sirindhorn during the Opening Ceremony of PVSEC-36 on Thursday November 13, 2025 at Chulalongkorn University Auditorium.

PVSEC Special Award is accorded to a person or group who has been contributing a great deal in any one of the following PV fields; growth of photovoltaic industrial technology, public policy-making, revolution, international activities, international standardization, human resource development, educational activities, dissemination activities. For the PVSEC-36, three recipients will be selected by the PVSEC-36 Award Committee according to nominations.

PVSEC Award is accorded to a person who has been devoting himself to the progress of photovoltaic science and engineering for many years. For the PVSEC-36, three recipients will be selected by the PVSEC-36 Award Committee according to nominations.

PVSEC Young Scientist Award is presented for an individual at the age of up to 50 years old, who has outstanding contribution to the development of photovoltaic science and technology. For the PVSEC-36, three recipients will be selected by the PVSEC-36 Award Committee according to nominations.

Hamakawa Award is named in honor of Professor Yoshihiro Hamakawa of Osaka university, a founder of the photovoltaic community in Japan and the Asia/Pacific PV Conference (PVSEC). The purpose of the award is to recognize scientists and engineers who have made outstanding research and technological accomplishment, and creativity of PV energy conversion (new concepts, new materials and new devices. For the PVSEC-36, two recipients will be selected by the PVSEC-36 Award Committee according to nominations.

PVSEC Special Award

The PVSEC Special Award 2025 will be presented to:

Dr. Krissanapong Kirtikara

Dr. Krissanapong Kirtikara works in the fields of Thai education, human resources, science and technology, gifted education in science, multiple intelligences, and equity. His current positions include Chairman of the Kasetsart University Council, Chairman of the Thepsatri Rajabhat University Council, Chairman of the Princess Maha Chakri Award Foundation, Member of the Council of State; Trustee of the Thai Red Cross, and Chairman of the Knowledge Network Institute of Thailand.

He was awarded a Royal Prize by His Majesty King Bhumibol of Thailand in 1964 for ranking first in the Thailand National Examination for secondary school students. In 1965, he received a UK government scholarship to study at the University of Glasgow, where he graduated with a Bachelor of Engineering (First Class Honours) in 1969, followed by a Doctoral Degree in 1973. During his studies, he received several awards, including the Gold Medal for First Class Honours, the George-Young Bursary in both 1966 and 1967, and the Grey-Law and Watt Scholarship (1972).

His professional experience and past administrative positions include: President of King Mongkut's University of Technology Thonburi (1998–2006); Chairman of Mahidol Wittayanusorn School (MWIT), Thailand's national school for the gifted in science (2001–2009); Secretary-General of the Higher Education Council (2006–2007); Chairman of Rajamangala University of Technology Lanna (2006–2015); Deputy Minister of Education (2014–2015); Chairman of the Thailand Research Fund (2018–2020); Chairman of the National Committee on the 20-Year Strategic Plan on Human Resources (2017–2021); and Advisor to Prime Minister Prayuth Chan-o-cha, as well as to various Ministers of Education and Ministers of Science and Technology.

In research and academic work, Dr. Krissanapong received the Outstanding Researcher of the Year Award (Engineering and Industrial Research) from the National Research Council of Thailand (1997), the ASEAN Meritorious Award for Science and Technology (1995), and a Distinguished Fellowship from the Petroleum Institute of Thailand (2009). He has been conferred five Honorary Doctoral Degrees—three in Engineering and two in Education.

Dr. Krissanapong continues to be actively engaged in teaching and research. His technical research focuses on solar cells, energy, and policy studies, while his policy interests cover human resources and education, science and technology innovation, education for both the gifted and the underprivileged, equity, and poverty reduction. He regularly participates in field research and applied studies.

PVSEC Special Award

The PVSEC Special Award 2025 will be presented to:

Assoc. Prof. Dr. Wattanapong Rakwichian

Assoc. Prof. Wattanapong Rakwichian, PhD, has been an enthusiastic participant and key leader in the renewable energy sector, most notably in solar energy, in Thailand and the ASEAN region for more than 40 years. He is the founder of the largest solar energy park in Asia at the School of Renewable Energy Technology (SERT), Naresuan University, Phitsanulok. He established the first MSc and PhD programs in renewable energy in Thailand. He also launched the first and largest 8 MW solar farm under the Solar Farm Promotion Adder Program, supported by The Ministry of Energy, Thailand. In 2010, he developed the School of Energy and Environment, University of Phayao, where he introduced the first PhD program in Smart Grid Technology in Asia. Dr. Wattanapong later returned to SERT and rebranded it as the School of Renewable Energy and Smart Grid Technology (SGtech), where he established the second MSc and PhD program in smart grid technology in Thailand. Dr. Wattanapong was also the project leader at the National Energy Trading Platform of Thailand's State Power Enterprise (EGAT, MEA and PEA). Additionally, he served in the working group for Infrastructure, Transportation and Energy under of the National Economic Social Advisory Council, tasked with the responsibility of providing direct advice to the Prime Minister of Thailand.

His academic background is a BEd In Physics from the College of Education at Naresuan University, an MSc in Physics from Chiang Mai University, and a PhD in renewable energy from Tokyo University of Agriculture, Japan. In addition, he attended advance specialized studies in solid state physics and photovoltaics at ICTP (Italy), DLR (Germany), and PSA (Spain), as well as in microgrids at the University of Hawaii, USA, and in solar energy technology at Tsing Hua University, China.

Currently, at 77 years old, he is still working at Chiang Mai Rajabhat University, adiCET- ASGC (ASEAN Smart Grid Congress) and the Smart Microgrid Excellence Center, which is a prominent organization in ASEAN smart grid development. Dr. Wattanapong also has a parallel background as an academic professor and performs a range of administrative functions, and is active with the government's energy agency committee. He has extensive experience in international cooperation, such as in ASEAN-EU and ASEAN-APEC relations and in the United Nations (UN-ESCAP) Expert Group on Energy.

PVSEC Special Award

The PVSEC Special Award 2025 will be presented to:

Professor Dr. Dusit Kruangam

Professor Dusit Kruangam was born in 1958 in Had Yai, Thailand. He earned a doctoral degree in electrical engineering from Hamakawa Laboratory, Osaka university, Japan, in 1988 for his thesis titled "Characterizations of hydrogenated amorphous silicon carbide alloys and their applications to optoelectronic devices". In 1988 he returned to Thailand and worked at the Department of Electrical Engineering, Faculty of Engineering, Chulalongkorn University, Bangkok. He received several awards for his research works on amorphous silicon alloy solar cells and visible thin film light emitting diodes, including the Young ASEAN Scientist and Technologist Award, as well as the Outstanding Researcher Award from the National Research Council of Thailand. He has co-authored three English textbooks and is an author of eight Thai text books on solar cells and optoelectronic devices. He has published more than fifty papers in international journals and conferences, and one hundred papers at domestic conferences. He held two international patents on amorphous semiconductor devices.

From 2005 until 2009, Professor Dusit relocated from his university to the private sectors, where he was in charge of the mass production of silicon solar cells and modules. In 2009, he established his own company called Thai Solar Future Co., Ltd., providing services in design and installation (EPC) of PV systems in Thailand. In 2010, he founded the Thai Photovoltaic Industries Association (TPVA) and served as the first chairman of TPVA for ten years. Currently, he is the honorary chairman of TPVA. In 2004, Professor Dusit served as the secretary general of the organizing committee of the international PVSEC-14 conference in Bangkok, Thailand. During 2014 - 2020, he was appointed by the Prime Minister of Thailand as a member of the National Reform Committee on Energy. In 2025, he is the General Chairman of the International PVSEC-36, 2025, held in Bangkok, Thailand. Professor Dusit received Royal Thai Orders and Decorations from His Majesty the King Bhumibol Adulyadej, as follows: in 2010 Knight Grand Cordon (Special Class) of the Most Noble Order of the Crown of Thailand, and in 2016 Member (Second Class) of the Most Admirable Order of the Direkgunabhorn. In 2025, he serves as the chairman of the committee on publishing the book "70 Years Princess of Energy: A Book to Honor Her Royal Highness Princess Maha Chakri Sirindhorn on the Auspicious Occasion of Her Royal Highness's 70th Birthday Anniversary on the 2nd April 2025".

Throughout his career spanning over 40 years, he has made a vast number of contributions in PV development in Thailand, in both academic and industrial fields, including technology, rural development, urban development, human resources, PV industries, PV economics, PV markets, design and installation of hundreds of MWp PVs (solar roof, solar farm, solar floating), and the reform of laws and regulations regarding energy generation in Thailand.

PVSEC Award

The PVSEC Award 2025 will be presented to:

Associate Professor Dr. Nipon Ketjoy

Assoc. Prof. Nipon Ketjoy is a distinguished academic and expert in renewable energy and smart grid technology. He currently serves as the Director of the School of Renewable Energy and Smart Grid Technology (SGtech) at Naresuan University, Thailand, and as the Program Director of the M.S. and Ph.D. programs in Smart Grid Technology. He is also the former Program Director of the M.S. and Ph.D. programs in Renewable Energy. He holds a Ph.D. (Dr.-Ing.) in Electrical Engineering from the University of Kassel, Germany; an M.Sc. in Energy Technology from King Mongkut's University of Technology Thonburi; and a B.Sc. in Physics–Energy from Naresuan University, Thailand.

With over two decades of experience, Dr. Nipon has played a leading role in research, teaching, and consulting in the areas of photovoltaic systems, hybrid systems, smart grids, energy storage, and microgrid technologies. He has led or contributed to more than 100 national and international research projects, collaborating with institutions such as the New Energy and Industrial Technology Development Organization (NEDO) of Japan, Germany's agency for international cooperation (GIZ), the United Nations Development Program (UNDP), the Provincial Electricity Authority (PEA) of Thailand, and Thailand's Ministry of Energy. In addition, he has served as an advisor and consultant for government agencies, utilities, and private sector companies on photovoltaic power plants (solar farms and rooftops), smart grid policy, and demand response programs.

Dr. Nipon holds multiple patents and petty patents in solar energy technologies, has supervised numerous doctoral students over the years, and has authored over 50 Scopus-indexed publications with more than 1,000 citations. His research spans the technical, policy, and implementation aspects of renewable energy systems in Southeast Asia, particularly in Thailand.

PVSEC Award

The PVSEC Award 2025 will be presented to:

Dr. Kobsak Sriprapha

Dr. Kobsak Sriprapha received his doctoral degree in physical electronics engineering from the Tokyo Institute of Technology in 2008. His contribution to the photovoltaic (PV) area started in 1999 at the Solar Energy Technology Center (Solartec) of the National Science and Technology Development Agency (NSTDA), Thailand, where he was an assistant researcher working on the development of a thin-film silicon PV production line. His research has expanded for over 26 years involving thin film amorphous silicon solar cell fabrication, wide bandgap intrinsic amorphous silicon materials, PV system applications, evaluation of electricity generation from solar cells, and PV output forecasting.

In addition to his research on solar cell fabrication, he has collaborated with universities as well as both the public and private sectors for the support and promotion of research and its applications in PV. He is one of Thailand's foremost PV specialists who devotes himself towards promoting the scientific and engineering level of PV research. For over 13 years, he has also contributed to curriculum development and served as an instructor at CFA (Career for the Future Academy), NSTDA, for training and development of personnel in PV technology.

Currently, he is a principal researcher for the National Electronics and Computer Technology Center (NECTEC), NSTDA. Furthermore, he serves as an International Advisory Committee (IAC) member. He also serves on the committee of PVSEC-36.

PVSEC Award

The PVSEC Award 2025 will be presented to:

Dr. Dhirayut Chenvidhya

Dr. Dhirayut Chenvidhya was born in Bangkok, Thailand. He received a B.Eng. and M.Eng. in Electrical Engineering in 1993, and completed his Doctorate of Engineering in Energy Technology in 2003 at King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand.

He is currently the Director of the CES Solar Cells Testing Center (CSSC), Pilot Plant Development and Training Institute (PDTI) of King Mongkut's University of Technology Thonburi (KMUTT). CSSC is the first accredited standards testing laboratory according to ISO/IEC17025 standards for PV modules in the country. He has also been serving as the chairperson of the Technical Committee for PV systems of the Thai Industry Standards (TIS) since 2006.

His main research areas include solar cells characterization, standards testing and PV systems analysis. He has written more than 120 publications in the areas of solar cells characterization and PV systems, including a chapter in university textbooks, international journals and international conferences.

He was also a key member of the program committee of PVSEC-14, 2004, Bangkok, Thailand.

PVSEC Young Scientist Award

The PVSEC Young Scientist Award 2025 will be presented to:

Dr. Amornrat Limmanee

Dr. Amornrat Limmanee is a senior researcher at the National Energy Technology Center (ENTEC) under the National Science and Technology Development Agency (NSTDA) Thailand, where she leads a research team focused on developing tandem solar cells, PV performance and reliability assessment under tropical climatic conditions, and PV sustainability. She received her Bachelor's degree and Master's degree in Electrical Engineering from the University of Tokyo in 2005, followed by her D.Eng. in Physical Electronics from Tokyo Institute of Technology in 2008. She received the Best Poster Presentation Award at the WCPEC-6, Kyoto, Japan in 2014, and the Best Oral Presentation Award the PVSEC-35, Numazu, Japan in 2024 from the researches in the field of PV degradation. With around 20 years of experience in photovoltaic research, Dr. Amornrat's professional journey has centered around the development and performance evaluation of solar PV, with a growing focus on their long-term sustainability, life cycle impacts and policy development. She currently leads projects on end-of-life management of solar PV in Thailand, which collaborates with multi-partners including government agencies and the private sector, such as solar farm operators.

PVSEC Young Scientist Award

The PVSEC Young Scientist Award 2025 will be presented to:

Associate Professor Dr. Pongsakorn Kanjanaboos

Assoc. Prof. Pongsakorn Kanjanaboos received his B.A. in physics and economics from Washington University in Saint Louis, Missouri, USA, in 2008. He earned his Ph.D. in physics from the University of Chicago in 2013, where he investigated self-assembly, nano-mechanics, and applications of solution-processed nanoparticle films. In 2013, Dr. Pongsakorn joined the Sargent Laboratory of Electrical and Computer Engineering at the University of Toronto, Canada, as a postdoctoral fellow in order to work on solution-processed solar cells, light-emitting diodes, lasing materials, and light detectors.

At present, Dr. Pongsakorn is a faculty member and the head of the Advanced Technologies for Energy and Sustainability Laboratory at the School of Materials Science and Innovation, Faculty of Science, Mahidol University in Thailand. His current research interests include solution-processed semiconductor applications, such as perovskite solar cells and perovskite photodetectors, along with radiative cooling coating and film for heat/energy reduction in buildings and agriculture. He has a research portfolio of more than 120 international publications with over 9000 citations, and has filed 15 patent applications. He has earned numerous awards for his cutting-edge research and teaching, including the Research Publication Award from the National Research Council of Thailand (2022), the Outstanding Young Materials Researcher Award from the Materials Research Society of Thailand (2022), the Exemplary Teacher Award from Mahidol University's Faculty Senate (2023), the Mahidol University Researcher of the Year (2023 and 2024), Mahidol University Top 1% Researcher (2023 to 2025), and the Mahidol University Prize for Excellence in Research (2025).

In 2024, he founded Passi-Cool, a start-up for future radiative cooling coating, while also establishing and heading the Center for Cooling and Energy-Saving Materials, which aims to develop standards for passive cooling materials and offer reliable testing and certification services for companies with passive cooling products for the Thai market. He always enjoys his time collaborating with various undergraduate and graduate students in materials science with funding from both government agencies and the industrial sector, engaging in scientific exploration and developing various innovations with his students. His team currently includes over 20 researchers at all levels: undergraduate and graduate students, along with postdoctoral researchers and young faculty members.

PVSEC Young Scientist Award

The PVSEC Young Scientist Award 2025 will be presented to:

Dr. Rongrong Cheacharoen

Dr. Rongrong Cheacharoen received her materials science and engineering doctoral degree from Stanford university, USA, in 2018. Currently, she is an experienced-level researcher at the Metallurgy and Materials Science Research Institute of Chulalongkorn University, Thailand.

Her research interest lies on pushing perovskite solar cells towards commercialization with two aspects: low-cost ambient fabrication and stability improvement. She is one of the pioneers on the encapsulation of perovskite solar cells with a total of over 800 citations on her encapsulation papers. She is also actively involved in the global perovskite stability community and contributes to setting an international stability testing consensus for perovskite solar cells. Moreover, she develops materials for sustainable batteries and designs smart solar storage integrated systems.

She has over 30 publications and is keenly engaged in nurturing the next generation of researchers from high school, as one of her team members won YSC's regional prize on portable solar systems, and provides opportunities for international research experience at top institutions. Her ultimate goal is to push forward the United Nations' Sustainability Development Goals of SDG 7 – Affordable and Clean Energy; SDG 9 - Industry, Innovation and Infrastructure; SDG 11 - Sustainable Cities and Communities; and SDG 13 - Climate Action.

Hamakawa Award

The Hamakawa Award 2025 will be presented to:

Professor Dr. Somsak Panyakeow

Professor Somsak Panyakeow was born in Bangkok, Thailand, on January 1, 1947. He received B. Eng., M. Eng. and D. Eng. degrees, all in electrical engineering, from Osaka University, Japan, in 1969, 1971 and 1974, respectively. In 1974, he began working at the Department of Electrical Engineering, Faculty of Engineering, Chulalongkorn University, as a lecturer. He pioneered the establishment of the Semiconductor Device Research Laboratory (SDRL) at Chulalongkorn University in 1975. He was appointed to the position of Full Professor of the department in 1982. Finally, in 1992, he was promoted to Professor C11 (the highest rank).

He has been engaged in research on photovoltaic devices and systems since 1975. He was awarded by the National Research Council of Thailand (NRCT) for his solar cell research in 1979, 1981, 1982 and 1991, respectively. In 1986, he was selected as the outstanding researcher of the year by the National Research Council of Thailand for his contributions in the area of engineering and industrial research. His long research experience in laser engineering since 1970 is another of his contributions. His work on holographic identification and multiple exposure holograms won the CU Scientific Invention Awards (1st prize) in 1991 and 1993, respectively. These works were also patented in 1991 and 1993 by Chulalongkorn University. He has authored 6 books and written research articles in over 400 publications (journals, conference papers and technical reports) on solar cells, photovoltaic applications, laser engineering, optoelectronics and nanoelectronics. He was selected as the Outstanding Academician of Chulalongkorn University in 1993 and received a senior research fellowship from the National Science and Technology Development Agency (NSTDA) in 1995. His research work was recognized by the Science and Technology Award given by the Thailand Toray Science Foundation in 1996. In 2007, he was lauded again by the Thailand Toray Science Foundation and selected as an outstanding scientist of the year 2006. He has been appointed as Senior Research Scholar and Distinguished Professor by the Thailand Research Fund (TRF) since 2005 and 2011, respectively. In 2008, he was highly honored, receiving the prestigious "Dussadeemala" medal from his Majesty the King for his life-long research contribution.

His recent research work is in the area of Molecular Beam Epitaxy for quantum devices, nanoelectronics and nanophotonics as well as for the development of high-performance nanostructure solar cells. He has performed work on Quantum Nanostructure by Molecular Beam Epitaxy (MBE) since 1993. InAs/GaAs quantum dots solar cells were fabricated and tested under concentrated sunlight. He was also supported by AOARD (Asian Office of Aerospace Research and Development), US Air Force and ONRG (Office of Naval Research Global), US Navy, from 2004 to 2010, in QD solar cells/Infared Quantum Devices Projects for night vision applications. Hybrid quantum dots of type I and type II were proposed and evaluated for their PV performance, leading to a breakthrough idea to fabricate interdigitated QD Solar Cells. The latest publication in the Journal of Materials Science & Engineering in 2022 is “InSb nanowires on CdTe”, which has the potential for high performance and innovated solar cells. From 2006 until 2011, he received a grant from the Nanotec Research Fund, followed by the NSTDA (National Science and Technology Development Agency) Chair Grant (2015-2022) for his Quantum Device Project.

Hamakawa Award

The Hamakawa Award 2025 will be presented to:

Professor Dr. Vinich Promarak

Professor Vinich Promarak is currently a Professor of Chemistry at the Vidyasirimedhi Institute of Science and Technology (VISTEC), Thailand. He earned a B.Sc. in Chemistry with 1st class honors from Khon Kaen University, Thailand, in 1996, under a grant from the Development and Promotion of Science and Technology Talents Project (DPST). With the support of the Royal Thai Government, he received an M.Sc. in Polymer Science and Engineering with distinction from the University of Sheffield, England, in 1998, followed by a D.Phil. in Organic Chemistry from the University of Oxford, England, in 2002. In 2006, he also performed research at the Tokyo Institute of Technology in Japan.

Professor Vinich is currently a Professor of Chemistry at the Vidyasirimedhi Institute of Science and Technology (VISTEC), Thailand. He earned a B.Sc. in Chemistry with 1st class honors from Khon Kaen University, Thailand, in 1996, under a grant from the Development and Promotion of Science and Technology Talents Project (DPST). With the support of the Royal Thai Government, he received an M.Sc. in Polymer Science and Engineering with distinction from the University of Sheffield, England, in 1998, followed by a D.Phil. in Organic Chemistry from the University of Oxford, England, in 2002. In 2006 he also performed research at the Tokyo Institute of Technology in Japan.

Professor Vinich began his academic career at Ubon Ratchathani University in 2002. He subsequently joined Suranaree University of Technology in 2012 as an Associated Professor. He was promoted to Full Professor in 2013. In 2015, he was appointed as the first Dean of the Molecular Science and Engineering School (MSE School) at the Vidyasirimedhi Institute of Science and Technology (VISTEC). Throughout his academic journey, he was presented with many major honours and awards, including the Thailand Toray Science Foundation Research Grant (2003), Thailand's Young Scientist Award (2007), the Wiley–Chemical Society of Thailand (CST) Outstanding Publication Award (2011), the Asian Core Program Lectureship Award (2009, 2012), the TRF-CHE-Scopus Researcher Award (Chemical and Pharmaceutical Sciences) (2013), the NRCT Outstanding Research Award (2013), the TRF Outstanding Research Award (2014, 2015), the Outstanding National Researcher Award (Chemical and Pharmaceutical Science) (2016), the CST High Impact Chemist Award (2017), the TRF Senior Research Scholar (2017), Thailand's Outstanding Scientist Award (2021), the Distinguished Professor Research Grant (2022), and the Distinguished Honorary Alumnus Award 60 Years Khon Kaen University (2024).

Professor Vinich's research interests include the development of new high-tech organic and organic-inorganic materials for applications in optoelectronic devices, i.e., organic light-emitting diodes (OLEDs), dye-sensitized solar cells (DSSCs), organic solar cells (OSCs), perovskite solar cells (PSCs), organic field-effect transistors (OFETs), transparent luminescent solar concentrators (TLSCs), heterogeneous catalysts for green chemistry and biodiesel production, as well as new molecular sensors and smart sensing devices. So far, he has contributed nearly 300 peer-reviewed research papers *(h-index = 48; i10-index = 9497; 9497 citations as of August 1st, 2025)*. His research has been funded exclusively by the National Funding Agencies (TRF, NRCT, PMU-B, OHEC, NANOTEC, etc.) and public agencies (PTT, IRPC). He is currently focusing on developing the prototypes of a commercial-sized PSC and TLSC.

SOCIAL PROGRAMS

Welcome Party, November 10 (Mon)

Date: November 10 (Mon), 2025
Time: 18:00-20:00
Location: Ball Room, 9th Floor,
SASIN School of Management Building,
Opposite the Chaloem Raja Kumari 60 Building (Chamchuri 10 Building),
Chulalongkorn University
Fee: Included in the Registration Fee
Food Style: International Buffet. Vegetarian food will also be served.
Remarks:

- All registered participants and accompanying persons are invited to the welcome party. Accompanying persons are also free of charge.
- Please show your Name Badge when enter the Welcome Party.
- Thai classical dances will be performed during the Welcome Party.
- November is the month of “Loy Kra Thong Festival” (Floating Kra Thong in river Festival), a Thai famous traditional festival.
- Please enjoy the festival and dance together.

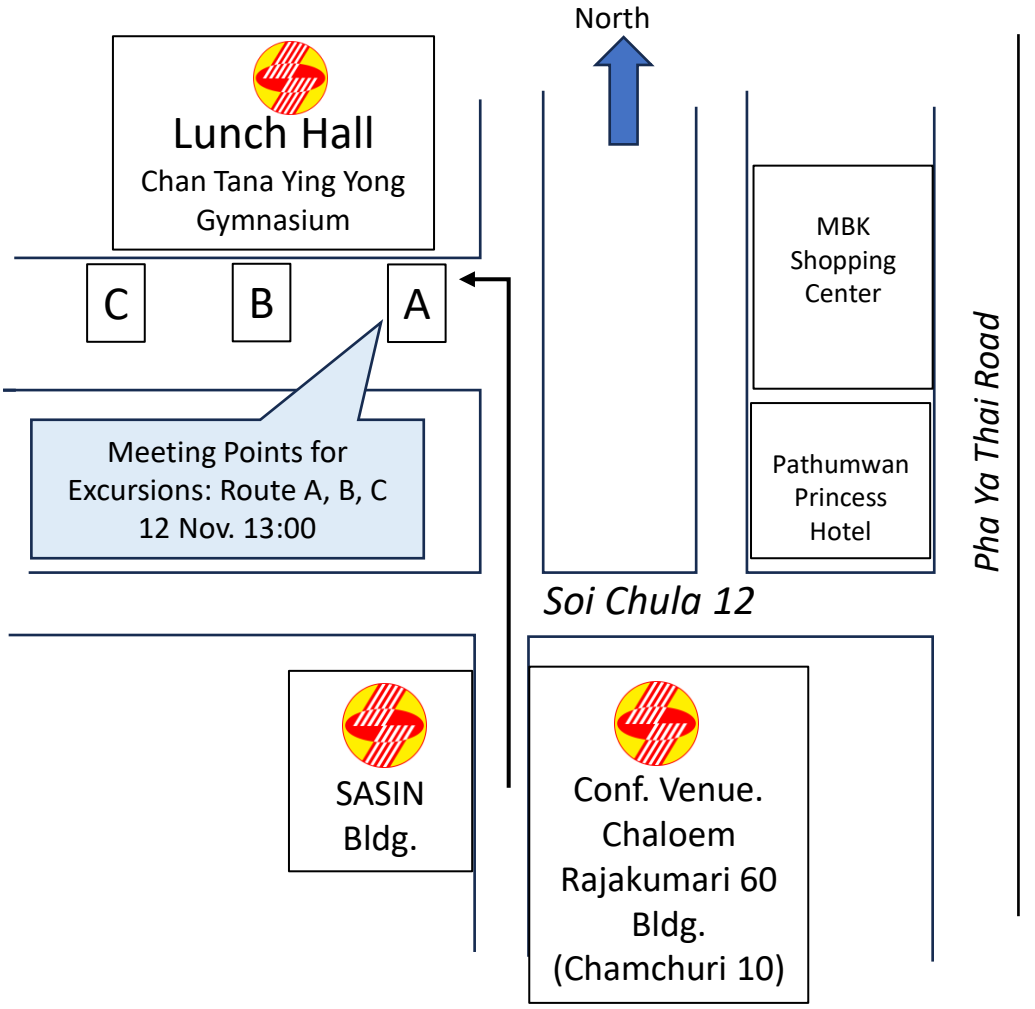
SOCIAL PROGRAMS

Excursion Tours

Date: November 12 (Wed), 2025
Time: 13:00-17:00
Location: Three Routes (Please select one)
Fee: Included in the Registration Fee
Remarks:

- Please select one route among the three routes below.
- Please note that after all the excursion tours finish, the buses will continue going to the Banquet Party venue, peer, the River Side Bangkok Hotel.
- Please make registration for your selected route on the website.
- Seats for each route are limited on first-come first-served basis.
- Professional Guide, English tour guide, wireless headphones will be arranged.
- All coach buses have insurance, safety equipment, toilet, emergency doors, polite and licensed driver, provided by SABCHAROEN TRAVEL 2007 Co., Ltd.
- We emphasize high attention on safety.

MAP OF BUS STATIONS FOR EXCURSION TOURS
November 12 (Wed), 2025, 13:00



SOCIAL PROGRAMS

Route A

Destination:	AMITA Technology (Thailand) Co., Ltd. (Thai Factory producing Lithium Ion batteries, capacity 1 GWh/year, the largest factory in south east Asia regions, subsidiary of Energy Absolute PCL.)
Address:	Bangpakong District, Chasengsao Province
Location:	https://maps.app.goo.gl/wBzmLHis4iqtyput6
Website:	https://amitathailand.co.th
Distance:	65 km from Chulalongkorn University
Travelling Time:	1 hour from Chulalongkorn university.
Number of Seats:	50 seats limited
Departure Date:	November 12 (Wed), 2025
Departure Time:	13:00 hrs.
Meeting Point:	In front of Lunch Hall, Chantana Ying Yong Gymnasium, Chulalongkorn University.

Itinerary:

13:00	*Depart from Lunch Hall, take the highway*
14:30	*Arrive at AMITA Lithium Ion Battery Factory.*
16:00	*Depart from AMITA Factory*
18:00	*Arrive at the pier, River Side Bangkok Hotel*
18:00	*Get on Cruise*
19:00	*Cruise along the Chao Phraya river.*
21:00	*Cruise arrives back at the pier*
21:15	*Get on buses*
22:00	*Arrive at Chulalongkorn University, hotels.*

Chulalongkorn University → **AMITA Factory** → **River Side Bangkok Hotel** → **Chulalongkorn University**

Photo of AMITA GWh Battery Factory

Photo of AMITA GWh Battery Factory.

SOCIAL PROGRAMS

Route B

Destination:	The Temple of the Emerald Buddha & Grand Palace (The most beautiful temple in Thailand, statue of the Emerald Buddha, 240 years old)
Distance:	7 km from Chulalongkorn University
Location:	https://maps.app.goo.gl/45DSCFE5LLH2oo6Q8
Travelling Time:	30 minutes
Number of Seats:	200 seats limited
Departure Date:	November 12 (Wed), 2025
Departure Time:	13:30 hrs.
Meeting Point:	In front of Lunch Hall, Chantana Ying Yong gymnasium, Chulalongkorn university.

Itinerary:

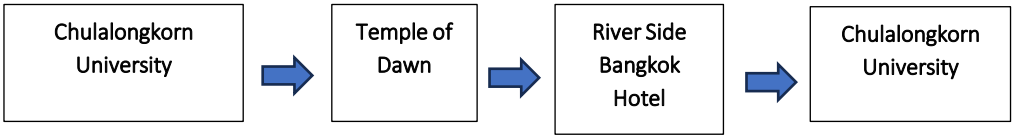
13:30	*Depart from Lunch Hall*
14:15	*Arrive at The Temple of the Emerald Buddha*
16:30	*Depart from the temple*
17:15	*Arrive at pier, River Side Bangkok Hotel, Cruise*
18:00	*Get on Cruise*
19:00	*Cruise along the Chao Phraya river*
21:00	*Cruise arrives back at the pier*
21:15	*Get on buses*
22:00	*Arrive at Chulalongkorn University, hotels*

Chulalongkorn University → **Temple of Emerald Buddha** → **River Side Bangkok Hotel** → **Chulalongkorn University**

SOCIAL PROGRAMS

Route C

Destination:	The Temple of Dawn (Wat Aroon)
	(The most beautiful pagoda in Thailand, 175 years old)
Distance:	9 km from Chulalongkorn University
Location:	https://maps.app.goo.gl/jWuCbYTxncVbaqkt6
Travelling Time:	60 minutes
Number of Seats:	100 seats limited
Departure Date:	November 12 (Wed), 2025
Departure Time:	13:30 hrs.
Meeting Point:	In front of Lunch Hall, Chantana Ying Yong gymnasium, Chulalongkorn university
Itinerary:	
13:30	*Depart from Lunch Hall*
14:30	*Arrive at The Temple of Dawn*
16:30	*Depart from the temple*
17:15	*Arrive at the pier, River Side Bangkok Hotel*
18:00	*Get on Cruise*
19:00	*Cruise along the Chao Phraya river*
21:00	*Cruise arrives back at the pier*
21:15	*Get on buses*
22:00	*Arrive at Chulalongkorn University, hotels*



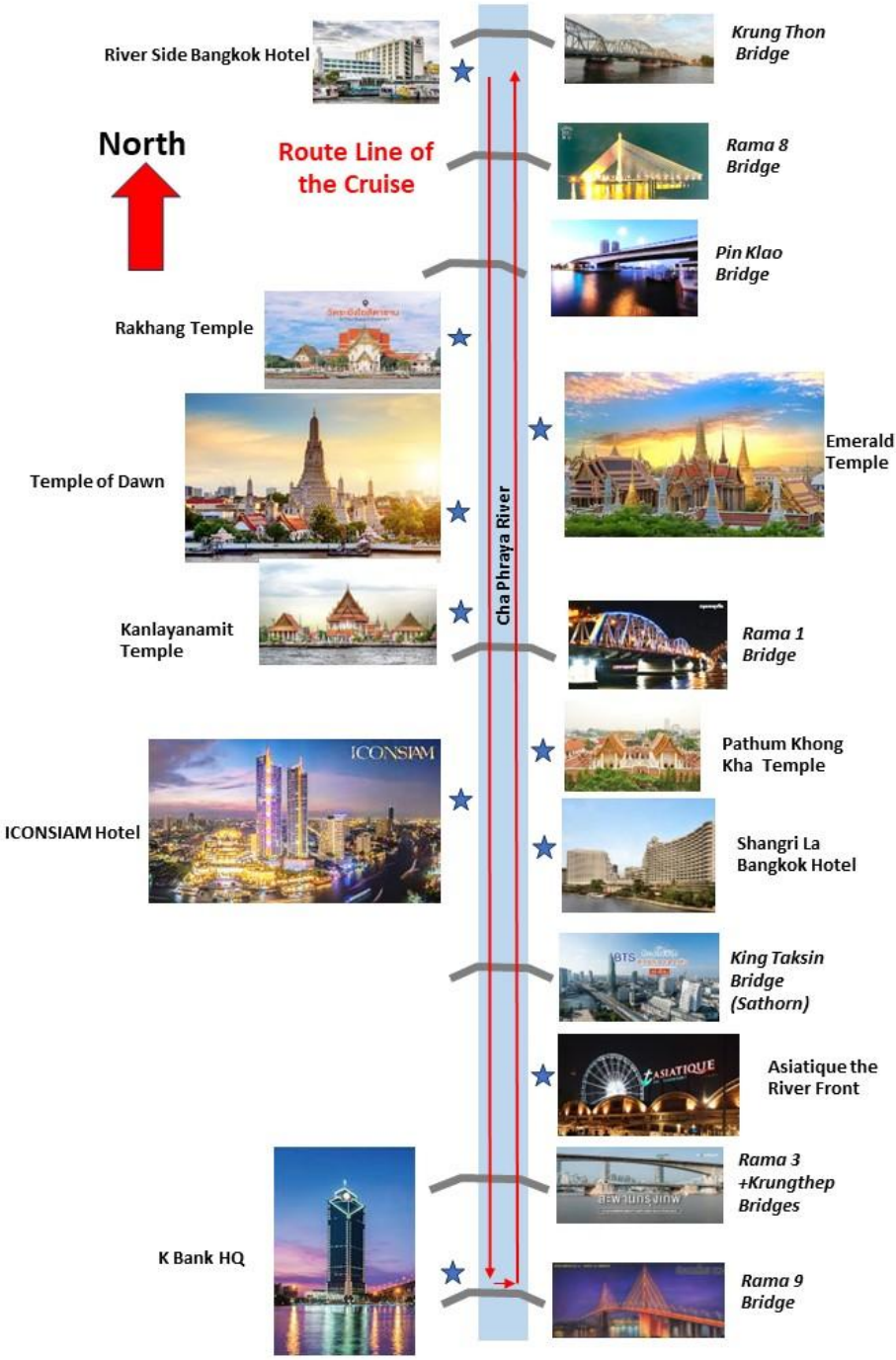
SOCIAL PROGRAMS

Banquet on Cruise, November 12 (Wed)

Date:	November 12 (Wed), 2025
Time:	19:00-21:00
Location:	Cruise, Chao Phraya River (Get on the Cruise at the pier, River Side Bangkok Hotel, near Krung Thon bridge (Sanghi bridge) Tel: 0 2883-1588. https://maps.app.goo.gl/XCNAWJxr1X7Z59vk8
Fee:	Included in the Registration Fee
Itinerary:	
18:00	*Get on Cruise, River Side Bangkok Hotel Pier*
19:00	*Cruise leaves the pier* *Eat and Drink, enjoy beautiful river bank panorama, talk to your friends,* *Welcome Speech, Thai Classical Dancing Show, Disco.*
21:00	*Cruise arrives back at the pier*
21:15	*Get on buses*
22:00	*Arrive at Chulalongkorn University, hotels*

Remarks:

- The Banquet tickets for accompanying persons are available on the first-come first-served basis at the registration desk or book in advance on the web site: www.pvec-36.com.
- Those who do not want to get on the bus from Chulalongkorn university, please proceed directly to the pier at the River Side Bangkok hotel by yourself and be sure to arrive at the pier before 18:00 hrs.
- If you have any question, Please contact the registration desk.



Cruise route on the Chao Phraya river

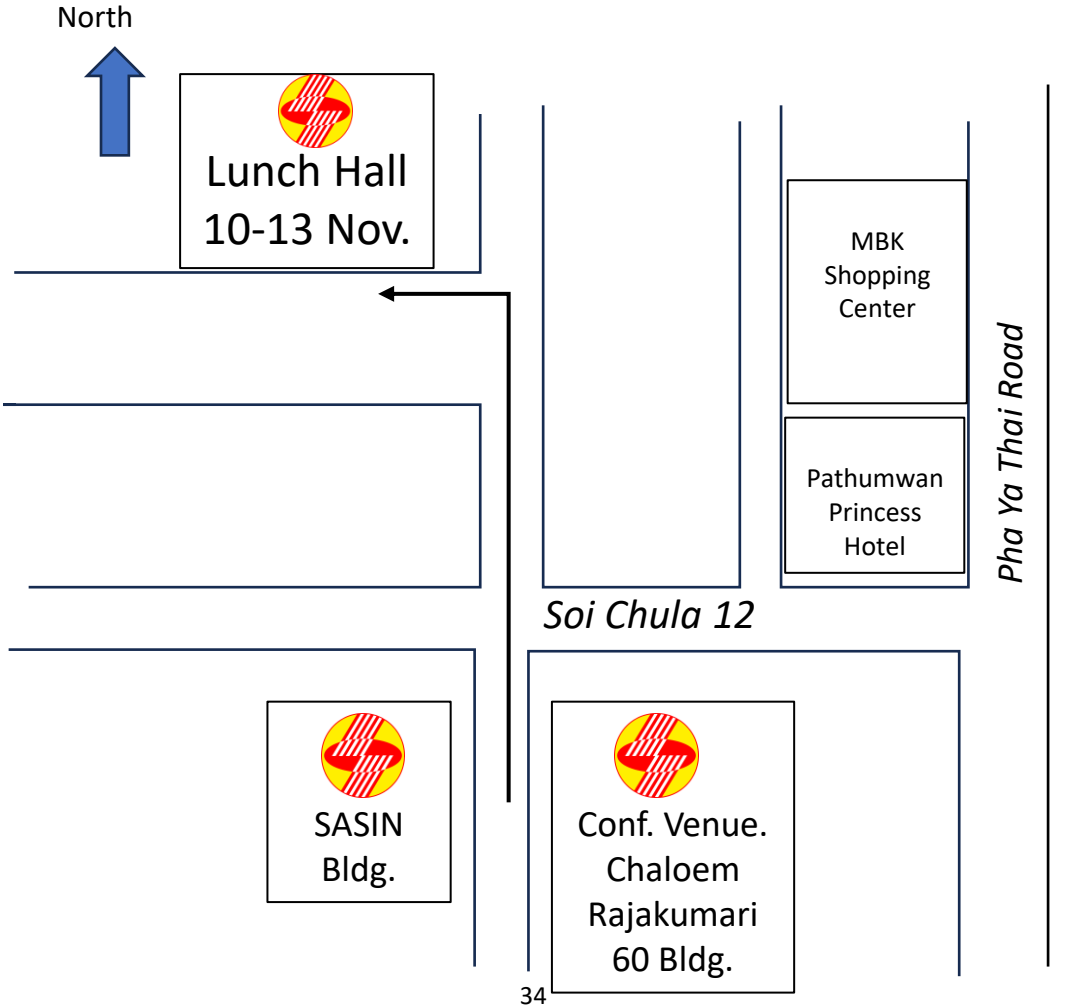
SOCIAL PROGRAMS

Daily Luncheons (November 10-13, 2025)

Date:	November 10-13
Time:	12:00-13:30
Location:	Lunch Hall, Chan-tha-na-ying-yong Gymnasium, Chulalongkorn University (2 minutes on foot from the Conference venue.)
Fee:	Included in the Registration Fee
Food Style:	International Buffet. Vegetarian food will also be served.

Remarks:

- Accompanying persons can buy tickets of lunches at the registration desks, or you can make reservation of tickets in advance on the website: www.pvsec-36.com



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Dr. Nuwong Chollacoop (ENTEC)
Dr. Kampanart Silva (ENTEC)
Representative (EPPO)
Representative (ERC)
Assoc. Prof. Dr. Yossapong Laoonual (EVAT)
Dr. Jiratkwin Rakwichian (IDEP)
Mr. Chaleomphol Sattayawuttipong (Academic Freelance)
Dr. Peerapong Pattarapanchai (Academic Freelance)
Prof. Dr. Vittaya Amornkitbamrung (KKU)
Asst. Prof. Dr. Methawee Nukunudompanich (KMITL)
Asst. Prof. Dr. Phasapon Manosukritkul (KMITL)
Asst. Prof. Dr. Kuskana Kubaha (KMUTT)
Dr. Manit Seapan (KMUTT)
Dr. Tanokkorn Chenvidhya (KMUTT)
Dr. Yaowanee Sangpongsanont (KMUTT)
Dr. Chamnan Limsakul (KMUTT)
Asst. Prof. Dr. Usa Boonbumroong (KMUTT)
Mr. Ballang Muengpinij (KMUTT)
Ms. Sugunya Pengma (KMUTT)
Assoc. Prof. Dr. Narong Mungkung (KMUTT)
Dr. Maetee Kunrugsa (KMUTT)
Asst. Prof. Dr. Sumate Naetiladdanon (KMUTT)
Dr. Roongrojana Songprakorp (KMUTT)
Assoc. Prof. Dr. Nat Kasayapanand (KMUTT)
Assoc. Prof. Dr. Anawach Sangswang (KMUTT)
Assoc. Prof. Dr. Surawut Chungchote (KMUTT)
Asst. Prof. Dr. Nopporn Rujisamphan (KMUTT)
Asst. Prof. Dr. Non Thongprong (KMUTT)

SUB-ORGANIZING COMMITTEE

Assoc. Prof. Dr. Kasemsan Manomaiphiboon (KMUTT)
Asst. Prof. Dr. Piyatida Trinuruk Kaewchinda (KMUTT)
Assoc. Prof. Dr. Tanes Tanitteerapan (KMUTT)
Asst. Prof. Dr. Pakin Maneechot (KPRU)
Dr. Saowalak Yotwinyuwong (KPRU)
Dr. Nivadee Klungsida (KPRU)
Assoc. Prof. Dr. Thidarat Supasai (KU)
Asst. Prof. Dr. Uthane Supatti (KU)
Asst. Prof. Dr. Umarin Sangpanich (KU)
Asst. Prof. Dr. Kulwadee Somboonviwat (KU)
Dr. Veerapol Monyakul (KU)
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Assoc. Prof. Dr. Chonlatee Photong (MSU)
Asst. Prof. Dr. Preecha Sriprapakhan (MSU)
Assoc. Prof. Dr. Pongsakorn Kanjanaboos (MU)
Assoc. Prof. Dr. Pasit Pakawatpanurut (MU)
Dr. Pisist Kumnorkaew (NANOTEC)
Dr. Anusit Kaewprajak (NANOTEC)
Dr. Sasiwimon Songtrai (NECTEC)
Assoc. Prof. Dr. Prapita Thanarak (NU)
Assoc. Prof. Dr. Sakda Somkun (NU)
Assoc. Prof. Dr. Chatchai Sirisamphanwong (NU)
Asst. Prof. Dr. Buntoon Wiengmoon (NU)
Asst. Prof. Dr. Yodthong Mensin (NU)
Representative (PEA)
Mr. Veeradej Tejapaibul (RE100)
Mr. Natee Sithiprasasana (REIC)
Asst. Prof. Dr. Jutturit Thongpron (RMUTL)
Asst. Prof. Dr. Worrajak Muangjai (RMUTL)
Asst. Prof. Dr. Nopporn Patcharaprakiti (RMUTL)
Asst. Prof. Dr. Teerasak Somsak (RMUTL)
Asst. Prof. Dr. Chanchai Dechthummarong (RMUTL)
Asst. Prof. Dr. Anon Namin (RMUTL)
Dr. Accarat Chaoumead (RMUTL)
Asst. Prof. Dr. Sirichai Jirawongnuson (RMUTR)
Asst. Prof. Dr. Nitikorn Silsirivanich (RMUTR)
Asst. Prof. Dr. Vittaya Puangsombat (RMUTR)
Dr. Jirasak Pukdum (RMUTR)
Dr. Pongskorn Kachapongkun (RMUTR)
Dr. Chanon Bunmeephiphit (RMUTR)
Asst. Prof. Dr. Maneerat Khemkhao (RMUTR)
Asst. Prof. Dr. Phromphak Boonraksa (RMUTSB)
Assoc. Prof. Dr. Boonyang Plangklang (RMUTT)
Asst. Prof. Dr. Atthaporn Ariyarit (RU)

Dr. Ratchadaporn Supruangnet (SLRI)
Assoc. Prof. Dr. Prasan Pankeow (SU)
Assoc. Prof. Dr. Supakij Suttiruengwong (SU)
Assoc. Prof. Dr. Worawat Meevasana (SUT)
Asst. Prof. Dr. Thipwan Fangsuwannarak (SUT)
Representative (TGO)
Mr. Chaphamon Chantarapongphan (TPVA)
Mr. Phuwadon Suntornwipart (TPVA)
Dr. PanuTanomvorsin (TPVA)
Dr. Wuthipong Suponthana (TPVA)
Mr. Chanathun Hansakwong (TPVA)
Mr. Theerasak Vongchansilp (TPVA)
Mr. Charnvit Trangadisaikul (TPVA)
Mr. Varun Sachdev (TPVA)
Ms. Unchisa Thongtiamporn (TPVA)
Ms. Sumalee Buranapornchai (TPVA)
Dr. Songpakit Kaewniyompanit (TPVA)
Mr. Somchai Rojasavastera (TPVA)
Mr. Kittisak Ngoenngokngam (TPVA)
Mr. Pairot Phanukan (TPVA)
Dr. Asadayuth Mitsiri (TPVA)
Mr. Kantanun Sukchan (TPVA)
Assoc. Prof. Dr. Pisit Maneechot (TRECA)
Asso. Prof. Dr. Jompob Waewsak (TSU)
Asst. Prof. Dr. Pachara Pholnak (TSU)
Asst. Prof. Dr. Chontira Sangsubun (TSU)
Dr. Sutthisa Konruang (TSU)
Assoc. Prof. Dr. Nopbhorn Leeprechanon (TU)
Assoc. Prof. Dr. Tanit Ruangrungchaikul (TU)
Prof. Dr. Siriporn Jungsuttiwong (UBU)
Asst. Prof. Dr. Watchara Wongpanyo (UP)
Dr. Bunyawat Vichanpol (UP)
Prof. Dr. Vinich Promarak (VISTEC)
Dr. Watcharaphol Paritmongkol (VISTEC)

13. Subcommittee on Secretary
Chair
Prof. Dr. Dusit Kruangam (TPVA)
Vice Chair
Mrs. Prathamaporn Kruangam Taweechinda (TPVA)
Members
Mrs. Pithita Kruangam Kaewniyompanit (TPVA)
Ms. Thasita Auppid (TPVA)
Ms. Thiraya Jidaphaphiphat (TPVA)
Ms. Tichalee Auppid (TPVA)

SUB-ORGANIZING COMMITTEE

Full Names of Abbreviations

BOI: Board of Investment
CMRU: Chiang Mai Rajabhat University
CMU: Chiang Mai University
CRRU: Chiang Rai Rajabhat University.
CU: Chulalongkorn University
DCCE: Department of Climate Change and Environment
DEDE: Department of Alternative Energy and Efficiency
DIW: Department of Industrial Works
EAU: Eastern Asia University
EGAT: Electricity Generating Authority of Thailand
EIT: The Engineering Institute of Thailand
ENTEC: National Energy Technology Center, NSTDA
EPPO: Energy Policy and Planning Office
OERC: Office of Energy Regulatory Commission
EVAT: Electric Vehicle Association of Thailand
IDEP: Institute For Development of Economy and Community Power
KKU: Khon Kaen University
KMITL: King's Mongkut Institute of Technology Ladkrabang
KMUTT: King Mongkut's University of Technology Thonburi
KPRU: Kamphaeng Phet Rajabhat University
KU: Kasetsart University
MEA: Metropolitan Electricity Authority
MSU: Mahasarakham University
MU: Mahidol University
NANOTEC: National Nanotechnology Center, NSTDA
NECTEC: National Electronics and Computer Technology Center, NSDTA
NSTDA: National Science and Technology Development Agency
NU: Naresuan University
PEA: Provincial Electricity Authority
RE100: Thai Renewable Energy Association
REIC: Renewable Energy Industry Club, the Federation of Thai Industries
RMUTL: Rajamangala University of Technology Lanna
RMUTR: Rajamangala University of Technology Rattanakosin
RMUTSB: Rajamangala University of Technology Suvarnabhumi
RMUTT: Rajamangala University of Technology Thanyaburi
RU: Ramkamhang University
SLRI: Synchrotron Light Research Institute (Public Organization)
SU: Silpakorn University
SUT: Suranaree University of Technology
TGO: Thailand Greenhouse Gas Management Organization (Public Organization)
TPVA: Thai Photovoltaic Industries Association
TRECA: Thailand Renewable Energy for Community Association
TSU: Thaksin University
TU: Thammasart University
UBU: Ubon Ratchathani University
UP: University of Phayao
VISTEC: Vidyasirimedhi Institute of Science and Technology

AREA CHAIRS

Area 1. PV in Sustainable Energy System, Policy

Dr. Peter Dupont (ACEP)
Dr. Siripha Junlakarn (CU)
Dr. Phimsupha Kokchang (CU)
Asst. Prof. Dr. Worajit Setthapun (CMRU)
Assoc. Prof. Dr. Sergei Manzhos (Institute of Science Tokyo)
Dr. Kampanart Silva (ENTEC)
Assoc. Prof. Dr. Prapita Thanarak (NU)
Asst. Prof. Dr. Promphak Boonraksa (RMSTSB)
Assoc. Prof. Dr. Naebboon Hoonchareon (CU)
Dr. Weerin Wangjiraniran (CU)
Asst. Prof. Dr. Pisitpol Chirapongsananurak (CU)
Asst. Prof. Dr. Surachai Chaitusane (CU)
Dr. Pikkanate Angaphiwatchawal (CU)
Dr. Surapad Larbwisuthisaroj (CU)
Mr. Mrutyunjaya Nanda (ACEP)

Area 2. System Engineering and Field Performance

Assoc. Prof. Dr. Nipon Ketjoy (NU)
Dr. Dhirayut Chenvidhya (KMUTT)
Dr. Kobsak Sriprapha (NECTEC)
Asst. Prof. Dr. Buntoon Wiengmoon (NU)
Dr. Yaowanee Sangpongsanont (KMUTT)
Asst. Prof. Dr. Usa Boongumrung (KMUTT)
Dr. Manit Seapan (KMUTT)
Asst. Prof. Dr. Tanokkorn Chenvidhya (KMUTT)
Assoc. Prof. Dr. Boonyang Plangklang (RMUTT)
Asst. Prof. Dr. Anon Namin (RMUTL)
Dr. Chamnan Limsakul (KMUTT)
Dr. Perawut Chinnavornrungsee (ENTEC)
Ms. Sasiwimon Songtrai (NECTEC)

Area 3. Wafer-based Silicon PV

Dr. Amornrat Limmanee (ENTEC)
Asst. Prof. Dr. Thipwan Fangsuwannarak (SUT)
Prof. Dr. Ryousuke Ishikawa (Tokyo City University, Japan)
Prof. Dr. Kaining Ding (Forschungszentrum Jülich GmbH, Germany

Area 4. Thin-Film PV and Modules

Dr. Taweewat Krajangsang (ENTEC)
Assoc. Prof. Dr. Surawut Chungchote (KMUTT)
Asst. Prof. Dr. Sojiphong Chatraphorn (CU)
Prof. Dr. Stephen Bremner (UNSW, Australia)
Dr. Aswin Hongsingthong (ENTEC)
Assoc. Prof. Dr. Yonrapach Areerob (KMITL)

Area 5. Perovskite and Emerging PV

Dr. Rongrong Cheacharoen (MMRI, CU)
Prof. Dr. Vinich Promarak (VISTEC)
Dr. Pisist Kumnorkaew (NANOTEC)
Assoc. Prof. Dr. Pongsakorn Kanjanaboos (MU)
Ass. Prof. Jae Sung Yun (U. Surrey)
Assoc. Prof. Dr. Duangmanee Wongratanaphisan (CU)
Dr. Watcharaphot Paritmongkol (KMITL)
Prof. Dr. Vittaya Amornkitbanrung (KKU)

Area 6. Cross-Cutting Area

Assoc. Prof. Dr. Surawut Chungchote (KMUTT)
Assoc. Prof. Dr. Sergei Manzhos (Institute of Science Tokyo)
Assoc. Prof. Dr. Yonrapach Areerob (KMITL)
Asst. Prof. Dr. Methawee Nukunudompanich (KMITL)
Assoc. Prof. Dr. Anawach Sangswang (KMUTT)
Assoc. Prof. Dr. Chatchai Sirisamphanwong (NU)
Dr. Jirawan Mongkoltanatas (ENTEC)

CO-ORGANIZERS

Chulalongkorn University
The Engineering Institute of Thailand
King Mongkut's University of Technology Thonburi
Kasetsart University
National Energy Technology Center, NSTDA
National Electronics and Computer Technology Center, NSDTA
National Science and Technology Development Agency
Thai Photovoltaic Industries Association

SUPPORTING ORGANIZATIONS

Chiang Mai Rajabhat University
Chiang Mai University
Chiang Rai Rajabhat University.
Department of Alternative Energy and Efficiency
Eastern Asia University
Electricity Generating Authority of Thailand
Energy Policy and Planning Office
Office of Energy Regulatory Commission
Khon Kaen University
King's Mongkut Institute of Technology Ladkrabang
Kamphaeng Phet Rajabhat University
Metropolitan Electricity Authority
Mahasarakham University
Mahidol University
Naresuan University
Provincial Electricity Authority
Thai Renewable Energy Association
Renewable Energy Industry Club, the Federation of Thai Industries
Rajamangala University of Technology Lanna
Rajamangala University of Technology Rattanakosin
Rajamangala University of Technology Suvarnabhumi
Rajamangala University of Technology Thanyaburi
Ramkamhang University
Silpakorn University
Suranaree University of Technology
Thailand Renewable Energy for Community Association
Thaksin University
Thammasart University
Ubon Ratchathani University
University of Phayao
Vidyasirimedhi Institute of Science and Technology
Deutsche Gesellschaft für Internationale Zusammenarbeit

GENERAL INFORMATION

Conference Venue

Venue:	Chulalongkorn University, Phaya Thai road, Bangkok, Thailand. Please note that the Conference will take place onsite only. (There will not be any online meeting.)
Welcome Party (Nov 10, 2025):	SASIN, School of Management Bldg., Chulalongkorn University
Opening Ceremony (Nov 13, 2025):	Auditorium, Chulalongkorn University
Plenary, Technical, Poster Sessions, Closing Ceremony:	Chaloem Raja Kumari 60 Bldg., (Chamchuri 10 Bldg.), Chulalongkorn University
Luncheons:	Lunch Hall, Chan Tana Ying Yong Gymnasium, Chulalongkorn University
Excursion Tour (Nov 12, 2025):	Three Routes, Meeting Point: In front of the Lunch Hall, Chan Tana Ying Yon Gymnasium.
Banquet Party (Nov 12, 2025):	Cruise, Pier, River Side Bangkok Hotel, Chao Phraya River

Conference Language

The official language for the Conference is English. All presentations must be conducted in English.

Technical Program

PVSEC-36 Technical Program will consist of plenary, parallel sessions with invited/oral presentations and poster Sessions.

Poster Sessions

The poster sessions will be held at the Coffee Shop Room, 1st floor (Ground floor), Chaloem Raja Kumari 60 building on November 10 and 11, at 17:00-18:30. All poster-presenters are requested to set up their posters on the allotted boards prior to the session. Poster sessions will give all conference participants the opportunity for questions and answers.

Important Dates & Deadlines

Descriptions	Date & Deadline
Submission of Abstracts	Deadline July 31
Acceptance Notification	August 31
Latest News Abstracts	Deadline August 31
Upload Program Booklet	From October 10
Early-Bird Registration for Special Discount	Deadline October 15
Upload Abstracts Book	From November 1
Conference Week	November 9-14
Submission of Manuscript for Conference Proceedings	Deadline November 30

Timetable during the Conference Week (9-14 November, 2025)

Date	Time	Event	Location
Nov 9 (Sun)	13:00-17:00	Registration	Chaloem Rajakumari 60 Bldg, 1F
	13:00-16:00	Tutorial Seminar on PV (Option)	Chaloem Rajakumari 60 Bldg, 7F
Nov 10 (Mon)	09:00-09:20	Soft Opening Ceremony	Chaloem Rajakumari 60 Bldg, 8F
	09:30-12:00	Conference	Chaloem Rajakumari 60 Bldg, 7F, 8F, 20F
	12:00-13:30	Luncheon	Chantana Ying Yong Gymnasium, 1F
	12:00--14:00	WCPEC IAC Meeting	SASA International House, 1F
	13:30-17:00	Conference	Chaloem Rajakumari 60 Bldg, 7F, 8F, 20F
	17:00-18:30	Poster Session I	Chaloem Rajakumari 60 Bldg, 1F
	18:30-20:30	Welcome Party	SASIN Bldg., 9F
Nov 11 (Tue)	09:00-12:00	Conference	Chaloem Rajakumari 60 Bldg, 7F, 8F, 20F
	12:00-13:30	Luncheon	Chantana Ying Yong Gymnasium, 1F
	12:00-14:00	PVSEC IAC Meeting	SASIN Bldg, Room 402, 4F
	13:30-17:00	Conference	Chaloem Rajakumari 60 Bldg, 7F, 8F, 20F
	17:00-18:30	Poster Session II	Chaloem Rajakumari 60 Bldg, 1F
Nov 12 (Wed)	09:00-12:00	Conference	Chaloem Rajakumari 60 Bldg, 7, 8, 20F
	12:00-13:30	Luncheon	Chantana Ying Yong Gymnasium
	12:00-13:00	Women in PV Lunch Workshop	Chaloem Rajakumari 60 Bldg, 701, 7F
	13:30-17:00	Excursion Tours	(Select A or B or C)
	18:00-21:00	Banquet on Cruise, Chao Phraya River	River Side Bangkok Hotel Pier
Nov 13 (Thurs)	09:00-12:00	Conference	Chaloem Rajakumari 60 Bldg, 1F,7F, 8F, 20F
	12:00-13:00	Luncheon	Chantana Ying Yong Gymnasium, 1F
	12:30-13:30	Move to Auditorium	Auditorium
	13:00-14:00	Security Check In at Auditorium	Auditorium
	14:30-15:00	Opening Ceremony & PVSEC Awards Presentation (To be presided over by HRH Princess Maha Chakri Sirindhorn)	Auditorium
	15:15-16:15	Plenary Session (Keynote Speakers)	Auditorium
Nov 14 (Fri)	09:00-11:00	Conference	Chaloem Rajakumari 60 Bldg, 7F, 8F
	11:30-12:30	Closing Ceremony & Awards Presentations	Chaloem Rajakumari 60 Bldg, 8F

Registration in Advance by Online

The registration in advance can be done by online through the website system from September 15, 2025. Please open www.pvsec-36.com, Log in and follow the instructions. The advance payment from aboard must be done in THB. The payment onsite can be done in THB and foreign currency.

Registration Rate

	Early-Bird Registration (Within October 15, 2025)	**Late/Onsite Registration (After October 15, 2025)**
Regular participants	Thai Baht (THB) 18,000	Thai Baht (THB) 21,600
Students	Thai Baht (THB) 9,000	Thai Baht (THB) 10,800

Rough currency rate today: 1 USD = 32THB, 1 EUR = 38 THB, 100 JPY = 22 THB, 1 SGD = 25 THB, 1 KRW = 0.026 THB, 1 AUD = 22 THB, 1 CNY = 4.6 THB

The registration fee for the Conference includes:

- ✓ *Access to all the technical sessions, coffee breaks, drinking water,*
- ✓ *Access to Conference Program (electronically+hard copy),*
- ✓ *Access to Conference Abstract (electronically),*
- ✓ *Access to Conference Proceedings (electronically after Conf.),*
- ✓ *Access to Welcome Party on Nov 10 (Mon), 2025 (18:30-20:30 hrs.),*
- ✓ *Access to Excursion Tour on Nov 12 (Wed), 2025 (afternoon),*
- ✓ *Access to Banquet Party on Cruise, Chao Phraya river on Non 12 (Wed) 2025 (evening),*
- ✓ *Access to luncheons on Nov 10, 11, 12, 13, 2025. (12:00-13:30 hrs.),*
- ✓ *Access to Free Wireless Internet in Conf. Building,*
- ✓ *Access to Free Shuttle Buses (Hotels - Chulalongkorn University),*
- ✓ *Access to First Aid Room for emergency,*
- ✓ *Handbag (Name Badge, Final Program Book, Maps, Thai souvenirs, Documents, Update Announcements etc.).*

Payment Remittance Procedures

Registration fee should be remitted in the currency Thai Baht (THB) by one of the following means:

1) Bank Transfer to:

Bank Name: Bangkok Bank Public Company Limited
Branch: 1237 (M Tower)
Address: 2098 Sukhumvit Road, Phra Khanong Tai, Phra Khanong, Bangkok 10260, Thailand
Swift Code: BKKBTHBK
Account Number: 063-8-02772-2
Account Name: Thai Photovoltaic Industries Association
Type : Savings

2) Credit Card:

Remittance and credit cards (VISA, MASTER, AMEX). No personal cheque will be accepted.

3) Mobile Banking

4)Bank Draft, Bank Cashier Cheque:

A bank draft, cashier cheque, (crossed cheque) made payable to “Thai Photovoltaic Industries Association”.

Registration Desk

The Registration Desk is located on the first floor (ground floor), Chaloem Rajakumari 60 building (Chamchuri 10 building), Chulalongkorn university.

Those who have completed the registration online prior to the Conference date, please come to the Registration desk for picking up your bag.

Opening Hours of Registration Desk

Sunday Nov. 9	Monday Nov. 10	Tuesday Nov. 11	Wednesday Nov. 12	Thursday Nov. 13
13:00-17:00	08:30-17:00	08:30-17:00	08:30-17:00	08:30-17:00

Onsite Registration and Payment

All payments onsite may use one of the following means:

1. **Cash in** any currency: US dollar (USD), Euro (EUR), Australia Dollar (AUD), Chinese Yuan (RMB), Thai Baht (THB), or others. Please check the exchange rate at the registration desk on arrival.
2. **Credit Cards** (VISA, MASTER, AMEX, JCB). No personal cheque will be accepted.
3. **Mobile Banking**
   Please contact at the Registration desk, the first floor (ground floor), Chaloem Raja Kumari 60 building (Chamchuri 10 Building).
4. **A bank draft, cashier cheque, (crossed cheque):** made payable to "Thai Photovoltaic Industries Association".

Cancellation Policy

- Any cancellation of registration must be notified in writing to the Conference Secretariat General by e-mail to: secretary@pvsec-36.com.
- For cancellations received by November 5, 2025: 100% refund of registration fee. (Please note that we will charge $50 processing fee for the administrative expenses.)
- After November 5, 2025: No reimbursement.
- All refunds will only be processed about 30 days after the Conference ends.
- All bank service charges will be deducted from the refundable amount.
- Requests for reimbursement must be sent in writing.

Name Badge

A name badge will be issued to all participants after you finish your registration at the registration desk. It is an admission pass to all conference sessions and all social programs. Please bring along your name badge at all times throughout the conference for identification and security purposes. Utilizations of name badges: documents, publications, Welcome Party, Conference, Coffee Breaks, Luncheons, Excursion Tour, Banquet Party, Closing Ceremony, etc.

Free Wireless Internet Access (WIFI) Guide

Please turn on WiFi, search manually and use the WiFi provided free of charge by the building.

Cloakroom (Bag Drop)

Cloakroom is located on 1F, near the registration desk, Chaloem Rajakumari 60 Bldg. The service is free of charge. The opening hours are shown in the table:

Opening Hours of Cloakroom

Monday Nov. 10	Tuesday Nov. 11	Wednesday Nov. 12	Thursday Nov. 13
08:30-17:00	08:30-17:00	08:30-17:00	08:30-17:00

Cloakroom Policy

1) Check-in belongings before depositing your bag.
2) PVSEC-36 is not responsible for lost or stolen personal items.
3) Keep valuables item with you at all time.
4) No overnight bag drop service.
5) Check all belongings before leaving the cloakroom counter.

GENERAL INFORMATION FOR OVERSEAS PARTICIPANTS

Access from Overseas to Bangkok

The PVSEC-36 will be held in Bangkok, the capital of Thailand. There are two International Airports in Bangkok as follows:

1) Suvarnabhumi International Airport (BKK) (Lies to 32 km east of Bangkok center),

2) Don Mueang International Airport (DMK) (Lies to 24 km north of Bangkok center). Please confirm with your air ticket agency at which airport you are going to arrive.

Summary of Procedures to Attend the PVSEC-36 and to pass immigration Process for Entering Thailand

1) Open https://registration.pvsec-36.com , do the process of Log in.
2) Do the registration process of PVSEC-36 by selecting the Menu ATTEND and select REGISTRATION (Open from 15 Sep). Complete the Registration Form.
3) Do the Payment for Registration Fee. Select type of Payment. Upload the document of Payment Remittance Evidence (for example, Bank transfer document, Mobile Banking Payment Slip, Bank Draft.).
4) Book accommodation. Health Preparation.
5) Check whether or not you need a Visa. If you need an invitation letter for VISA Application, please send email to the General Chairman of PVSEC-36: dusit@pvsec-36.com. Then apply for VISA
6) Three days before you travel to Thailand, you MUST complete by online “TDAC” “the Thailand Digital Arrival Card” Form by online link. tdac.immigration.go.th After submit the TDAC Form, you will receive a Confirmation email.
7) Show your Confirmation email and travel documents to the immigration officer when you arrive in Thailand.

Passport and VISA

As a general rule, any foreigner seeking entry into the Kingdom of Thailand is required to apply for a visa from a Thai Embassy or Consulate-General in their home country.

Although application of Visa upon arrival at the Bangkok International Airport is available, it is not recommended to do so.

Visitors who hold valid passports or traveling documents issued by the countries included in an officially issued list of eligible countries are permitted two-month visa-free visits.

New Tourist Visa Exemption Scheme (60 Days) Effective Date 15 July 2024

Nationals of the following 93 countries and territories are entitled to visa exemption for the purpose of tourism business engagements or urgent work or ad-hoc work, for up to 60 days period of stay and can be extended for another period not exceeding 30 days. Extension of stay is solely at the discretion of the immigration officer. Before the maximum stay of 90 days are eligible to apply for a new type of visa in Thailand.

List of Countries and Territories whose Nationals are entitled to Visa Exemption Scheme for the Purpose of Tourism and Short-Term Business Engagements for a Period Not Exceeding 60 Days

Ordinary Passport				
1. Albania	21. Dominican Republic	41. Jordan	61. New Zealand	81. Sweden
2. Andorra	22. Ecuador	42. Kazakhstan	62. Norway	82. Switzerland
3. Australia	23. Estonia	43. Korea (ROK)	63. Oman	83. Taiwan
4. Austria	24. Fiji	44. Kosovo	64. Panama	84. Tonga
5. Bahrain	25. Finland	45. Kuwait	65. Papua New Guinea	85. Trinidad and Tobago
6. Belgium	26. France	46. Laos	66. Peru	86. Türkiye
7. Bhutan	27. Georgia	47. Latvia	67. Philippines	87. Ukraine
8. Brazil	28. Germany	48. Liechtenstein	68. Poland	88. UAE
9. Brunei	29. Greece	49. Lithuania	69. Portugal	89. UK
10. Bulgaria	30. Guatemala	50. Luxembourg	70. Qatar	90. USA
11. Cambodia	31. Hong Kong	51. Macao	71. Romania	91. Uruguay
12. Canada	32. Hungary	52. Malaysia	72. Russia	92. Uzbekistan
13. China	33. Iceland	53. Maldives	73. San Marino	93. Vietnam
14. Colombia	34. India	54. Malta	74. Saudi Arabia	
15. Croatia	35. Indonesia	55. Mauritius	75. Singapore	
16. Cuba	36. Ireland	56. Mexico	76. Slovakia	
17. Cyprus	37. Israel	57. Monaco	77. Slovenia	
18. Czechia	38. Italy	58. Mongolia	78. Spain	
19. Denmark	39. Jamaica	59. Morocco	79. Sri Lanka	
20. Dominica	40. Japan	60. Netherlands	80. South Africa	

Department of Consular Affairs, 15 July 2024

Remarks: Please check and update the VISA exemption above before departure.

Those who wants an invitation letter for application of VISA, please send an email to : dusit@pvsec-36.com

Climate

The average temperature in Bangkok in November is about 25-30 degree celcius. November will be a period of the end of rainy season. It might rain occasionally. Please bring an umbrella when going out.

Local Time

GMT + 7 hours

Currency Exchange

The basic monetary unit in Thailand is Baht. A Baht is divided into 100 Satang. Examples of exchange rates in 2025 for some countries are as follows: *1 USD = 32THB, 1 EUR = 38 THB, 100 JPY = 22 THB, 1 SGD = 25 THB, 1 KRW = 0.026 THB, 1 AUD = 22 THB, 1 CNY = 4.6 THB.*

Electricity

220V 50Hz.

Traveler's Checks and Credit Cards

Cash, traveler's checks can be exchanged at banks, hotels or moneychangers. A passport is mainly request to show for exchange of currency. All major credit cards are widely accepted throughout the Kingdom.

How to get around Bangkok

Taxi-Meter

The most common type of taxis. A journey starts with a minimum fare of 35 Baht (approx. 1 USD). The fare will increase according to the distance traveled. No tips are expected by the drivers. It is highly recommended that PVSEC-36 participants use a taxi meter. It is illegal for a taxi driver to propose a negotiated fare and thus higher fare to passengers.

Three-Wheeled Taxi (Engine Took Took)

"Took Took" in Thai, are three-wheeled taxis without a meter. Fares must be negotiated beforehand. They are normally a little cheaper than a meter-taxi but suitable for short trips only. One of the amazing experiences when get on a Took Took is the loud roar of the engine that might shock you at first. However, recently you may find some electric Took Took running without any sound.

Modern Electric EV Three-Wheeled Taxi (EV Took Took)

At the PVSEC-36 venue, there are official EV took took (three-wheeled) electric taxi waiting for you in front of Chaloem Rajakumari 60 building. Use the App. MUVMI for calling. The price will be shown when you book it. Please contact PVSEC-36 desk, if you want it.

Public Bus

Bangkok's public transportation is inexpensive and provides the service throughout the city and nearby suburbs. Pay for the fare on board. Non air-conditioned buses are extremely crowded during peak hours, the flat fare is 8.00 Baht (approx. USD0.20). Air-conditioned city buses are usually less crowded, the fare ranges from 12 - 25 Baht (approx. USD0.30 - $0.70).

Electric Public Bus (Violet Color)

Recently there are a lot of electric EV public bus (violet color)running in Bangkok. Please try it. Good prices.

Electric Trains

Today, there are eight route lines of electric trains serving in the Bangkok Metropolitan Region. Some are skytrains, some are subways. There are three electric trains passing Chulalongkorn University (CU), the PVSEC-36 venue as follows:

- BTS Silom Line (skytrain): Siam Station (North area of CU)
- BTS Su-Khumvit Line (skytrain): Siam Station (North area of CU)
- MRT Blue Line (subway): Sam Yan Station (South area of CU)

All of the electric trains are operational daily from 6:00 am - midnight. Leave a terminal every 5 minutes and more frequent during rush hours. The fares range from 17-47 Baht (approx.. USD0.47-1.30) depending on distance. Only coins are accepted when you buy a ticket.

Map of electric trains in Bangkok

Shopping

Shops in Bangkok are generally open on Saturday, Sunday and national holidays as well as weekdays from 09:00-21:00. There are so many world-class shopping centers nearby the PVSEC-36 venue, such as MBK, Siam Center, Siam Square, Siam Paragon, Central World, Sam Yan Mitrtown, Etc. Convenience stores (such as Seven Eleven) are also easily found around the Conference venue.

If you are looking for Thai traditional handcrafts, carving, souvenirs, clothes, table cloth, metal works, local food, the best place to go is "the Weekend Market- Chatuchak Market" which open on Friday, Saturday and Sunday. Take the skytrain, BTS Sukhumvit line from Siam Station and get off at Mo Chit Station, or take the MRT line and get off at Kam Paeng Phet station.

Tipping

In Thailand, tipping is not necessary.

Insurance

The Organizers will not be held responsible for injury to conference participants or for damage to, or loss of their personal belongings, regardless of cause. Participants are advised to make their own insurance arrangements.

Food, Restaurants around Chulalongkorn University

Please see **"Gourmet Guidelines"** for food, restaurants around your hotels.

ACCOMMODATION

There are a lot of hotels nearby Chulalongkorn University, the venue of PVSEC-36. Please select a hotel matching your preference and send email directly to the selected hotel for your reservation.

PVSEC-36 has got special low prices for the hotels shown in the following table.

No.	Hotel	Stars	Price (Baht/Night) Single	Price (Baht/Night) Double/Twin	On Foot
1	Mandarin Hotel Managed by Centre Point (Deluxe Rm)	*****	2,600 Baht (Incl. BF)	2,800 Baht (Incl. BF)	15 minutes
2	Montien Hotel Surawong Bangkok (Deluxe Rm)	*****	4,000 Baht (Incl. BF)	4,500 Baht (Incl. BF)	15 minutes
3	Pathumwan Princess Hotel (Deluxe Classic Rm)	*****	3,600 Baht (Incl. BF)	3,900 Baht (Incl. BF)	2 minutes
4	Novotel Bangkok on Siam Square Hotel (Superior Rm)	****	3,900 Baht (Incl. BF)	4,200 Baht (Incl. BF)	5 minutes
5	Siam@Siam Design Hotel	****	3,900 Baht (Incl. BF)	4,300 Baht (Incl. BF)	10 minutes
6	Holiday Inn Express Bangkok Siam Hotel (Standard Rm)	***	2,925 Baht (Incl. BF)	2,925 Baht (Incl. BF)	10 minutes
7					
8	Mercure Bangkok Siam Hotel (Superior Rm) Ibis Bangkok Siam Hotel (Standard Rm)	**** ****	3,707 Baht (Incl. BF) 2,589 Baht (Incl. BF)	3,707 Baht (Incl. BF) 2,589 Baht (Incl. BF)	10 minutes
9					
10					
11	Evergreen Place Siam Hotel (Standard Rm)	***	2,600 Baht (Incl. BF)	2,600 Baht (Incl. BF)	15 minutes
12	Asia Hotel (Standard Rm)	****	2,100 Baht (Incl. BF)	2,100 Baht (Incl. BF)	15 minutes
13	SASA International House (University Guest Hotel)	***	1,800 Baht	1,800 Baht	1 minutes
14	CU I House (Chulalongkorn University International House)	***	1,000 Baht	1,000 Baht	5 minutes

FULL MANUSCRIPT FOR CONFERENCE PROCEEDINGS

There are comments from researchers and students that they prefer to have "Conference Proceedings" for evaluation of their annual upgrade position or fulfilling graduate course. Therefore, the PVSEC-36 Organizers will publish an electronic Proceedings of the PVSEC-36 for the permanent records of the contributions of the speakers. However, a speaker will have an option to submit or not to submit his manuscript for the Proceedings.

Promoting originality, integrity, and trust in every research contribution.

We kindly ask all authors to uphold research integrity by ensuring that submissions are original, well-cited, and free from plagiarism. By following ethical standards, we strengthen the value and trust of our research community together.

If you have opted to submit a full proceedings manuscript, your final submission must use the PVSEC-36 2025 MS Word template
For plenary, invited presentation: maximum 4 pages A4 including figures, tables.
For oral, poster presentation: maximum 2 pages A4 including figures, tables.
Template File Word of Proceedings Manuscript for PVSEC-36 and Template File PDF of Proceedings Manuscript for PVSEC-36 can be download in the website of PVSEC-36.

All full proceedings manuscripts must be uploaded no later than November 30, 2025, via your abstract submission account.

The electronic Proceedings will be able to be downloaded two months after the PVSEC-36 week.
For manuscript questions, please contact the Publication Chair via Email at publication@pvsec-36.com

PAPER SUBMISSION TO JOURNALS

We will publish the special Issue of “Japanese Journal of Applied Physics” for PVSEC-36.

We sincerely invite you to submit your manuscript and be part of this exciting publication. Whether your work focuses on fundamental science, innovative applications, or reliability studies, your contribution is essential to shaping the future of photovoltaics. Together, we can strengthen international collaboration and inspire the next generation of PV technologies.

Start date of submission received: Nov. 9, 2025
Submission deadline: Jan. 15, 2026

Related research areas of interest are as follows:
1) Wafer-based Silicon Photovoltaics (Materials, Processes, Fundamentals, Cells and Modules)
2) Thin-film photovoltaics and Modules (Organic and Inorganic photovoltaics, Compound Thin-film Photovoltaics, III-V High-efficiency Devices)
3) Perovskite and Emerging Photovoltaics (Perovskite Photovoltaics and Related Technologies, Emerging Materials and New Concepts)
4) Innovative technologies (Perovskite Tandems, Artificial Intelligence in PV Development, Solar to Hydrogen Devices and Systems)
5) System Engineering and Field Performance (Integrated PV and Advanced Applications of Photovoltaics, Field Performance of Photovoltaic Systems)
6) PV in Sustainable Energy Systems (Policy, Market, Finance and Deployment, Grid Integration and Energy Management)

Please note that items 5) and 6) are outside the JJAP scope. However, submissions in these areas are limited to less than 20% of the total for this special issue.

Optional Tours

During the PVSEC-36, the organizing Committee will arrange “Optional Tours” for participants and their accompanying persons. PVSEC-36 uses TUI Destination Experience Co., Ltd. (Musement) who has good quality and good prices as an official tour agency to provide services on the “Optional Tours”. The delegates who want to use the Optional Tour Services, please read carefully the following instructions and follow the procedures.

Optional Tours During PVSEC-36 (8-15 November 2025)

musement

No.	Tour Name	Province	Distance from Chulalongkorn University	Period	Lunch	Pick up Time at Your Hotel	Drop off Time at Your Hotel	Trans-portation	Tour Guide Language	Price/Adult (THB)	Price/Child (THB)
1	HD Railway Market & Damnoensaduak Floating Market	Ratchaburi	97 km	Half Day	Not Included	Morning	Noon	Van	English	2,000	1000
2	HD Bangkok Temples Tour (Wat Trimit, Wat Pho, Wat Benchamabophit)	Bangkok	6 km	Half Day	Not Included	Morning	Noon	Van	English	2,050	1030
3	HD Royal Grand Palace (Wat Phra Kaew)	Bangkok	6 km	Half Day	Not Included	Morning	Noon	Van	English	1,970	990
4	FD Ayutthaya Ancient City by Road (The Bang Pa-In Summer Palace, Wat Mahathat, Wat Sri Sanphet, Wat Yai Chaimongkhol)	Ayutthaya	65 km	Full Day	Included	Morning	Evening	Van	English	3,030	1,520
5	FD Pattaya Island with Drone Photos (Hardtien Beach on Koh Larn Island)	Chonburi	150 km	Full Day	Included	Morning	Evening	Van	English	2,290	1,930

How to make Registration for the Optional Tours	1	Before leaving your country, please download the Reservation form, fill in the Reservation Form and send it via email to: receptionsales@destinationservices.com
	2	Tui Destination Experiences (Thailand) Ltd. will send a secure Pay Per Link for credit card payment to you by email.
		This link is issued under the company name Tui Destination Experiences (Thailand) Ltd.", along with the payment amount.
	3	Please make payment. Once the payment is completed, an automatic confirmation email will be sent to you.
	4	Tui Destination Experiences (Thailand) Ltd. will send tickets to you by email.
	5	The exact pick-up time will be communicated to you one day before the tour, around 7:30 PM.
		(As this is a join-in tour, the final pick-up time will be confirmed after all bookings are finalized).

Remarks:	1	You can make reservation onsite upon arrival, but the availability of your seat will not be by guaranteed.
	2	If you have any question, please contact Email: secretary@pvsec-36.com
	3	For emergency, please call
		Mrs. Pithita (Secretary of PVSEC-36) Mobile: 081-646-1033
		Ms. Ploytawan (TUI Destination Experiences (Thailand) Ltd.) Mobile: 098-235-6242

H/D Railway Market & Damnoensaduak Floating Market

H/D Bangkok Temples Tour

H/D Royal Grand Palace

F/D Ayutthaya Ancient City By Road

F/D Pattaya Island With Drone Photos

ACCOMPANYING PERSONS

Accompanying Persons

1) The Organizers of PVSEC-36 consider that the accompanying persons who are coming to Thailand with your family and your friends attending the PVSEC-36 are our VIP guests.

2) We would like to welcome all of the accompanying persons and take care of you you as best as we can do.
3) Please do the registration as “Accompanying Person” on the Website of PVSEC-36 before you depart from your country by using Registrant Log In.
4) Upon your arrival, please do not hesitate to present yourselves at the Registration Desk. You will get a Name Badge, a Conference Complementary Bag and several privileges as follows:
    - Access to Welcome Party (Nov 10, Mon), free of charge
    - Access to the Courtesy Shuttle Buses (Hotels-Chulalongkorn University), free of charge
    - Access to Coffee Breaks, free of charge
    - Access to First Aid Room (if needed), free of charge
    - Receiving a Bag for accompanying person, free of charge (Name Badge, souvenirs, maps, documents
    - Purchasing the tickets for the following events at special discount fees:
        - Ticket for Luncheons on Nov. 10-13 (185 THB/day/person).
        - Ticket for Excursion Tours on Nov 12 afternoon (750 THB/person).
        - Ticket for Banquet Party on cruise along Chao Phraya river on Nov. 12 evening. (1,000 THB/person).
        - Optional tours. (Please contact directly the TUI Destination Experience Co., Ltd.)

TUTORIAL SEMINAR ON PV

Date & Time: Sunday 9 November 2025, 12:00-16:00
Venue: Room 701, 7F, Chaloem Raja Kumari 60 Building
PVSEC-36 Venue, Chulalongkorn University, Bangkok
Fee: 2,000 Baht (regular)
1,000 Baht (student)
Certificate: To be given.
Coffee Break: To be provided.
How to Make Registration:
Please make the Registration for the Tutorial Seminar on PV at the same time when you make the registration of PVSEC-36
Registration On-Site:
Available, but based on first-come first-served basis. (100 seats limitation)

The PVSEC-36 Tutorial Seminar on PV will be held at the conference venue on Sunday afternoon, 9 November, 2025. The tutorials are open to all delegates for an additional fee.

Schedule of the Tutorial Seminar on PV

12:00 - 13:00 Registration, Room 701, 7F, Chaloem Raja Kumari 60 Building
12:55 - 13:00 Opening Address by Prof. Dr. Dusit Kruangam, Chairman of PVSEC-36.
13:00 - 13:40 *"Physics and Engineering of Photovoltaic Conversion Technologies and Systems"*
Dr. Arno Smets, Delft University of Technology, The Netherlands. (pending)
13:40 - 14:20 *"Current Status and Future Direction of PV"*
Prof. Dr. Masafumi Yamaguchi, Toyota Technological Institute, Nagoya, Japan.
14:20 - 14:40 Coffee Break
14:40 - 15:20 *"Cell and Module Characterization "*
Prof. Dr. Yoshihiro Hishikawa, Ritsumeikan University, Japan.
15:20 - 16:00 *"Reliability and Performance of PV Modules and PV Applications"*
to be announced.
16:00 - 16:10 Certificate Ceremony and Closing Remarks

SOFT OPENING CEREMONY

Date & Time: Monday 10 November 2025, 9:00-9:20
Room: 801, 8F, Chaloem Rajakumari 60 Bldg.
Ceremony: Video Presentation
Welcome Address by the Chair of PVSEC-36
Welcome Speech by the Program Chair of PVSEC-36
Introduction of Cochairs Committee of PVSEC-36
Soft Opening Address of PVSEC-36 by the Chair of PVSEC IAC

WCPEC IAC MEETING

Date & Time:	Monday 10 November 2025, 12:00-14:00 hrs.
Venue:	Meeting Room, 1F, SASA International House (From the venue building, turn left, walk about 100 meter along the road, on the righthand side)
Lunch, Drink:	To be provided during the meeting
Participants:	WCPEC IAC members

PVSEC IAC MEETING

Date & Time:	Tuesday 11 November 2025, 12:00-14:00 hrs.
Venue:	Room 402, 4F, SASIN Building (Opposite the venue building)
Lunch, Drink:	To be provided during the meeting
Participants:	PVSEC IAC members

PVSEC COMMITTEE DINNER

Date & Time:	Tuesday 11 November 2025, 19:00-21:00 hrs.
Venue:	Somboon Seafood restaurant, Surawong branch, Surawong Road
Transportation:	A shuttle bus will leave the venue building (Chaloem Rajakumari 60 building) at 18:30-18:40 hrs.
Participants:	PVSEC IAC members, PVSEC committee members, invited guests.

WOMEN IN PV LUNCHEON WORKSHOP

Date & Time: Wednesday 12 November 2025, 12:00-13:00 hrs.
Venue: Room 701, 7F, Chaloem Raja Kumari 60 Building
Fee: Free of Charge
Lunch Box & Drink:
To be provided, free of charge.
How to Make Registration:
Please make the Registration for the Women in PV Luncheon at the same time when you make the registration of PVSEC-36
Registration On-Site:
Available, but first-come first-served basis. (60 seats limitation)

"Roles of Women in the Research & Development of PV"
"Where women unite to share experience, exchange ideas, and inspire future leadership in clean energy"

Moderator: Warisa Sihirunwong (GIZ)
Key Note Speakers:
Prof. Norasikin Ahmad Ludin (Solar Energy Research Institute (SERI), Universiti Kebangsaan, Malaysia)
Ms. Izumi Kaizuka (RTS, IEA PVPS Task 1, Japan)
Dr. Siripha Junlakan (ERI, Chulalongkorn University, Thailand)
Dr. Pawita Bunme (AIST, Japan/Thailand)

OPENING CEREMONY

(Draft)
Royal Opening Ceremony of PVSEC-36
Auditorium, Chulalongkorn University, Bangkok, Thailand
November 13 (Thursday), 2025

12:00 - 13:00 Lunch Time

12:30 - 13:00 Transportation from Lunch Hall to Auditorium
(The shuttle EV buses will leave the Lunch Hall at 12:30, 12:45, 13:00.)

12:30 - 13:00 Check in at Auditorium, Chulalongkorn University
Please remember to bring your name badge of PVSEC-36
Body temperature scan, security

13:00 - 14:00 Take seats

14:30 **Arrival of HRH Princess Maha Chakri Sirindhorn**

Waiting to Welcome Her Royal Highness:
Chairman of Chulalongkorn University Council,
President of Chulalongkorn University,
Permanent Secretary of Ministry of Energy,
General Chairman of PVSEC-36
Director of ERI, CU
Director of MMRI, CU
Representatives of PVSEC International Advisory Committee Members

Presentation of Program Booklet:
Professor Dr. Dusit Kruangam, General Chairman of PVSEC-36

In Remembrance of Her Royal Highness's Grace:
Professor Dr. Surakiart Sathirathai, Chairman of the University Council, Chulalongkorn University

Report:
His Excellency Dr. Prasert Sinsukprasert,
Permanent Secretary of Ministry of Energy

Royal Opening Speech:
Her Royal Highness Princess Maha Chakri Sirindhorn

PVSEC Awards Presentation Ceremony:
Her Royal Highness Princess Maha Chakri Sirindhorn
PVSEC Special Awards
PVSEC Awards
PVSEC Hamakawa Awards
PVSEC Young Scientist Awards

Memorial Photographs with Her Royal Highness Princess Maha Chakri Sirindhorn
Departure of Her Royal Highness Princess Maha Chakri Sirindhorn

15:15-15:30 **Coffee Break**

15:30 - 16:30 **Keynote Speakers**
- Dr. Prasert Sinsukprasert, Permanent Secretary, Ministry of Energy, Thailand
- Scientia Prof. Martin A. Green, University of New South Wales, Australia

Dress Code: Suit, Blazer

CLOSING CEREMONY

Date & Time: Friday 14 November 2025, 11:30-12:30
Room: 801, 8F, Chaloem Rajakumari 60 Bldg.
Ceremony:

Summary of PVSEC-36 by the Chair of PVSEC-36
Summary of Highlight of Program by the Program Chair of PVSEC-36
Award Presentations
- Best Oral Presentation Awards (Regular)
- Best Poster Awards (Regular)
- Best Oral Presentation Awards (Students)
- Best Poster Awards (Students)

Introduction of Future Conferences
Closing Remarks

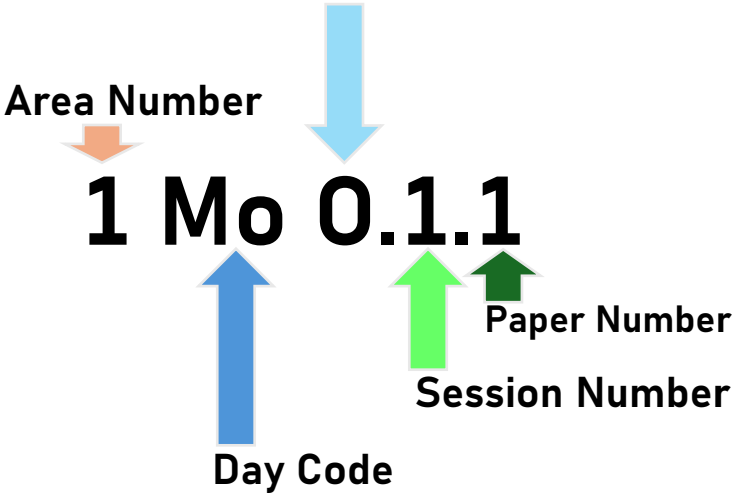
PVSEC-36

Technical Program

Session Code

Session Type

In	Invited Speech,	**O**	Oral Session
Pl	Plenary Session,	**Po**	Poster Session
Tu	Tutorials (Nov. 9th),	**Ws**	Workshops



Mo : Monday (Nov. 10th)

Tu : Tuesday (Nov. 11st)

We : Wednesday (Nov. 12nd)

Th : Thursday (Nov. 13rd)

Fr : Friday (Nov. 14th)

Area Number	Sub Area Number	Session Number
Area 1: PV in Sustainable Energy System, Policy		
	1.1 Policy, Market, Finance, Deployment, Carbon Neutrality	1
	1.2 Grid Integration and Energy Management	2
	1.3 PV Status in Southeast Asian Countries (ASEAN)	3
Area 2: System Engineering and Field Performance		
	2.1 Integrated PV and Advanced Applications of PV	4
	2.2 Field Performance of PV Systems, Standard	5
	2.3 End of Life	
Area 3: Wafer-based Silicon PV		
	3.1 Materials, Processes, Fundamentals	6
	3.2 Cells and Modules	7
Area 4: Thin-Film PV and Modules		
	4.1 Organic and Inorganic PV	8
	4.2 Compound Thin-Film PV	9
	4.3 III-V High Efficiency Devices	10
Area 5: Perovskite and Emerging PV		
	5.1 Perovskite PV	11
	5.2 Emerging Materials and New Concepts	12
Area 6: Cross Cutting Area		
	6.1 Tandem PV	13
	6.2 Artificial Intelligence in PV Development	14
	6.3 Solar to X, Sciences, Materials and Devices	15
	6.4 PV and Energy Storage Systems	

Tutorial Seminar

Sunday November 9, 2025 **Program**

Room A 701 (7F)

12:00 noon Registration Opens

13:00 - 13:40

The Physics and Engineering of Photovoltaic Conversion Technologies and Systems

Prof. Dr. Arno Smets

Photovoltaic Materials Devices, Delft University of Technology,

The Netherlands

13:40 - 14:20

Current Status and Future Direction of PV

Prof. Dr. Masafumi Yamaguchi

Toyota Technological Institute, Nagoya, Japan

14:20 - 14:40 Coffee Break (20 minutes)

14:40 - 15:20

Cell and Module Characterization

Prof. Dr. Yoshihiro Hishikawa

Research Organization of Science and Technology,

Ritsumeikan University, Japan

15:20 - 16:00

Reliability and Performance of PV Modules and PV Applications

To be announcement.

Grand Opening Ceremony

Thursday November 13, 2025 **Program**

Auditorium

12:00 - 13:30

Check-in

13:30 - 15:00

Opening Ceremony

15:30 - 16:00

Keynote Speakers

Policy and Plan for the Promotion of Renewable Energy and PV towards Carbon Neutrality Target for Thailand

Prasert Sinsukprasert[1*]

[1] Ministry of Energy, Thailand

Recent Developments in Photovoltaics

Martin A. Green[1*]

[1] Australian Centre for Advanced Photovoltaics,
School of Photovoltaic and Renewable Energy Engineering,
University of New South Wales, Australia

Plenary

Monday November 10, 2025	Program
Room C - 801 (8F)	Plenary
09:00 - 09:20	
Soft Opening Ceremony	

Session Chair(s): Anawach Sangswang (KMUTT), Kaining Ding (Jülich GmbH), Amornrat Limmanee (ENTEC)

09:30 - 10:00

2 Mo Pl.4.1 Area: 2 Sub Area: 2.2

Solar Energy At Night Using A Thermoradiative Diode (Plenary Invited)

Ned Ekins-Daukes[1]*

[1]University of New South Wales (UNSW), Sydney, Australia

10:00 - 10:30

3 Mo Pl.7.1 Area: 3 Sub Area: 3.2

High efficiency silicon-based PV technology for high volume manufacturing (Plenary Invited)

Xixiang Xu [1, *], Liang Fang [1], Mingzhe Yu [1], Hua Wu [1], Yunpeng Li [1], Yunlai Yuan [1], Xiaoning Ru [1], Jiansheng Chen [1], Yong Liu [1], Feng Ye [1], Minghao Qu [1], Miao Yang [1], Bo He [1], Chaowei Xue [1], Jianbo Wang [1], Junxiong Lu [1], Zhenguo Li [1]

[1] The Second Research Institute, LONGi Central R&D Institute, LONGi Green Energy Technology Co., Ltd., Shaanxi, China

Tuesday November 11, 2025	Program
Room C - 801 (8F)	Plenary

Session Chair(s): Dusit Kruangam (TPVA), Taweewat Krajangsang (ENTEC)

09:30 - 10:00

1 Tu Pl.1.1 Area: 1 Sub Area: 1.1

ASEAN Photovoltaics (PV): Development, Learning, Performance, Marketing, and Policy (Plenary Invited)

Krissanapong Kirtikara [1, 2 *]

[1] King Mongkut's University of Technology Thonburi, Bangkok, Thailand

[2] Kasetsart University, Bangkok, Thailand

Tuesday November 11, 2025	Program
Room C - 801 (8F)	Plenary

10:00 - 10:30

4 Tu Pl.8.1 Area: 4 Sub Area: 4.1

Molecular Engineering for Porphyrin-Based Dye-Sensitized Solar Cells (Plenary Invited)

Tomohiro Higashino [1, *]

[1] Department of Molecular Engineering, Graduate School of Engineering, Kyoto University, Japan

Wednesday November 12, 2025	Program
Room C - 801 (8F)	Plenary

Session Chair(s): Surawut ChuangChote (KMUTT), Roongrojana Songprakorp (KMUTT), Rongrong Cheacharoen (CU)

09:30 - 10:00

6 We Pl.13.1 Area: 6 Sub Area: 6.1

Importance of Solar-powered Vehicles toward Creation of Clean Energy Society (Plenary Invited)

Masafumi Yamaguchi [1, *]

[1] Semiconductors Labs., Toyota Technological Institute, Nagoya, Aichi, Japan

10:00 - 10:30

5 We Pl.12.1 Area: 5 Sub Area: 5.2

High-Performance Transparent Luminescent Solar Concentrators (TLSCs) Using ESIPT Luminophores (Plenary Invited)

Vinich Promarak [1, *], Pattarapapa Janthakit [1], Phatsathorn Chonlateeroj [1], Pisist Kumnorkaew [2], Wijitra Waengdongbung [1]

[1] Materials Science and Engineering, School of Molecular Science and Engineering, Vidyasirimedhi Institute of Science and Technology, Rayong, Thailand
[2] National Nanotechnology Center, National Science and Technology Development Agency, Thailand Science Park, Pathum Thani, Thailand

Thursday November 13, 2025	Program
Room C - 801 (8F)	**Plenary**

Session Chair(s): Rongrong Cheacharoen (CU), Watcharaphol Paritmongkol (VISTEC)

09:00 - 09:30

5 Th Pl.11.1 Area 5 Sub Area 5.1

Integrating perovskite with thin-film technologies: challenges and breakthroughs in flexible and tandem solar cells (Invited Speaker) **(Plenary Invited)**

Makoto Konagai [1, *]

[1] Advanced Research Laboratories, Tokyo City University, Tokyo, Japan

09:30 – 10:00

5 Th Pl.11.2 Area 5 Sub Area 5.1

Scaling Up Processing of Perovskite Photovoltaics **(Plenary Invited)**

Eva Urgan [1, *]

[1] Humboldt University, Helmholtz-Zentrum Berlin, Germany

Wednesday November 12, 2025	Program
Room A - 701 (7F)	**Workshop**

12:00 - 13:30

Women in PV Workshop

Keynote

- ☐ Izumi Kaizuka (RTS, IEA PVPS Task 1, Japan)
- ☐ Siripha Junlakarn (ERI, Chula Univ., Thailand)
- ☐ Pawita Bunme, Thailand (AIST, Japan)
- ☐ Norasikin Ahmad Ludin (SERI, Malaysia)

Panel discussion

Moderator: Warisa Sihirunwong, Thailand (GIZ)

Oral Presentation

Monday November 10, 2025

Monday November 10, 2025 **Program**

Room C - 801 (8F) **Plenary**

Session Chair(s): Anawach Sangswang (KMUTT), Kaining Ding (Jülich GmbH), Amornrat Limmanee (ENTEC)

09:30 - 10:00

2 Mo Pl.4.1 Area: 2 Sub Area: 2.2

Solar Energy At Night Using A Thermoradiative Diode (Plenary Invited)

Ned Ekins-Daukes[1]*

[1]University of New South Wales (UNSW), Sydney, Australia

10:00 - 10:30

3 Mo Pl.7.1 Area: 3 Sub Area: 3.2

High efficiency silicon-based PV technology for high volume manufacturing (Plenary Invited)

Xixiang Xu [1, *], Liang Fang [1], Mingzhe Yu [1], Hua Wu [1], Yunpeng Li [1], Yunlai Yuan [1], Xiaoning Ru [1], Jiansheng Chen [1], Yong Liu [1], Feng Ye [1], Minghao Qu [1], Miao Yang [1], Bo He [1], Chaowei Xue [1], Jianbo Wang [1], Junxiong Lu [1], Zhenguo Li [1]

[1] The Second Research Institute, LONGi Central R&D Institute, LONGi Green Energy Technology Co., Ltd., Shaanxi, China

Monday November 10, 2025 **Program**

Room A - 701 (7F) **Oral Presentation**

Session Chair(s): Yi Hou (SERIS), Watcharaphol Paritmongkol (VISTEC)

11:00 - 11:20

5 Mo In.11.1 Area: 5 Sub Area: 5.1

Unlocking the Potential of Perovskite Solar Cells: from Single-Junction to Tandem (Invited)

Yi Hou [1, *]

[1] SERIS, National University of Singapore, Singapore

11:20 - 11:35

5 Mo O.11.1 Area: 5 Sub Area: 5.1

Long-Term Degradation Mechanisms in Perovskite Solar Cells: A Three-Year Study

Mohammad Istiaque Hossain [1, *]

[1] Environment and Energy Research Institute, Qatar

Monday November 10, 2025 **Program**

Room A - 701 (7F) **Oral Presentation**

11:35 - 11:50

5 Mo O.11.2 Area: 5 Sub Area: 5.1

Unraveling Instability: Bulk vs. Interface Degradation in Perovskites

Dounya Barrit [1,2, *], Juan Pablo Medina Flechas [1,2], Paul Lin [1], Carlos Chaparro [1,2], Marion Provost [2], Estelle Cariou [2], Mirella Al Katrib [2], Pilar López-Varo [2], Philip Schulz [2,3]

[1] TotalEnergies OneTech, Totalenergies, Palaiseau, France
[2] Institut Photovoltaïque dÎle-de-France, (IPVF), France
[3] 3CNRS, UMR9006, Ecole Polytechnique - IP Paris, Chimie Paristech - PSL, Institut Photovoltaïque dÎle-de-France (IPVF), Palaiseau, France

11:50 - 12:05

5 Mo O.11.3 Area: 5 Sub Area: 5.1

Smart Interfaces and Multicomponent Designs for Perovskite Solar Cells

Silver Hamill Turren Cruz [1, *]

[1] Instituto de Ciencia de los Materiales (ICMUV), Universidad de Valencia, Valencia, Spain

Session Chair(s): Do Hyung Kim (Chungbuk National Univ.), Duangmanee Wongratanaphisan (CMU)

13:30 - 13:50

5 Mo In.11.2 Area: 5 Sub Area: 5.1

Halide Perovskite Solar Cells for Space Applications: Progress and Challenges (Invited)

Dohyung Kim [1, *], Hongjae Shim[2†], Seongrok Seo[3†], Charlie Chandler[4], Matthew K. Sharpe[5], Callum D. McAleese[5], Jihoo Lim[2], Beom-Soo Kim[6], Sajib Roy[7], Imalka Jayawardena[7], S. Ravi P. Silva[7], Mark A. Baker[4], Jan Seidel[8], Martin A. Green[2], Henry J. Snaith[3], Jongsung Park[9*], Jae Sung Yun[7*]

[1] Department of Advanced Materials Engineering, Chungbuk National University, Republic of Korea
[2] Australian Centre for Advanced Photovoltaics (ACAP), School of Photovoltaic and Renewable Energy Engineering, University of New South Wales, NSW, Australia.
[3] Department of Physics, University of Oxford, Clarendon Laboratory, UK
[4] Surface Analysis Laboratory, School of Mechanical Engineering Sciences, University of Surrey, Guildford, UK
[5] UK National Ion Beam Centre, University of Surrey, Guildford, UK.
[6] Division of Advanced Materials, Korea Research Institute of Chemical Technology (KRICT), Republic of Korea

[7] School of Computer Science and Electronic Engineering, Advanced Technology Institute (ATI), University of Surrey, Guildford, UK
[8] School of Materials Science and Engineering, University of New South Wales, NSW, Australia
[9] Department of Energy Engineering, Department of Energy System Engineering, Gyeongsang National University, Jinju, Republic of Korea

13:50 - 14:10

5 Mo In.11.3 Area: 5 Sub Area: 5.1

Perovskite Microstructural Disorder (Invited)

Yuanyuan (Alvin) Zhou [1, *]

[1] Department of Chemical and Biological Engineering, The Hong Kong University of Science and Technology, Hong Kong S.A.R.

14:10 - 14:25

5 Mo O.11.4 Area: 5 Sub Area: 5.1

Pulsed voltage-driven electroluminescence imaging method for perovskite solar cells

Itaru Raifuku [1, *], Ryo Ishizuka [1], Ryo Washiashi [1], Yasuaki Ishikawa [1]

[1] Aoyama Gakuin University, Japan

14:25 - 14:40

5 Mo O.11.5 Area: 5 Sub Area: 5.1

High-efficiency and stable perovskite solar cells and modules

Zonghao Liu [1, *]

[1] Wuhan National Laboratory for Optoelectronics, Wuhan National Laboratory for Optoelectronics, Wuhan, Hubei, China

14:40 - 14:55

5 Mo O.11.6 Area: 5 Sub Area: 5.1

Modification of Self-Assembled Monolayer for High-Efficiency Wide Bandgap Perovskite Solar Cell and Module

Passarut Boonmongkolras [1, *], Doyun Im [2], Yeongkeon Jang [1], You-Hyun Seo [1], Nam Joong Jeon [1], Gil Sang Han [1, *]

[1] Photoenergy Research Center, Korea Research Institute of Chemical Technology, Daejeon, South Korea
[2] School of Materials Science and Engineering, Kyungpook National University, Daegu, South Korea

Monday November 10, 2025 **Program**

Room A - 701 (7F) **Oral Presentation**

Session Chair(s): Yuanyuan Zhou (Hong Kong Univ.), Rongrong Cheacharoen (CU)

15:30 - 15:45

5 Mo O.11.7 Area: 5 Sub Area: 5.1

Efficient charge separation at localized 2D ferroelectric domains in perovskite solar cells

Dohyung Kim [1, *], Jihoo Lim [2], Seungmin Lee [3], Hongjae Shim [2], Lei Wang [4], Hyeonah Cho [3], Jincheol Kim [5], Claudio Cazorla [6], Yong-Jin Kim [7], Hanul Min [8], Minwoo Lee [2], Xiaojing Hao [2], S. Ravi P. Silva [9], Jan Seidel [4], Jun Hong Noh [3,8, *], Jae Sung Yun [2,9, *]

[1] Department of Advanced Materials Engineering, Engineering, Chungbuk National University, Cheongju, South Korea

[2] School of Photovoltaic and Renewable Energy Engineering, University of New South Wales, NSW, Australia

[3] School of Civil, Environmental and Architectural Engineering, Korea University, South Korea

[4] School of Materials Science and Engineering, University of New South Wales, NSW, Australia

[5] Sustainable Energy Research Centre, Macquarie University, NSW, Australia

[6] de Física, Science, Universitat Politècnica de Catalunya, Campus Nord, Spain

[7] Photovoltaics Research Department, Korea Institute of Energy Research, Daejeon, South Korea

[8] Department of Integrative Energy Engineering & KU-KIST Graduate School of Converging Science and Technology, Korea University, South Korea

[9] Department of Electrical and Electronic Engineering, University of Surrey, United Kingdom

15:45 – 16:00

5 Mo O.11.8 Area: 5 Sub Area: 5.1

Impact of partial shading on characteristics of methylammonium lead iodide-based perovskite solar cell module

Tomohiko Hara [1, *], Navapat Krobkrong [1], Abdurashid Mavlonov [1], Yoshihiro Hishikawa [1], Takayuki Negami [1], Takashi Minemoto [2]

[1] Research Organization of Science and Technology, Ritsumeikan university, Shiga, Japan

[2] Department of Electrical and Electronic Engineering, College of Science and Engineering, Ritsumeikan university, Shiga, Japan,

Monday November 10, 2025 **Program**

Room A - 701 (7F) **Oral Presentation**

16:00 - 16:15

5 Mo O.11.9 Area: 5 Sub Area: 5.1

Flash-extraction enables conformal growth of perovskite on industrially textured silicon

Deren Yang [1, *], Zengyi Sun [1], Jingjing Xue [1, *]

[1] Material Science and Engineering, Zhejiang university, Hangzhou, Zhejiang, China

16:15 - 16:30

5 Mo O.11.10 Area: 5 Sub Area: 5.1

Halogen Anions Pre-homogenization of Sequential Deposited Wide Bandgap Perovskite for Commercial Textured Perovskite/Silicon Tandem Solar Cells

Pengfei Liu [1, *]

[1] Nankai university, China

16:30 - 16:45

5 Mo O.11.11 Area: 5 Sub Area: 5.1

Fabrication of high-efficiency perovskite solar cells/modules with environmental friendly method

Chun-Guey Wu [1, *]

[1] Chemistry, Science, National Central University, Jhong-Li, Taoyuan, Taiwan

16:45 - 17:00

5 Mo O.11.12 Area: 5 Sub Area: 5.1

Scalable Interface Engineering in Wide-Bandgap Perovskite Solar Cells via Blade-Coating Molecules with Promoted Parallel Orientation

Xiaodan Zhang [1, *], Zhen Liu [1], You Gao [1]

[1] Institute of Photoelectronic Thin Film Devices and Technology, Nankai University, Tianjin, China

Monday November 10, 2025 **Program**

Room B - 702 (7F) **Oral Presentation**

Session Chair(s): Itaru Osaka (Hiroshima Univ.), Taweewat Krajangsang (ENTEC)

11:00 - 11:15

4 Mo O.8.1 Area: 4 Sub Area: 4.1

Understanding Stability and Degradation in CZTSSe Solar Cells Exposed to Extreme Environments

Mohammad Istiaque Hossain [1, *], Yoganash Putthisigamany [2], Atef Zekri [1], Yongfeng Tong [1]

[1] Qatar Environment, Qatar Foundation and Energy Research Institute, Doha, Qatar
[2] Solar Energy Research Institute (SERI), Universiti Kebangsaan Malaysia, Malaysia

11:15 - 11:30

4 Mo O.8.2 Area: 4 Sub Area: 4.1

Research on Carrier Transport Materials and Interface Control in Solar Cells

Qian Kang [1, *]

[1] School of Information Science and Technology, Beijing University of Technology, Beijing, China

11:30 - 11:45

4 Mo O.8.3 Area: 4 Sub Area: 4.1

Fabrication and characterization of organic solar cells with printed MoO3—x as HTL

Luz Elena Santos [1], Salvador I. Garduño Vértiz [2], Magaly Ramírez Como [3], Cecilio Santos Hernández [2], Ángel Sacramento Orduño [4], Anisleidy Broche [1], Yasuhiro Matsumoto [1, *]

[1] Electrical Engineering Department, Research Center for Advanced Studies, Cinvestav-IPN, Mexico City
[2] Institute of Basic Sciences and Engineering, Autonomous University of Hidalgo State, Hidalgo, México
[3] Applied Physics, Research Center for Advanced Studies, Cinvestav-IPN, Mérida, Yucatán, Mexico
[4] Departament d'Enginyeria Electronica Electrica, Rovira i Virgili University, Spain

Monday November 10, 2025 **Program**

Room B - 702 (7F) **Oral Presentation**

11:45 - 12:00

4 Mo O.8.4 Area: 4 Sub Area: 4.1

Advances in optical modelling for thin-film solar cells on multiscale textures

Federica Saitta [1, *], Govind Padmakumar1 [1], Paula Perez Rodriguezand1 [1], Paul Procel Moya1 [1], Rudi Santbergen [1], Arno H.M. Smets [1]

[1] Photovoltaic Materials and Devices (PVMD) group - Electrical Sustainable Energy department, Electrical Engineering, Mathematics & Computer Science (EEMCS), Delft University of Technology, Delft, Netherlands

Session Chair(s): Top Archie Dela Pena (Nanyang Technological Univ.), Aswin Hongsingthong (ENTEC)

13:30 - 13:50

4 Mo In.8.1 Area: 4 Sub Area: 4.1

Development of new polymer donors for high-efficiency organic solar cells (Invited)

Itaru Osaka [1, *],

[1] Hiroshima University, Japan

13:50 - 14:10

4 Mo In.8.2 Area: 4 Sub Area: 4.1

Recent Strategies Advancing the Photovoltaic Performance and Reliability of Organic Solar Cells (Invited)

Top Archie Dela Peña [1, *], Yeng Ming Lam [1], Jiaying Wu [2], Ashraf Uddin [3], Ruijie Ma [4], Mingjie Li [4], Gang Li [4], He Yan [5]

[1] School of Engineering, Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore
[2] The Hong Kong University of Science and Technology (Guangzhou), China
[3] The University of New South Wales, Australia
[4] The Hong Kong Polytechnic University, Hong Kong SAR
[5] The Hong Kong University of Science and Technology (Clear Water Bay), Hong Kong SAR

14:10 - 14:30

4 Mo In.9.1 Area: 4 Sub Area: 4.2

Advancing Earth-Abundant Chalcogenide-Based PVs: Structural, Defect & Interface Engineering Strategies for Enhanced Efficiency (Invited)

Cheng-Ying Chen [1, *]

[1] Department of Optoelectronics and Materials Technology, National Taiwan Ocean University, Taiwan

Monday November 10, 2025 **Program**

Room B - 702 (7F) **Oral Presentation**

14:30 - 14:45

4 Mo O.8.5 Area: 4 Sub Area: 4.1

SnO2-based thin films as earth-abundant transparent conductive oxides for next-generation photovoltaics

Federica Saitta [1, *], Govind Padmakumar [1], Paula Perez Rodriguez [1], Alestair Wilson [1], Rudi Santbergen [1], Arno H.M. Smets [1]

[1] Photovoltaic Materials and Devices (PVMD) group - Electrical Sustainable Energy department, Electrical Engineering, Mathematics Computer Science (EEMCS), Delft University of Technology, Delft, Netherlands

14:45 - 15:00

4 Mo O.8.6 Area: 4 Sub Area: 4.1

Using EL, DLIT and IR imaging for defect detection and using LEDs for contactless EL inspection of thin-film solar modules

Peer Johannes Theodore Sluijs [1, *], Sreejith Koorthedath Pullayikody [1], Arno Smets [1], Ravi Vasudevan [2]

[1] PVMD, EEMCS, Delft University of Technology, Zuid-Holland, Netherlands
[2] LiFT PV, Arnhem, Netherlands

Session Chair(s): Chen Ying Chen (National Taiwan Ocean Univ.), Taweewat Krajangsang (ENTEC), Aswin Hongsingthong (ENTEC)

15:30 - 15:45

4 Mo O.8.7 Area: 4 Sub Area: 4.1

Enhanced photovoltaic properties of ZnTe-based solar cells using high-quality P-doped ZnTe layers with a cracked Zn3P2 dopant source grown by MBE

Tooru Tanaka [1, *], Muhamad Mustofa [1], Katsuhiko Saito [1], Qixin Guo [1]

[1] Department of Electrical and Electronic Engineering, Faculty of Science and Engineering, Saga University, Japan

15:45 - 16:00

4 Mo O.9.1 Area: 4 Sub Area: 4.2

Record 18.83% photovoltaic efficiency in flexible and lightweight Cu(In,Ga)Se_2 minimodule

Shogo Ishizuka [1, *], Yukiko Kamikawa [1], Takeshi Nishida [1], Jiro Nishinaga [1]

[1] Renewable Energy Advanced Research Center (READ), National Institute of Advanced Industrial Science and Technology (AIST), Ibaraki, Japan

Monday November 10, 2025 **Program**

Room B - 702 (7F) **Oral Presentation**

16:00 - 16:15

4 Mo O.9.2 Area: 4 Sub Area: 4.2

State-of-the-art characterization by XPS, UPS and LEIPS of the interfacial band structure of ETLs on kesterite-based solar cells

Lorenzo Calvo-Barrio [1, *], Laura Garcia-Carreras [2], Yudania Sánchez [3], Umair Razi [3], Jacob Andrade-Arvizu [3], Alejandro Pérez-Rodríguez [3], Yuancai Gong [4], Alex Jimenez-Arguijo [4], Edgardo Saucedo [4]

[1] Enginyeria Electrònica i Biomèdica & CCiTUB, Universitat de Barcelona, Spain
[2] Centres Científics i Tecnològics (CCiTUB), Universitat de Barcelona, Gran Via de les Corts Catalanes, Barcelona, Spain
[3] Institut de Recerca en Energia de Catalunya (IREC), Jardins de les Dones de Negre, Sant Adrià de Besòs, Spain
[4] Photovoltaic Group Electronic Engineering, Polytechnic University of Catalonia (UPC), Sant Adrià de Besòs, Spain

16:15 - 16:30

4 Mo O.9.3 Area: 4 Sub Area: 4.2

Overcoming low-light challenges in indoor photovoltaics with optimized chalcogenide absorbers

Outman El Khouja [1], Alex Jimenez-Arguijo [1], Yuancai Gong [1], Hadeer Hussien [2], Nicolae Spalatu [2], Elisa Artegiani [3], Edgardo Saucedo [1], Zacharie Jehl Li-Kao [1], Sergio Giraldo [1, *]

[1] Electronic Engineering Department, Universitat Politècnica de Catalunya (UPC), Barcelona, Catalunya, Spain
[2] Tallinn University of Technology, Tallinn, Estonia
[3] University of Verona, Verona, Italy

16:30 - 16:45

4 Mo O.9.4 Area: 4 Sub Area: 4.2

Role of sodium in widening the process window of air-processable DMF-based CISSe solar cells

Ivan Legahon Opao [1,2, *], Sejin Ahn [1,2, *], Huyen Tran [1,2], Junseop Byeon [1]

[1] Photovoltaic Research Department, Korea Institute of Energy Research, Daejeon, South Korea
[2] Department of Renewable Energy Engineering, University of Science and Technology (UST), Daejeon, South Korea

Monday November 10, 2025 **Program**

Room C - 801 (8F) **Oral Presentation**

Session Chair(s): Kaining Ding (Jülich GmbH), Amornrat Limmanee (ENTEC)

11:00 - 11:15

3 Mo O.6.1 Area: 3 Sub Area: 3.1

Analysis of nc-Si/SiOx composite films for application to high-performance Si solar cells

Kaori Takagi [1, *], Yasuyoshi Kurokawa [2], Atsushi Masuda [1], Noritaka Usami [2], Kazuhiro Gotoh [1,2]

[1] Niigata University, Japan
[2] Nagoya University, Japan

11:15 - 11:30

3 Mo O.6.2 Area: 3 Sub Area: 3.1

Impact of Phosphorus Diffusion Pre-gettering on the Electrical Properties of Oxygen Precipitates in n-Type Czochralski Silicon for Heterojunction Solar Cells

Deren Yang [1, *], Ruokai Wu [1], Xuegong Yu [1]

[1] State Key Laboratory of Silicon and Advanced Semiconductor Materials, Zhejiang University, China

11:30 - 11:45

3 Mo O.6.3 Area: 3 Sub Area: 3.1

Fill Factor Exceeding 85% Indium-free Solar Cells Based on Cadmium Oxides

Xiaodan Zhang [1, *], Qiaojiao Zou [1], Qi Wang [2], Yu Zhao [2], Gangqiang Dong [2], Cao Yu [2], Xiaona Du [1], Biao Shi [1], Ying Zhao [1]

[1] Nankai University, China
[2] Suzhou Maxwell Technologies Co., LTD., China

11:45 - 12:00

3 Mo O.6.4 Area: 3 Sub Area: 3.1

High iVoc of 702 mV in TOPCon Structure Enabled by Sputtered Amorphous Silicon and Spin-On Doping

Shasha Li [1, *], Koki Omori [1], Shinsuke Miyajima [1]

[1] Department of Electrical and Electronic Engineering, School of Engineering, Institute of Science Tokyo, Japan

Monday November 10, 2025 **Program**

Room C - 801 (8F) **Oral Presentation**

Session Chair(s): Thipwan Fangsuwannarak (SUT)

13:30 - 13:50

3 Mo In.6.1 Area: 3 Sub Area: 3.1

A neutral assessment of silicon heterojunction technology in the current c-Si PV technology race (Invited)

Kaining Ding [1, *]

[1] PV-ThynC, IMD-3, Forschungszentrum Jülich GmbH, Jülich, NRW, Germany

13:50 - 14:10

3 Mo In.6.2 Area: 3 Sub Area: 3.1

Monitoring Electric Fields at Interfaces in High Efficiency Architectures Using 4D-STEM (Invited)

Harvey L. Guthrey [1, *], Michelle Smeaton [1], Dirk Steyn [1,2], William Nemeth [1], David Young [1], Paul Stradins [1]

[1] National Renewable Energy Laboratory (NREL), Golden, Colorado, United States
[2] Colorado School of Mines, Golden, Colorado, United States

14:10 - 14:30

3 Mo In.6.3 Area: 3 Sub Area: 3.1

Silver-Lean Metallization Strategies Using Aluminum and Copper for Advanced Photovoltaics (Invited)

Marwan Dhamrin [1, *], Kosuke Tsuji [2], Masahiro Nakahara [2]

[1] Graduate School of Engineering, Faculty of Engineering, Osaka University, Japan
[2] Toyo Aluminium K.K., Shiga, Japan

14:30 - 14:45

3 Mo O.6.5 Area: 3 Sub Area: 3.1

Influence of Al doping ratio on properties of ZnO:Al passivating contacts for crystalline silicon solar cells

Piyumi Kodithuwakku [1, *], Lachlan Black [1, *], Daniel Macdonald [1], Christian Samundsett [1]

[1] School of Engineering, Australian National university, Australia

Monday November 10, 2025 **Program**

Room C - 801 (8F) **Oral Presentation**

14:45 - 15:00

3 Mo O.6.6 Area: 3 Sub Area: 3.1

Silver-free tunnel oxide passivated back contact (TBC) solar cells with screen-printed aluminium contacts

Yuhao Cheng [1, *], Yuchao Zhang [1], Lizhi Sun [1], Shuo Deng [1], Marwan Dhamrin [2,3], Kosuke Tsuji [3], Martin Green [1], Ning Song [1]

[1] School of Photovoltaic and Renewable Energy, Engineering, University of New South Wales, Australia
[2] Graduate School of Engineering, Osaka University, Japan
[3] Toyo Aluminium K.K., Japan

Session Chair(s): Marwan Dhamrin (Osaka Univ.), Yaowanee Sangpongsanont (KMUTT)

15:30 - 15:45

3 Mo O.6.7 Area: 3 Sub Area: 3.1

Simplifying Fabrication of Localized Interdigitated n+ and p+ Poly-Si/SiOx Contacts for Silicon Solar Cells via Inkjet Printing and Spin-on SiOx

Jiali Wang [1, *], Jinlei Ren [2], Laura Creon [2], Paula Peres [2], Rene Chemnitzer [2], Pierre-Yves Corre [2], Sieu Pheng Phang [1], Daniel Macdonald [1], AnYao Liu [1]

[1] School of Engineering, ANU College of Systems and Society, Australian National University, Australia
[2] CAMECA, Gennevilliers, Île-de-France

15:45 - 16:00

3 Mo O.6.8 Area: 3 Sub Area: 3.1

Modified Aluminum Paste for In-Situ Formation of N^+ Regions: Toward Cost-Effective Self-Doping for Back Contact Silicon Solar Cells

Lizhi Sun [1, *], Yuchao Zhang [1], Yuhao Cheng [1], Shuo Deng [1], Marwan Dhamrin [2,3], Kosuke Tsuji [3], Martin Green [1], Ning Song [1, *]

[1] School of Photovoltaic and Renewable Energy, Engineering, UNSW, NSW, Australia
[2] Toyo Aluminium K.K., Japan
[3] Graduate School of Engineering, Engineering, Osaka University, Japan

16:00 - 16:15

3 Mo O.6.9 Area: 3 Sub Area: 3.1

Laser induced high spatial resolution annealing technique for high efficiency back-contact silicon solar cells

Zebin Tan [1, *]

[1] Lanzhou university, China

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3 Mo O.6.10 Area: 3 Sub Area: 3.1

Cascade-type multistage Bayesian optimization for High-Performance Multilayer Electron-Selective Films Containing Nanocrystalline Silicon Oxide

Soma Kondo [1, *], Yasuyoshi Kurokawa [1,2], Kentaro Kutsukake [1,3], Shion Takeno [1], Ryoji Katsube [1], Noritaka Usami [1,2,3]

[1] Graduate School of Engineering, Nagoya University, Japan
[2] InFuS, Nagoya University, Japan
[3] IMass, Nagoya University, Japan

Monday November 10, 2025 **Program**

Room D - 802 (8F) **Oral Presentation**

Session Chair(s): Manit Seapan (KMUTT), Chamnan Limsakul (KMUTT)

11:00 - 11:15

2 Mo O.4.1 Area: 2 Sub Area: 2.1

Structural and Numerical Analysis of White Building-Integrated Photovoltaics Sandblasted Glass Sheets Optical Properties

Disong Zhao [1, *], Kaito Shishido [1], Hiroyuki Wada [1, *], Michio Kondo [1,2, *]

[1] Institute of Science Tokyo, Japan
[2] Waseda University, Japan

11:15 - 11:30

2 Mo O.4.2 Area: 2 Sub Area: 2.1

PV on Heavy Duty Vehicles (HDVS): Monitoring 200 trucks with PVs

Kenji Araki [1, *], Takumi Konuma [2], Makoto Tanaka [3], Yasuyuki Ota [1], Shiro Sakamoto [2], Kensuke Nishioka [1]

[1] GX Research Center, University of Miyazaki, Japan
[2] Systech, Kagoshima, Japan
[3] PVTEC, Tokyo, Japan

11:30 - 11:45

2 Mo O.4.3 Area: 2 Sub Area: 2.1

A Novel Hybrid Photovoltaic-Thermal Integrating HDH, Thermoelectric Water Harvesting, and PEM-Based Hydrogen Production for Enhanced Energy Utilization and Sustainability

Ehab Salah Ali Abdelaal [1, *], Ahmed Alsaman [1], Ridha Ben Mansour [1], Rached Ben-Mansour [1,2]

[1] Interdisciplinary Research Center for Sustainable Energy Systems (IRC-SES), King Fahd University of Petroleum & Minerals, Saudi Arabia
[2] Mechanical Engineering Department, King Fahd University of Petroleum & Minerals, Saudi Arabia

11:45 - 12:00

2 Mo O.4.4 Area: 2 Sub Area: 2.1

Optical performance analysis of honeycomb-structured photovoltaic module for lightweight high-efficiency design

Taiyufei Liu [1, *], Michio Kondo [1,2, *], Hiroyuki Wada [1, *]

[1] Institute of Science Tokyo, Japan
[2] Waseda University, Japan

Monday November 10, 2025 **Program**

Room D - 802 (8F) **Oral Presentation**

Session Chair(s): Boonyang Plangklang (RMUTT), Usa Boonbumrung (KMUTT)

13:30 - 13:50

2 Mo In.4.1 Area: 2 Sub Area: 2.1

Attractive applications that will expand the use of photovoltaic (Invited)

Kensuke Nishioka [1, *]

[1] Green Transformation (GX) Research Center, University of Miyazaki, Japan

13:50 - 14:10

2 Mo In.5.1 Area: 2 Sub Area: 2.2

Performance and stability of flexible Perovskite PV modules under long-term outdoor exposure (Invited)

Yoshihiro Hishikawa [1, *], Ryohei Tsuboi [2], Koki Azuma [2], Kuujyo Tamura [2], Abdurashid Mavlonov [1], Tomohiko Hara [1], Navapat Krobkrong [1], Takayuki Negami [1], Yu Kawano [2], Takashi Minemoto [2]

[1] Research Organization of Science and Technology, Ritsumeikan University, Japan
[2] Ritsumeikan University, Japan

14:10 - 14:30

2 Mo In.5.2 Area: 2 Sub Area: 2.2

Impact of PV Module Testing Standards on Quality Control and Reliability in Thailand and ASEAN (Invited)

Yaowanee Sangpongsanont [1, *], Manit Seapan [1], Chamnan Limsakul [1], Tanokkorn Chenvidhya [1], Krissanapong Kirtikara [1], Dhirayut Chenvidhya [1] and Ballang Muenpinij [1]

[1] CES Solar Cells Testing Center (CSSC), Pilot Plant Development and Training Institute (PDTI), King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand.

14:30 - 14:45

2 Mo O.4.5 Area: 2 Sub Area: 2.1

Development of a Lightweight Mesh-Reinforced Photovoltaic Module for Enhanced Mechanical Strength and Versatile Applications

Nopphadol Sitthiphol [1, *]

[1] National Energy Technology Center (ENTEC), Thailand

Monday November 10, 2025 **Program**

Room D - 802 (8F) **Oral Presentation**

14:45 - 15:00

2 Mo O.4.6 Area: 2 Sub Area: 2.1

Prosumer-Centric Community Microgrids: A Techno-Economic and Regulatory Framework for Sustainable Energy Transition

Teerasak Somsak [1, *]

[1] Electrical Engineering, Faculty of Engineering, Rajamangala University of Technology Lanna, Chiang Mai, Thailand

Session Chair(s): Boonyang Plangklang (RMUTT), Usa Boonbumrung (KMUTT)

15:30 - 15:45

2 Mo O.4.7 Area: 2 Sub Area: 2.1

Prediction of Vehicle Integrated Photovoltaics Potential Under Varying Shading Conditions in Asian region

Su Yi Mon [1, *], Yasuyui Ota [2]

[1] Graduate School of Engineering, University of Miyazaki, Japan
[2] GX Research Center, University of Miyazaki, Japan

15:45 - 16:00

2 Mo O.4.8 Area: 2 Sub Area: 2.1

Techno-economic Analysis and Design of a Solar-Powered Electrical Charging Station with Battery Storage for the EV Transition at Rajamangala University of Technology Lanna

Kittinun Srasuay [1], Montri Ngao-det [1], Jutturit Thongpron [1], Anon Namin [1], Worrajak Muangjai [1], Kan Nakaiam [1], Nattawat Panlawan [1], Nopporn Patcharaprakiti [1], Teerasak Somsak [1, *]

[1] Clean Energy System (CES-RMUTL), Division of Electrical Engineering, Engineering, Rajamangala University of Technology Lanna, Chiang Mai, Thailand

16:00 - 16:15

2 Mo O.4.9 Area: 2 Sub Area: 2.1

Co-location of solar photovoltaics and greenery: Deployment results on solar electricity generation, greenery growth, and roof surface temperature in the tropics

Stephen En Rong Tay [1, *], Faizatuzzahrah Rahmaniah [1], Joyce Hui Min Lim [2], Choon Hock Poh [3], Liansheng He [3], Jeb Yeo [3], James Wei Wang [3], Selvam Valliappan [4], Edward Ang [4], Zhimin Chen [4]

[1] Department of the Built Environment, College of Design and Engineering, National University of Singapore, Singapore
[2] NUS Cities, College of Design and Engineering, National University of Singapore,

Singapore
[3] Centre of Science for Urban Nature, National Parks Board, Singapore
[4] Green Building Policy and Technology, Building and Construction Authority, Singapore

16:15 - 16:30

2 Mo O.4.10 Area: 2 Sub Area: 2.1

Establishment of a PV panel temperature prediction model that takes into account vehicle driving conditions

Yamato Yamashita [1, *]

[1] Department of Engineering, Graduate School of Engineering, University of Miyazaki, Japan

16:30 - 16:45

2 Mo O.4.11 Area: 2 Sub Area: 2.1

Smart Agrivoltaic Greenhouses: Integrating AI and IoT for Energy Self-Sufficiency and Enhanced Vegetable Cultivation

Worrajak Muangjai [1, *]

[1] Electrical Engineering Dept., Faculty of Engineering, Rajamangala University of Technology Lanna, Chiang Mai, Thailand

Monday November 10, 2025 **Program**

Room E - Convention (20F) **Oral Presentation**

Session Chair(s): Pisist Kumnorkaew (NANOTEC), Duangmanee Wongratanaphisan (CMU)

11:00 - 11:15

5 Mo O.11.13 Area: 5 Sub Area: 5.1

Self-driven hybrid organic-inorganic perovskite-based photovoltaic energy harvester for broadband photosensing

Anas A. Ahmed [1, *], Ahlaam T. Nomaan [2], Marzaini Rashid [2], Zain H. Yamani [1,3]

[1] Interdisciplinary Research Center for Hydrogen Technologies and Carbon Management (IRC-HTCM), Research Institute, King Fahd University of Petroleum & Minerals, Saudi Arabia

[2] Nano-Optoelectronics Research and Technology Laboratory, School of Physics, Universiti Sains Malaysia (USM), Malaysia

[3] Physics Department, College of Engineering and Physics, King Fahd University of Petroleum & Minerals, Saudi Arabia

11:15 - 11:30

5 Mo O.11.14 Area: 5 Sub Area: 5.1

Uniformity of copper iodide hole transport layers prepared via ethanol/iodine solution method on inverted planar perovskite solar cells

Auttaphon Ploypradit [1, *], Tetsuya Kaneko [1,2]

[1] Science and Technology, Graduate School of Science and Technology, Tokai University, Japan

[2] Electrical and Electronic Engineering, School of Engineering, Tokai University, Japan

11:30 - 11:45

5 Mo O.11.15 Area: 5 Sub Area: 5.1

Stable Perovskite Solution via Pre-blended Perovskite Microcrystals towards Reliable Manufacturing

Ladda Srathongsian [1, *], Tanakorn kittikool [1], Jintara Padchasri [2], Krongthong Kamonsuangkasem [2], Duangmanee Wongratanaphisan [3], Pipat Ruankham [3], Pasit Pakawatpanurut [4], Pongskorn Kanjanaboos [1, *]

[1] School of Materials Science and Innovation, Science, Mahidol university, Nakhon Pathom, Thailand

[2] Synchrotron Light Research Institute, Nakhon Ratchasima, Thailand

[3] Physics and Materials Science, Science, Chiang Mai University, Chiang Mai, Thailand

[4] Department of Chemistry and Center of Sustainable Energy and Green Materials, Science, Mahidol university, Nakhon Pathom, Thailand

Monday November 10, 2025 **Program**

Room E - Convention (20F) **Oral Presentation**

11:45 - 12:00

5 Mo O.11.16 Area: 5 Sub Area: 5.1

Enhancing the performance and photostability of perovskite solar cells with a multifunctional light-management composite

Seyede Maryam Mousavi [1, *]

[1] Department of Chemistry and Materials Science, Aalto University, Finland

Session Chair(s): Siripha Junlakarn (CU)

13:30 - 13:50

1 Mo In.3.1 Area: 1 Sub Area: 1.3

Overview and Outlook of Renewable Energy and PV in Thailand (Invited)

Munlika Simpranon [1, *]

[1] Department of Alternative Energy Development and Efficiency (DEDE), Bangkok, Thailand

13:50 - 14:10

1 Mo In.3.2 Area: 1 Sub Area: 1.3

Overview and Outlook of Solar PV in Singapore (Invited)

Thomas Reindl [1, *]

[1] Solar Energy Research Institute of Singapore (SERIS), National University of Singapore (NUS), Singapore

14:10 - 14:30

1 Mo In.3.3 Area: 1 Sub Area: 1.3

Overview of Renewable Energy and PV in Lao PDR (Invited)

Houmpheng Theuambounmy [1, *]

[1] Institute for Industry and Energy (IIE), Ministry of Industry and Commerce (MOIC), Lao PDR

14:30 - 14:50

1 Mo In.3.4 Area: 1 Sub Area: 1.3

Reliability Assessment of Photovoltaic Systems in Lao PDR via Health Monitoring Systems and Standardization (Invited)

Vorachack Kongphet [1, *]

[1] Electrical Department, Faculty of Engineering, National University of Laos, Laos PDR

Monday November 10, 2025 **Program**

Room E - Convention (20F) **Oral Presentation**

14:50 - 15:10

1 Mo In.3.5 Area: 1 Sub Area: 1.3

Overview and Outlook of Solar PV in Indonesia (Invited)

Yuliar Firdaus[1, *]

[1] National Research and Innovation Agency (BRIN), Indonesia

Session Chair(s): Pisist Kumnorkaew (NANOTEC), Watcharaphol Paritmongkol (VISTEC)

15:30 - 15:45

5 Mo O.11.17 Area: 5 Sub Area: 5.1

Effects of self-assembled monolayers on inverted lead perovskite solar cells

Dhruba B. Khadka[1, *], Masatoshi Yanagida[1], Yasuhiro Shirai[1]

[1] Photovoltaic Materials Group, National Institute for Materials Science, Japan

15:45 - 16:00

5 Mo O.11.18 Area: 5 Sub Area: 5.1

Functional Layer Optimization and Tuning of Interfacial Dipole for Highly Stable Air-Ambient Fabricated Perovskite Solar Cells

Nitin Kumar Bansal[1, *], Paulomi Singh[2], Sidhanta Gupta[1], Trilok Singh[1, *]

[1]Department of Energy Science and Engineering, Indian Institute of Technology, India
[2]School of Interdisciplinary Research, Indian Institute of Technology, India

16:00 - 16:15

5 Mo O.11.19 Area: 5 Sub Area: 5.1

Numerical Analysis of Lead-Free Perovskite Solar Cell under Indoor Low-Intensity Illumination

Ramisa Tahsin Shreya[1, *], Arnab Kundu[1], Mymuna Khatun Sadia[1]

[1] Electrical and Electronic Engineering, Dhaka, Bangladesh

Monday November 10, 2025	Program
Room E - Convention (20F)	Oral Presentation

16:15 - 16:30

5 Mo O.11.20 Area: 5 Sub Area: 5.1

Multifunctional Coordination of Biotin Enables Record Performance in Wide-Bandgap Tin-Based Perovskite Solar Cells

SungWon Cho [1], Padmini Pandey [2], Huān Bì [3], Jiaqi Liu [3], Han-Gyun Lim [2], Anfal Iftikhar [2], Qing Shen [3], Shuzi Hayase [3], Dong-Won Kang [2, *]

[1] Department of Smart Cities, Chung-Ang University, South Korea
[2] Department of Energy Systems Engineering, Chung-Ang University, South Korea
[3] The University of Electro-Communications, Tokyo, Japan

16:30 - 16:45

5 Mo O.11.21 Area: 5 Sub Area: 5.1

Suppression of stacking faults for stable formamidinium-rich perovskite absorbers

Mostafa Othman [1, *]

[1] Photonics, Electrical and Microengineering, EPFL, Neuchatel, Switzerland

16:45 - 17:00

5 Mo O.11.22 Area: 5 Sub Area: 5.1

Fabrication of CsPbBr3 Absorption Layer via Close-Spaced Sublimation for Perovskite Solar Cells

Yuejie Tan [1, *], Shinsuke Miyajima [1, *]

[1] Department of Electrical and Electronic Engineering, School of Engineering, Institute of Science Tokyo, Japan

Monday November 10, 2025 **Program**

Room F - 803 (8F) **Oral Presentation**

Session Chair(s): Surawut ChuangChote (KMUTT)

11:00 - 11:15

6 Mo O.13.1 Area: 6 Sub Area: 6.1

Potential application of nickel silicide recombination layer for perovskite/TOPCon tandem solar cell

Hae-Seok Lee [2, *], Dowon Pyun [1], Yerin Lee [1], Seok Hyun Jeong [1], Seok Hyun Jeong [1], Jiyeon Nam [1], Ji-Seong Hwang [1], Minseok Chin [2], Doyun Lee [2]

[1] Department of Materials Science and Engineering, Korea University, South Korea
[2] Energy Environment Policy and Technology, Korea University, South Korea

11:15 - 11:30

6 Mo O.13.2 Area: 6 Sub Area: 6.1

Application of the SCAPS 1D program for calculating of 2T perovskite-silicon tandem solar cell

Anna Tsareva [1, *], Daniel Sapori [1], Danila Saranin [2], Alexey Abramov [1], Evgeniy Terukov [1], Alexey Titov [1], Victor Tarasov [3], Ivan Dmitriev [1]

[1] Solar Energy Department, R&D Center of Thin Film Technologies in Energetics, Saint-Petersburg, Russia
[2] National University of Science and Technology, Russia
[3] EnCore Group LLC, Chernyakhovsk, Russia

11:30 - 11:45

6 Mo O.13.3 Area: 6 Sub Area: 6.1

Advancing Industry-Compatible Perovskite/Silicon Tandem Solar Cells

Oussama Er-raji [1,2, *], Oliver Fischer [1,2], Christoph Messmer [1,2], Ahmed Said [3], Anand Subbiah [3], Vladyslav Hnapovskyi [3], Bhushan P. Kore [3], Yashika Gupta [1,2], Mohamed Mahmoud [1,2], Johanna Modes [1,2], Jann Landgraf [1,2], Minasadat Heydarian [1,2], Alexander Bett [1], Maryamsadat Heydarian [1], Christian Schwarz [1,2], Martin Bivour [1], Jonas Schon [1,2], Florian Schindler [1], Martin Hermle [1], Martin C. Schubert [1], Patricia S. C. Schulze [1], Juliane Borchert [1,2], Stefaan De Wolf [3], Stefan W. Glunz [1,2]

[1] Fraunhofer ISE, Freiburg, Germany
[2] INATECH, University of Freiburg, Freiburg, Germany
[3] King Abdullah University of Science and Technology (KAUST), Saudi Arabia

Monday November 10, 2025 **Program**

Room F - 803 (8F) **Oral Presentation**

11:45 - 12:00

6 Mo O.13.4 Area: 6 Sub Area: 6.1

The PVMD Toolbox v2: A Modular Framework for Modeling Advanced Photovoltaic Systems

Youri Blom [1, *], Malte R. Vogt [1], Olindo Isabella [1], Rudi Santbergen [1]

[1] Photovoltaic Materials and Devices group, Electrical Engineering Mathematics and Computer Sciences, Delft, Zuid-Holland, Netherlands

Session Chair(s): Ryousuke Ishikawa (Tokyo City Univ.), Surawut ChuangChote (KMUTT)

13:30 - 13:50

6 Mo In.13.1 Area: 6 Sub Area: 6.1

All-perovskite tandem solar cells with high stability (Invited)

Shuzi Hayase [1, *]

[1] Info-Powered Energy System Research Center, The University of Electro-Communications, Chofu, Japan

13:50 - 14:10

6 Mo In.13.2 Area: 6 Sub Area: 6.1

Silver-Lean Metallization Strategies Using Aluminum and Copper for Advanced Photovoltaics (Invited)

Ryousuke Ishikawa [1, *]

[1] Tokyo City University, Japan

14:10 - 14:25

6 Mo O.13.5 Area: 6 Sub Area: 6.1

Development of an Indium Tin Oxide Double Layer for the Rear Contact of Flexible Bifacial Perovskite Solar Cells and Its Application as the Top Cell in Four-Terminal Tandem Solar Cells

Taweewat Krajangsang [1, *]

[1] National Energy Technology Center (ENTEC), National Science and Technology Development Agency (NSTDA), Pathum Thani, Thailand

Monday November 10, 2025 **Program**

Room F - 803 (8F) **Oral Presentation**

14:25 - 14:40

6 Mo O.13.6 Area: 6 Sub Area: 6.1

Process design of SiGe films with uniform compositions on Si substrates towards applications for MAPbI3/SiGe tandem solar cells

Kenta Yagi [1, *], Ryoji Katsube [1], Yuki Imai [1], Shota Suzuki [2], Hideki Minamiyama [2], Maruwan Dhamrin [2,3], Yasuyoshi Kurokawa [1,4], Noritaka Usami [1,4,5]

[1] Nagoya university, Japan
[2] Toyo Aluminium K.K, Japan
[3] Osaka University, Japan
[4] InFus, Nagoya University, Japan
[5] IMaSS, Nagoya University, Japan

Session Chair(s): Junsin Yi (Sungkyunkwan Univ.), Surawut ChuangChote (KMUTT)

15:30 - 15:45

6 Mo In.13.4 Area: 6 Sub Area: 6.1

Silver-Lean Metallization Strategies Using Aluminum and Copper for Advanced Photovoltaics (Invited)

Kenji Yamamoto [1, *], Simpei Okamoto [1], Ryota Mishima [1], Hisashi Uzu [1], Daisuke Adachi [1]

[1] Kaneka Corporation, Osaka, Japan

15:45 - 16:00

6 Mo In.13.5 Area: 6 Sub Area: 6.1

Sustainability and Performance Enhancement of c-Si-Based Tandem Solar Cells for Advanced Photovoltaic Applications (Invited)

Junsin Yi [1, *]

[1] Department of Electrical and Computer Engineering, Sungkyunkwan University, South Korea

16:00 - 16:15

6 Mo O.14.1 Area: 6 Sub Area: 6.2

Correlating Processing Parameters with Solar Cell Performance: A Machine Learning Framework for Sb_2Se_3 Crystallographic Optimization

Yi-Cheng Lin [1, *]

[1] Department of Mechatronics Engineering, National Changhua University of Education, Changhua, Taiwan

Monday November 10, 2025	Program
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6 Mo O.14.2 Area: 6 Sub Area: 6.2

Real-time Estimation of Cloud Optical Properties from Satellite Imagery Based on Radiative Transfer Modelling and Deep Learning for Photovoltaic Applications

Yuying Xie [1], Mengying LI [1, *]

[1] Mechanical Engineering, Faculty of Engineering, Hong Kong Polytechnic University, Hong Kong S.A.R.

16:30 - 16:45

6 Mo O.14.3 Area: 6 Sub Area: 6.1

Developing an open-access dataset of solar cell luminescence images using generative modelling

Gaia Maria Nolasco Javier [1, *], Brendan Wright [1], Victoria Zhao [1], Tess Rickard [1], Ziv Hameiri [1]

[1] School of Photovoltaic and Renewable Energy Engineering, Faculty of Engineering, The University of New South Wales, Australia

Poster Session I

Monday November 10, 2025

Monday November 10, 2025 **Program**

Room G – Poster Room (1F) **Poster Session I**

Session Chair(s): Kobsak Sriprapha (NECTEC), Sasiwimon Songtrai (NECTEC)

1 Mo Po.1.1 Area: 1 Sub Area: 1.1

PV Role in Carbon Neutral of China

Sicheng Wang [1, *]

[1] PV Committee, China Renewable Energy Society (CRES), Beijing, China

1 Mo Po.1.2 Area: 1 Sub Area: 1.1

Role on CES of Human Resource Empower of PV

Naris Khampangkaew [1, *]

[1] Electrical Engineering, Engineering, Rajamangala University of Technology Lanna, Chiang Mai, Thailand

1 Mo Po.1.3 Area: 1 Sub Area: 1.1

Feasibility study of solar rooftop in public buildings in Bhutan

Krishna Kumar Khati [1, *], Wisut Chamsa-ard [1], Nipon Ketjoy [1], Tawat Suriwong [1]

[1] Smart Grid Technology (SGtech), School of Renewable Energy and Smart Grid Technology, Naresuan University, Phitsanulok, Thailand

1 Mo Po.2.1 Area: 1 Sub Area: 1.2

A Comparative Study of a 3 kW Solar Photovoltaic for a Free Solar Power Plant

Pachara Pholnak [1, *], Jompob Waewsak [2]

[1] Physical Science, Science and Digital Innovation, Thaksin University, Phatthalung, Thailand

[2] Sustainable Energy, Engineering, Thaksin University, Phatthalung, Thailand

1 Mo Po.2.2 Area: 1 Sub Area: 1.2

Same-Day PV Power Forecasting Using a Hybrid Method Combining a Physical-Statistical Model and FT-Transformer

Sho Himori [1, *], Jindan Cui [1], Yuzuru Ueda [1], Utsunomiya Kenji [2], Jun Sasaki [2], Maki Okada [2], Koji Yamaguchi [2]

[1] Electrical Engineering, Engineering, Tokyo University of Science, Japan

[2] Japan Weather Association, Japan

Monday November 10, 2025 **Program**

Room G – Poster Room (1F) **Poster Session I**

1 Mo Po.2.3 Area: 1 Sub Area: 1.2

Techno-Economics of Peak Shaving with PV and Battery with Arima Prediction Model

Worrajak Muangjai [1, *], Teerasak Somsak [1]

[1] Electrical Engineering, Rajamangala University of Technology Lanna, Chiang Mai, Thailand

1 Mo Po.2.4 Area: 1 Sub Area: 1.2

Viability and Performance Analysis of a Small-Scale Standalone Photovoltaic System for Enhancing Energy Resilience in Off-Grid Highland Communities of Thailand

Worrajak Muangjai [1, *]

[1] Electrical Engineering, Rajamangala University of Technology Lanna, Chiang Mai, Thailand

1 Mo Po.2.5 Area: 1 Sub Area: 1.2

Probabilistic forecasting of solar irradiance for photovoltaic output prediction using numerical weather model and machine learning

Tomonao Kobayashi [1, *]

[1] Energy Engineering, Graduate school of Natural Science and Technology, Gifu University, Japan

1 Mo Po.2.6 Area: 1 Sub Area: 1.2

Development of a regional energy management method using PV, SB, and EV under distribution voltage constraints in residential areas

Sosuke Sano [1, *], Jindan Cui [1], Yuzuru Ueda [1]

[1] Electrical Engineering, Tokyo University of Science, Japan

1 Mo Po.3.1 Area: 1 Sub Area: 1.3

Energy transition for every home: Expanding legal aspects of rooftop solar development through microgrids in the ASEAN region (Thailand, Philippines, Indonesia, and Myanmar)

Benjamin Sa-Ong Luis [1, *], Saran Boonrak [2]

[1] Director Secretary, Office of the Secretariat, PT & Associates (PTA) Energy Law Center, Bangkok, Thailand
[2] Consultant, Office of the Secretariat, PT & Associates (PTA) Energy Law Center, Bangkok, Thailand

Monday November 10, 2025 **Program**

Room G – Poster Room (1F) **Poster Session I**

1 Mo Po.3.2 Area: 1 Sub Area: 1.3

Financial improvement and carbon reduction after using new technologies on solar farm

Jiraprabha Kimsunthorn [1, *], Punisa Kitlumluekul [1]

[1] B.Grimm Power Public Company Limited, Bangkok, Thailand

1 Mo Po.3.3 Area: 1 Sub Area: 1.3

PV Development in Thailand to Mobilize Energy Transitions and Net Zero Emission Target

Dusit Kruangam [1, *]

[1] Thai Photovoltaic Industries Association (TPVA), Bangkok, Thailand

2 Mo Po.4.1 Area: 2 Sub Area: 2.1

PV-Powered Sustainable Air Conditioning for Coastal Areas: Integration of Mechanical Vapor Compression and Liquid Desiccant Systems

Mohamed Ali Ahmed [1, *], Syed M. Zubair [1,2]

[1] Interdisciplinary Research Center for Sustainable Energy Systems, Research & Innovation, King Fahd University of Petroleum & Minerals, Saudi Arabia
[2] Department of Mechanical Engineering, College of Engineering and Physics, King Fahd University of Petroleum & Minerals, Saudi Arabia

2 Mo Po.4.2 Area: 2 Sub Area: 2.1

Water bicycle used hybrid power for community tourism along the canal

Nitikorn Silsirivanich [1, *],

[1] Construction Management and Building Innovation, Faculty of Architecture and Design, Rajamangala University of Technology Rattanakosin, Nakhon Pathom, Thailand

2 Mo Po.4.3 Area: 2 Sub Area: 2.1

Enhancing Food Security in Remote Highland Communities: Design, Performance, and Techno-Economic Analysis of a Dedicated Solar-LFP Hybrid Refrigeration System

Worrajak Muangjai [1, *], Teerasak Somsak [1, *]

[1] Electrical Engineering, Rajamangala University of Technology Lanna, Chiang Mai, Thailand

2 Mo Po.4.4 Area: 2 Sub Area: 2.1

Tailor-made solar power output: combining vertical and horizontal PV to match load profiles

Shuto Tsuchida [1, *], Shinichiro Oke [2], Noboru Yamada [1]

[1] Nagaoka University of Technology, Niigata, Japan
[2] National Institute of Technology Tsuyama College, Okayama, Japan

2 Mo Po.4.5 Area: 2 Sub Area: 2.1

Nanofluid-Based Cooling of PV Panels via Advanced Desalination System in Arid Regions: A Dual Solution for Water-Energy Nexus

Mohamed Ghazy Eldeib [1, *], Shafiqur Rehman [1], Mohamed E. Zayed [1], Kashif Irshad [1]

[1] Interdisciplinary Research Center for Sustainable Energy Systems (IRC-SES), King Fahd University of Petroleum & Minerals (KFUPM), Saudi Arabia

2 Mo Po.4.6 Area: 2 Sub Area: 2.1

Composite Aerogel-Based Sponge-Templated 3D Evaporator for Solar-Driven Interfacial Evaporation

Fang Li [1, *], Yong Bai [1]

[1] College of Environmental Science and Engineering, Environmental Engineering, Donghua University, Shanghai, China

2 Mo Po.4.7 Area: 2 Sub Area: 2.1

Innovative Hybrid Photovoltaic-Thermal and PEM Hydrogen Production System Integrated with Adsorption-Based Desalination

Ehab Salah Ali Abdelaal [1, *], Ahmed Saman [1], Ridha Ben Mansour [1], Rached Ben-Mansour [1]

[1] Interdisciplinary Research Center for Sustainable Energy Systems (IRC-SES), King Fahd University of Petroleum & Minerals, Saudi Arabia

2 Mo Po.4.8 Area: 2 Sub Area: 2.1

Development of geometry model for directional solar irradiance on the corrugated roof tile solar panel

Prasan Pankaew [1, *], Itsara Masiri [1], Korntip Tohsing [1], Wattan Rungrat [1], Somjet Pattarapanitchai [1], Orawan Aumporn [1], Jarungsang Laksanaboonsong [1]

[1] Department of Physics, Faculty of Science, Silpakorn University, Sanamchandra Palace Campus, Nakhon Pathom, Thailand

Monday November 10, 2025 **Program**

Room G – Poster Room (1F) **Poster Session I**

2 Mo Po.4.9 Area: 2 Sub Area: 2.1

Comparative analysis of solar pv potential on highway roof structures in mountainous and plain regions

Junkyo Kim [1, *], Hyeong-Dong Park [1,2, *]

[1]Department of Energy Systems Engineering, Seoul National University, South Korea
[2]Research Institute of Energy and Resources, Seoul National University, South Korea

2 Mo Po.4.10 Area: 2 Sub Area: 2.1

Performance Assessment of a Novel Photovoltaic-Thermal-Driven Vacuum Desalination System Integrated with Hydrogen Production via PEM Electrolysis

Ahmed Sayed Saman Mohamed Wahballa [1, *], Ehab Salah Abdelaal [1], Rached Ben-Mansour [1,2], Ridha Ben Mansour [1]

[1] Interdisciplinary Research Center for Sustainable Energy Systems (IRC-SES), King Fahd University of Petroleum & Minerals, Saudi Arabia
[2] Mechanical Engineering Department, King Fahd University of Petroleum & Minerals, Saudi Arabia

2 Mo Po.4.11 Area: 2 Sub Area: 2.1

A real-time simulation of power generation for automotive solar cells using digital twin technology

Nobuteru Takeshita [1, *]

[1] Department of Engineering, Graduate School of Engineering, University of Miyazaki, Japan

2 Mo Po.4.12 Area: 2 Sub Area: 2.1

Analysis of Potential Benefits and Challenges of Photovoltaic-Integrated EVs: Case Studies in Delivery Service Vehicles

Hidenori Mizuno [1, *], Katsuto Tanahashi [1], Takashi Oozeki [1]

[1] Renewable Energy Research Center, Fukushima Renewable Energy Institute, AIST, Japan

Monday November 10, 2025 **Program**

Room G – Poster Room (1F) **Poster Session I**

2 Mo Po.4.13 Area: 2 Sub Area: 2.1

A Technical Design and Economic Evaluation of a Solar Photovoltaic and Battery Energy Storage System for University Campus: A Case Study of Rajamangala University of Technology Lanna, Thailand

Nopporn Patcharaprakiti [1, *], Sirisak Kapuan [1], jeeraphong jeebklum [1], Kittinun Srasuay [1], Worrajak Muangjai [1], Jutturit Thongpron [1], Anon Namin [1], Montri Ngao-det [1], Wiwat Tippajorn [1], Teerasak Somsak [1], Kan Nakaiam [1], Nattawat Panlawan [1]

[1] Electrical Engineering, Clean Energy System, Engineering, Rajamangala University of Technology Lanna, Chiang Mai, Thailand

2 Mo Po.4.14 Area: 2 Sub Area: 2.1

Influence of Voltage Adjustment Transformer Systems on Unintended Tripping Events in Solar Power System in Northern Thailand

Pruk Aggarangsi [1, *], Nattawut Jaruwasupant [1], Yottana Khunatorn [1], Narit Lawpradit [1], Prajak Kittirattanaviwat [2]

[1] Energy Research and Development Institute, Chiang Mai University, Thailand
[2] Charoenchai Transformer Co., LTD., Bangkok, Thailand

2 Mo Po.4.15 Area: 2 Sub Area: 2.1

Artificial Intelligence-Based Fault Diagnosis and Recovery Analysis for Rooftop Photovoltaic Systems on Industrial Buildings

Sukwhan Ko [1, *], Woogyun Shin [1], Hyemi Hwang [1], Youngchul Ju [1], Jinseok Lee [1]

[1] Korea Institute of Energy Research, South Korea

2 Mo Po.5.1 Area: 2 Sub Area: 2.2

Dual-Faced Open Cubic Photovoltaic System: Energy Harvest and Techno-Economic Analysis

Ajay Kumar Prajapat [1, *]

[1] Electrical and Electronics Engineering, National Institute of Technology, India

2 Mo Po.5.2 Area: 2 Sub Area: 2.2

Heat Dissipation of c-Si Solar Cell Modules Using MgO Particles and Support for Larger Areas

Yuta Ninomiya [1, *]

[1] Gifu University, Japan

Monday November 10, 2025 **Program**

Room G – Poster Room (1F) **Poster Session I**

2 Mo Po.5.3 Area: 2 Sub Area: 2.2

Photovoltaic Status in ASEAN: Advancing Photovoltaic Module Quality Assurance in Indonesia

Muhammad Husain Haekal [1, *], Ario Fitrianto Nurtjahjo [1], Helmi Zaini [1], Dhea Amelia Rianjani [2], Anita Dewi Limbong [2], Helmi Nur Muhammad Zain Setiawan [2], Annisaa Taradini [2], Hendrik Sträter [3]

[1] National Measurement Standards, National Standardization Agency of Indonesia (SNSU-BSN), Indonesia
[2] Directorate of Laboratory Management, Research Facilities, and Science and Technology Areas, National Research and Innovation Agency (DPLFKRST-BRIN), Indonesia
[3] Physikalisch-Technische Bundesanstalt (PTB), Germany

2 Mo Po.5.4 Area: 2 Sub Area: 2.2

An Autonomous, Solar-Powered Wireless Sensor Node for Early Wildfire Detection Using Thermostat Sensing and a Meshtastic LoRa Mesh Network

Worrajak Muangjai [1, *], Visut Asanavijit [1], Teerasak Somsak [1], Montri Ngao-det [1], Kan Nakaiam [1], Jutturit Thongpron [1], Anon Namin [1], Nopporn Patcharaprakiti [1], Kittinun Srasuay [1]

[1] Clean Energy System (CES-RMUTL), Division of Electrical Engineering, Faculty of Engineering, Rajamangala University of Technology Lanna, Chiang Mai, Thailand

2 Mo Po.5.5 Area: 2 Sub Area: 2.2

Analysis of Lightning Surge Impact on Photovoltaic Arrays via Controlled Impulse Simulation

Wichet Thipprasert [1, *]

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2 Mo Po.5.6 Area: 2 Sub Area: 2.2

Natural cleaning effects on particles deposited on photovoltaic panels

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2 Mo Po.5.7 Area: 2 Sub Area: 2.2

Quantitative Evaluation of Soiling-Induced Power Losses on Rooftop Photovoltaic Modules in Tropical Climates

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2 Mo Po.5.8 Area: 2 Sub Area: 2.2

Development of Photovoltaic Inverters with their Necessary Characteristics for Integration into the Public Power Supply System

Peter Zacharias [1, *]

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2 Mo Po.5.9 Area: 2 Sub Area: 2.2

Development of a Selective Light Spectrum Back Sheet for Agrivoltaics Solar Panel

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2 Mo Po.5.10 Area: 2 Sub Area: 2.2

Performance Analysis of Solar Photovoltaic Systems in Remote Areas: A Case Study of a Border Patrol Police School in Tak Province, Thailand

Saifon Kotesopa [1, *], Aswin Hongsingthong [1], Rangson Pluemkamon [1], Prathum Kungsok [1], Pratan Kosuwan [1]

[1] National Energy Technology Center (ENTEC), National Science and Technology Development Agency (NSTDA), Pathum Thani, Thailand

2 Mo Po.5.11 Area: 2 Sub Area: 2.2

National metrology infrastructure for performance measurements of photovoltaic devices

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2 Mo Po.5.12 Area: 2 Sub Area: 2.2

Comparative Analysis of Mesh PV Deployment in Vehicle-Integrated Photovoltaics (VIPV) and Rooftop Installations

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2 Mo Po.5.13 Area: 2 Sub Area: 2.2

Laboratory study of field-aged PV module degradation in Thailand's tropical climate using EL imaging

Tanokkorn Chenvidhya [1, *], Manit Seapan [1], Yaowanee Sangpongsanont [1], Dhirayut Chenvidhya [1]

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2 Mo Po.5.14 Area: 2 Sub Area: 2.2

Experimental investigation of cell-back temperature differences in real-field PV modules

Shubham Kumar [1, *]

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2 Mo Po.5.15 Area: 2 Sub Area: 2.2

Understanding Photovoltaic Module Degradation in Tropical Climates: A Nine-Year Field Study and Comparative Analysis from Malaysia

Abdulwahab A. Q. Hasan [1, *], Ahmad Wafi Mahmood Zuhdi [1,2], Abbas M. Al-Ghaili [3], Ali Q. Al-Shetwi [4], Mohammad Aminul Islam [5], K. Prajindra Sankar [2]

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[3] Institute of Informatics and Computing in Energy (IICE), College of Computing and Informatics, Universiti Tenaga Nasional (UNITEN), Malaysia
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2 Mo Po.5.16 Area: 2 Sub Area: 2.2

A regression based approach for fault diagnosis in photovoltaic strings

Woogyun Shin [1, *], Jinseok Lee [1,2, *],Youngchul Ju [1, *],Heymi Hwang [1, *],Sukwhan Ko [1, *]

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2 Mo Po.5.17 Area: 2 Sub Area: 2.2

Impact of glass breakage location on potential-induced degradation progression in crystalline silicon PV modules

Abdulwahab A. Q. Hasan [1, *], Ahmad Wafi Mahmood Zuhdi [1,2], Abbas M. Al-Ghaili [3], Ali Q. Al-Shetwi [4], Mohammad Aminul Islam [5], K. Prajindra Sankar [2]

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2 Mo Po.5.18 Area: 2 Sub Area: 2.2

Impact of tropical high-humidity climates on the stabilization phase of high-efficiency photovoltaic modules

Tanokkorn Chenvidhya [1, *], Watcharee Phojan [1], Manit Seapan [1], Panusorn Polchai [1], Yaowanee Sangpongsanont [1], Dhirayut Chenvidhya [1]

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2 Mo Po.5.19 Area: 2 Sub Area: 2.2

Numerical analysis of the heat dissipation enhancement in a photovoltaic bypass diode junction box using silicone potting compound with graphite filler

Eui Young Oh [1], Jae Hwan Ko [1], Seong Hyeon Kim [1], Hyung Jun Song [1, *]

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2 Mo Po.5.20 Area: 2 Sub Area: 2.2

Quantifying PV Module Annual Degradation Rates: A Comparative Study Between Field Monitoring and Laboratory Results

Yaowanee Sangpongsanont [1, *], Dhirayut Chenvidhya [1], Manit Seapan [1], Tanokkorn Chenvidhya [1], Krissanapong Kirtikara [1], Ballang Muenpinij [1], Surawut Chuangchote [2], Usman Yahaya [1]

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2 Mo Po.5.21 Area: 2 Sub Area: 2.2

Long-term outdoor performance analysis of patterned glass BIPV modules for zero-energy buildings

Jaewon Lee [1, *], Junkee Kim [2], Sungho Hwang [3, *], Yoonmook Kang [4, *]

[1] Energy Environment Policy and Technology, Graduate School of Energy and Environment (KU-KIST Green School), Korea University, South Korea

2 Mo Po.5.22 Area: 2 Sub Area: 2.2

Degradation Mechanism of PVB Encapsulant in PV Modules Used Outdoors in the Middle East for 38 Years

Kazuma Ito [1, *], Yudai Sato [1], Xu Han [1], Lamees Al-Qahm [2,3], Mohammed Al-Matwakel [3], Mohammed Dahesh [2,3], Marwan Dhamrin [4,5], Kazuhiro Gotoh [1,6], Atsushi Masuda [1,6]

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[2] Yemen Standardization, Metrology and Quality Control Org., Yemen
[3] Faculty of Science, Yemen
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[5] Toyo Aluminium K.K., Osaka, Japan
[6] IRCNT, Niigata University, Japan

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2 Mo Po.5.23 Area: 2 Sub Area: 2.2

A Comparative Study of PERC, TOPCon, and HJT Solar Cells for Floating Photovoltaic Systems in Different Climatic Zones

Shurouq Abdulqadir Mohammed [1], Muhammad Quddamah Khokhar [1, *], Hasnain Yousuf [2], Xiaobo Wang [1], Rafi Ur Rahman [1], Maha Nur Aida [3], Alamgeer * [2], Sangheon Park [4], Junsin Yi [1, *]

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[3] Department of Future Energy Engineering, Sungkyunkwan University, South Korea
[4] College of Information and Communication Engineering, Sungkyunkwan University, South Korea

2 Mo Po.5.24 Area: 2 Sub Area: 2.2

Study of Soiling Effect on Solar PV Modules in Site-Specific Remote Areas of Thailand: A Case Study of PV System Located in Headwater Forests of Phetchaburi Province, Thailand

Aswin Hongsingthong [1, *]

[1] National Energy Technology Center (ENTEC), Pathum Thani, Thailand

2 Mo Po.5.25 Area: 2 Sub Area: 2.2

Comparison of Small Off-Grid Photovoltaic System with Diesel Generator Unit: A Case of PV System Located in Remote Areas of Thailand

Aswin Hongsingthong [1, *]

[1] National Energy Technology Center (ENTEC), Pathum Thani, Thailand

3 Mo Po.6.1 Area: 3 Sub Area: 3.1

Gettering kinetics of chromium in silicon wafers using dielectric films

Sanjida Hossain Sabah [1, *], Zhongshu Yang [1], Chang Sun [2], Qian Jin [3], Yichun Wang [3], Rabin Basnet [1], Anyao Liu [1], Daniel Macdonald [1]

[1] College of Social and Science, The Australian National University, Australia
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[3] LONGI Green Energy Technology Co., Ltd, Xi'an, Shaanxi, China

3 Mo Po.6.2 Area: 3 Sub Area: 3.1

Recombination activity of oxide precipitates with iron decoration in silicon

Zhongshu Yang [1, *], Jirui Tie [1], Rabin Basnet [1], AnYao Liu [1, *]

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3 Mo Po.6.3 Area: 3 Sub Area: 3.1

High quality antimony-doped n-type silicon wafers for solar cell applications

Afsaneh Kashizadeh [1, *], Rabin Basnet [1], AnYao Liu [1], Zhongshu Yang [1], Lachlan Black [1], Chang Sun [2], Wei Han [2], Yichun Wang [2], Daniel MacDonald [1]

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[2] R&D Center-Wafer Business Unit, LONGi Green Technology, China

3 Mo Po.6.4 Area: 3 Sub Area: 3.1

Optimisation of electrical performance of textured p+ poly-Si contacts: achieving a lower saturation current density

Anitta Rose Varghese [1, *], Rabin Basnet [1], Kean Chern Fong [1], Daniel Macdonald [1]

[1] School of Engineering, College of Systems and Society, The Australian National University, Australia

3 Mo Po.6.5 Area: 3 Sub Area: 3.1

Deposition and annealing effect of Cat-CVD SiOxNy passivation films

Yinuo Song [1, *]

[1] Japan Advanced Institute of Science and Technology, Ishikawa, Japan

3 Mo Po.6.6 Area: 3 Sub Area: 3.1

Electrode formation on SiNx/crystalline Si using Ag ink

Haruto Yano [1, *], Kei Kashizaki [2], Masayuki Kanehara [2], Kensaku Maeda [1], Keisuke Ohdaira [1]

[1] Japan Advanced Institute of Science and Technology, Ishikawa, Japan
[2] C-INK, Japan

3 Mo Po.6.7 Area: 3 Sub Area: 3.1

Investigation of Light Soaking Effects on Doped Amorphous Silicon Layer in Hetero-Junction Solar Cells

MyeongSeob Sim [1, *], Hae-Seok Lee [2, *]

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[2] Energy Environment Policy and Technology, Graduate School of Energy and Environment (KU-KIST Green School), Korea University, South Korea

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3 Mo Po.6.8 Area: 3 Sub Area: 3.1

Laser Copper Electrode Technology (LCET) for Cost-Effective and High-Efficiency TOPCon Solar Cells

Jen-Hao Song [1, *], Chih-Jeng Huang [1], Han-Chen Chang [1], Sung-Yu Chen [1]

[1] Industrial Technology Research Institute (ITRI), Taiwan

3 Mo Po.6.9 Area: 3 Sub Area: 3.1

Plasma-Enhanced ALD-deposited aluminum fluoride thin film for c-Si solar cell application as a window electron transport layer

Rajesh Maurya [1, *]

[1] Physics, Indian Institute of Technology Madras, India

3 Mo Po.6.10 Area: 3 Sub Area: 3.1

Laser Ablation of SiNx/n⁺ Poly-Si Structure with Minimized Damage for Back Contact Solar Cell Applications

Donghwan Kim [1, *], Yeongseo Son [2], MyeongSeob Sim [1]

[1] Department of Materials Science and Engineering, Korea University, South Korea
[2] Energy Environment Policy and Technology, Graduate School of Energy and Environment (KU-KIST Green School), Korea University, South Korea

3 Mo Po.7.1 Area: 3 Sub Area: 3.2

Reliability of Glass-Free Solar Modules with Glass-Fiber Composite Encapsulation

Ivan Dmitriev [1, *], Artem Kochergin [1], Sergei Yakovlev [1], Konstantin Emtsev [1], Alexey Abramov [1], Eugenii Terukov [1], Igor Shakhrai [2]

[1] R&D Center of Thin Film Technologies in Energetics, Saint Petersburg, Russia
[2] Unigreen Energy LLC, Moscow, Russia

3 Mo Po.7.2 Area: 3 Sub Area: 3.2

Wide-Bandgap Binary Metal Oxide Electron Transport Layer for Solar Cells

Xiaodan Zhang [1, *], Ying Liu [1]

[1] Nankai University, Tianjin, China

3 Mo Po.7.3 Area: 3 Sub Area: 3.2

Characterization of lower Ag-contained Electrically Conductive Adhesive for Shingled Photovoltaics

Chaehwan Jeong [1,2,*], Eunae Jo [1], Geon U Kim [1,3], Woo Cheol Choi [1,2], Min Kwak [1,2]

[1] Energy and Nano Group, Korea Institute of Industrial Technology, South Korea
[2] Green Process and Energy System Engineering, KITECH School, University of Science and Technology, South Korea
[3] Polymer Science and Engineering, Chonnam National University, South Korea

3 Mo Po.7.4 Area: 3 Sub Area: 3.2

Fabrication of semi-transparent shingled photovotaics module for improvement of aesthetic and power

Chaehwan Jeong [1,3,*], Sungmin Youn [1], Min-Joon Park [1], Geon U Kim [1,2], Jin Young Seok [1], Woo Cheol Choi [1,3], Min Kwak [1,3]

[1] Energy and Nano Group, Korea Institute of Industrial Technology, South Korea
[2] Polymer Science and Engineering, Chonnam National University, South Korea
[3] Green Process and Energy System Engineering, KITECH School, University of Science and Technology, South Korea

3 Mo Po.7.5 Area: 3 Sub Area: 3.2

Design and Optimization Strategy for TOPcon Solar Cells via Simulation

Ji-Seong Hwang [1], Yoonmook Kang [2,*]

[1] Department of Materials Science and Engineering, Korea University, South Korea
[2] Energy Environment Policy and Technology, Graduate School of Energy and Environment (KU-KIST Green School), Korea University, South Korea

3 Mo Po.7.6 Area: 3 Sub Area: 3.2

HJT Cells and Modules Degradation by Soldering Flux

Sung Hyun Kim [1,*]

[1] Advanced Batteries Research Center, Korea Electronics Technology Institute (KETI), South Korea

3 Mo Po.7.7 Area: 3 Sub Area: 3.2

Comparative Thermal Analysis of Different BC PV Modules under Partial Shading Conditions

Kanta Nakajima [1,*]

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3 Mo Po.7.8 Area: 3 Sub Area: 3.2

Design and Evaluation of Mesh-Reinforced PV Modules for Improved Thermal Dissipation

Suttinan Jaroensathainchok [1, *]

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3 Mo Po.7.9 Area: 3 Sub Area: 3.2

A simulation study of the impact of bulk resistivity and defect density on TOPCon solar cells with laser-enhanced contacts

Zhongshu Yang [1, *], Marco Ernst [1], Rabin Basnet [1], Kean Fong [1], AnYao Liu [1, *], Daniel Macdonald [1]

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3 Mo Po.7.10 Area: 3 Sub Area: 3.2

Performance Enhancement of SHJ Solar Cells Using LiFx/Al2O3/ITO Multi-Layer Antireflection Coatings

Maha Nur Aida [1], Muhammad Quddamah Khokhar [2], Hasnain Yousuf [3], Mengmeng Chu [3], Rafi Ur Rahman [2], Alamgeer * [3], Junhan Bae [3], Seokjin Jang [1], Junsin Yi [2, *]

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4 Mo Po.8.1 Area: 4 Sub Area: 4.1

Development of a CNF-Based Solar Module Structure with Emphasis on Weight Reduction and Mechanical Reliability

Chanyong Lee [1, *], Jaehyeong Lee [1,2, *]

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4 Mo Po.8.2 Area: 4 Sub Area: 4.1

A Study on the Structure of Lightweight and Eco-Friendly Solar Module Using CNF and Bio-Based Epoxy Composite

Chanyong Lee [1, *], Jaehyeong Lee [1, *]

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4 Mo Po.8.3 Area: 4 Sub Area: 4.1

Characteristics of TiO2 nanoflower synthesized by hydrothermal synthesis and the properties of dye-sensitized solar cells using TiO2 nanoflower

Gun Woo Lee [1], Phil-Jung Kim [1], Jaehyeong Lee [2], Yong Seob Park [1, *]

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[2] School of Information and Communication Engineering, Sungkyunkwan University, South Korea

4 Mo Po.8.4 Area: 4 Sub Area: 4.1

Characteristics of Tin doped ZnO buffer layer fabricated by unbalanced magnetron sputtering for inverted organic solar cells

Min-Sung Kim [1], Phil-Jung Kim [1], Seong-Soo Yang [1], Jae Hyeong Lee [2], Yong Seob Park [1, *]

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[2] School of Information and Communication Engineering, Sungkyunkwan University, South Korea

4 Mo Po.9.1 Area: 4 Sub Area: 4.2

Photoluminescence study of CdZnS buffer layer prepared by open-air chemical vapor deposition method

Tamotsu Okamoto [1, *], Hayato Matsui [1], Yuji Kurimoto [1], Ayaka Kanai [2], Kunihiko Tanaka [2]

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[2] Department of Electrical, Electronics and Information Engineering, Nagaoka University of Technology, Niigata, Japan

4 Mo Po.9.2 Area: 4 Sub Area: 4.2

Reformation of buffer/CdTe interface of CdTe solar cell based on band structure optimization and chemical modification

Yuji Kurimoto [1, *], Shota Uchida [1], Koki Watanabe [1], Takayuki Inaba [1], Zheng Wang [2], Keisuke Ohdaira [2], Tamotsu Okamoto [1]

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4 Mo Po.9.3 Area: 4 Sub Area: 4.2

Identifying suitable electrode materials for BaSi2 solar cells by virtual screening

Kosuke O. Hara [1, *], Tomoaki Yazaki [2], Keisuke Arimoto [2], Junji Yamanaka [2]

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[2] Center for Crystal Science and Technology, University of Yamanashi, Japan

4 Mo Po.9.4 Area: 4 Sub Area: 4.2

CZTSSe photocathodes with ALD-deposited HfO2 protection layers for enhanced PEC stability and efficiency

Seong Ha Hwang [1], Jin Hyeok Kim [1, *]

[1] Materials Science and Engineering, Chonnam National University, South Korea

4 Mo Po.9.5 Area: 4 Sub Area: 4.2

Electronic properties of Cu2CdxZn1—xSnS4 thin films by Kelvin probe and photoelectron yield spectroscopy

Marin Rusu [1, *], Valentin Jäger-Waldau [1], Ernest Arushanov [2]

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[2] Institute of Applied Physics, Moldova State University, Chisinau, Moldova

4 Mo Po.9.6 Area: 4 Sub Area: 4.2

Significance of Window Layer Engineering in High Efficiency CZTSSe Thin Film Solar Cells

Dong Hyun Kang [1, *]

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4 Mo Po.9.7 Area: 4 Sub Area: 4.2

Rear Interface Engineering and Concurrent Co-Cation Substitution Strategies for High-Efficiency Kesterite Solar Cells

Youseong Park [1, *], Jin Hyeok Kim [1, *]

[1] Materials Science & Engineering, Chonnam National University, South Korea

4 Mo Po.9.8 Area: 4 Sub Area: 4.2

Multilayer thin-film optical filter strategies for color-tunable Cu(In,Ga)Se2 solar cells in building-integrated photovoltaic applications

Yong-Duck Chung [1, *], Dae-Hyung Cho [1], Rina Kim [1], Woo-Jung Lee [1], Tae-Ha Hwang [1], Mangu Kang [1], Donghyeop Shin [2], Kihwan Kim [2]

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[2] Photovoltaics Research Department, Korea Institute of Energy Research, South Korea

4 Mo Po.9.9 Area: 4 Sub Area: 4.2

Large-area semi-transparent CuO thin-film solar cells with novel DMD electrodes: experimental and simulation studies

Venkatesh Narasihman [1], Balaji Gururajan [1, *], Bhavya Kondapavuluri [1], Wei-Sheng Liu [1], Snehal Mondal [2]

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[2] DST-IIEST Solar PV Hub, School of Advanced Materials, Green Energy and Sensor Systems, Indian Institute of Engineering Science and Technology, India

4 Mo Po.9.10 Area: 4 Sub Area: 4.2

Numerical insights into Bi_2S_3 and Cu_3BiS_3 thin-film solar cells: emerging chalcogenides for sustainable photovoltaics

Venkatesh Narasihman [1], Balaji Gururajan [1, *], Annem Kumara Swamy Reddy [2], Dhilip Kumar Kirthigavasagan [2], Wei-Sheng Liu [1]

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4 Mo Po.9.11 Area: 4 Sub Area: 4.2

Analysis of Antimony Selenide Absorber Layers Deposited via Sputtering and Rapid Thermal Annealing

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4 Mo Po.9.12 Area: 4 Sub Area: 4.2

Low-cost Thin Film Solar Cells Using Single Source Vapor Transport Deposited SnSxSe1-x Absorber Layer

Yong Tae Kim [1, *], Jaeyeong Heo [1, *]

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5 Mo Po.11.1 Area: 5 Sub Area: 5.1

Alternative p-type Metal Oxide Films as Hole Transport Materials for Photovoltaic Devices

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5 Mo Po.11.2 Area: 5 Sub Area: 5.1

Vacuum-Deposited $CsPbI_2Br$ Perovskites: Unlocking Wide-Bandgap Potential for Efficient Triple-Junction Tandem Solar Cells

Syed Fawad Ali Shah [1, *], Rehan Muhammad [2], Hyeonwook Park [1], Donghyeop Shin [2], Kihwan Kim [2, *], Jae Ho Yun [1, *]

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[2] Photovoltaics, Korea Institute of Energy Research (KIER), South Korea

5 Mo Po.11.3 Area: 5 Sub Area: 5.1

PVDF-HFP Additive Impact on Perovskite Solar Cell Reliability for Space Application

KUNMU LEE [1, *], Seoungjun Ahn [1], Ming-Chung Wu [1], Wei-Hao Chiu [1]

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5 Mo Po.11.4 Area: 5 Sub Area: 5.1

Evaluating the degradation mechanisms of flexible perovskite solar cells: comparative study of heat, damp-heat, and heat-light stress conditions

Abdurashid Mavlonov [1, *], Hiroki Mori [1], Navapat Krobkrong [1], Tomohiko Hara [1], Yoshihiro Hishikawa [1], Takayuki Negami [1], Yu Kawano [1], Takashi Minemoto [1]

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5 Mo Po.11.5 Area: 5 Sub Area: 5.1

Performance Evaluation of PSC solar cell Modules under Light Soaking and Bias Voltage in I-V Measurements

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5 Mo Po.11.6 Area: 5 Sub Area: 5.1

Effects of the wavelength of incident light on the performance and stability of perovskite solar cell modules

Koki Azuma [1, *], Yoshihiro Hishikawa [1], Kuujyo Tamura [1], Tomohiko Hara [1], Abdurashid Mavlonov [1], Navapat Krobkrong [1], Takayuki Negami [1], Yu Kawano [1], Takashi Minemoto [1], Takashi Minemoto [1]

[1] Ritsumeikan University, Kusatsu, Shiga, Japan

5 Mo Po.11.7 Area: 5 Sub Area: 5.1

Dual Field Passivation Strategy for High-Performance Wide-Bandgap Perovskite Solar Cells

Molang Cai [1, *], Xuzheng Feng [1], Xing Li [2]

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[2] Institute of Microelectronics, Chinese Academy of Sciences, Beijing, China

5 Mo Po.11.8 Area: 5 Sub Area: 5.1

Experimental insight-driven device simulation of Sn^{2+} doped $CsPbBr_3$ perovskite based solar cell

Deenbandhu Sharma [1, *], Shailendra Kumar Sharma [1]

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5 Mo Po.11.9 Area: 5 Sub Area: 5.1

Dipole-Tuned Phenothiazine Self-Assembled Monolayers for Interfaces Energy Alignment in Inverted Perovskite Solar Cells.

Hung Van Tran [1,2, *], SungJun Hong [1,2, *], SeJin Ahn [1,2]

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[2] Photovoltaics Research Department, Korea Institute of Energy Research, South Korea

5 Mo Po.11.10 Area: 5 Sub Area: 5.1

Shear flow strategy for coating homogeneity of organic materials in perovskite solar cells and modules

Xiaodan Zhang [1, *], You Gao [1], Zhen Liu [1], Youpeng Wang [1], Penghui Yang [2], Biao Shi [1], Shuainan Liu [1], Sihan Li [1], Yali Liu [1], Xin Ge [1], Pengfei Liu [1], Yuan Luo [1], Cong Sun [1], Xiaona Du [1], Pengyang Wang [1], Ying Zhao [1], Jun Shao [2]

[1] Institute of Photoelectronic Thin Film Devices and Technology, Nankai University, China
[2] Utmolight Company Limited, Wuxi, China

5 Mo Po.11.11 Area: 5 Sub Area: 5.1

Regulating Crystallization for Pure-Iodide 1.68 eV Bandgap Perovskite Solar Cells with a Fill Factor over 86%

Xiangqing Zhou [1, *], Xiaodan Zhang [1, *]

[1] Institute of Photoelectronic Thin Film Devices and Technology, Renewable Energy Conversion and Storage Center, State Key Laboratory of Photovoltaic Materials and Cells, Nankai University, China

5 Mo Po.11.12 Area: 5 Sub Area: 5.1

Effect of interface passivation on film-type perovskite solar cells with through-hole electrodes

Hayato Okawa [1, *]

[1] Tokyo City University, Japan

5 Mo Po.11.13 Area: 5 Sub Area: 5.1

The role of humidity in the interfacial and electrical properties of MAPbI3 and Spiro-OMeTAD layer for efficient perovskite solar cells

Junyeong Lee [1], Akshaiya Padmalatha Muthukrishnan [1], Rukesh Kumar Selvaprakash [1], Sungjin Jo [1, *]

[1] School of Energy Engineering, Kyungpook National University, South Korea

5 Mo Po.11.14 Area: 5 Sub Area: 5.1

Functionalized Self-Assembled Monolayers for Tuning Hole Transport Layer Interfaces in 2D Perovskite Solar Cells

Sungjin Jo [1, *], Akshaiya Padmalatha Muthukrishnan [2], Junyeong Lee [3], Rukesh Kumar Selvaprakash [2], Aishwarya Nikam Shailendra [2]

[1] School of Energy Engineering, College of Engineering, South Korea

Monday November 10, 2025 **Program**

Room G – Poster Room (1F) **Poster Session I**

5 Mo Po.11.15 Area: 5 Sub Area: 5.1

Effectiveness of incorporating MACl as an additive in Wide bandgap perovskites

Rukesh Kumar Selvaprakash [1], Junyeong Lee [1], Akshaiya Padmalatha Muthukrishnan [1], Aishwarya Shailendra Nikam [1], Sungjin Jo [1, *]

[1] School of Energy Engineering, Kyungpook National University, South Korea

5 Mo Po.11.16 Area: 5 Sub Area: 5.1

Synergistic Passivation for Efficient Inverted Inorganic Perovskite Solar Cells

Xiaodan Zhang [1, *]

[1] Institute of Photoelectronic Thin Film Devices and Technology, Renewable Energy Conversion and Storage Center, State Key Laboratory of Photovoltaic Materials and Cells, Nankai University, Tianjin, China

5 Mo Po.11.17 Area: 5 Sub Area: 5.1

Optimization of $BaZrS_3$ solar cells using copper-based ternary HTLs and oxide ETLs: a simulation study

Zin Thu Thu Naing [1], Kaviya Palanisamy [2], Balaji Gururajan [3], Prasanna Sankaran [4], Watcharapan Suansantisuk [1], Venkatesh Narasihman [3]

[1] Department of Electronics and Telecommunication Engineering, King Mongkut's University of Technology Thonburi, Bangkok, Thailand
[2] Department of Electrical and Electronics Engineering, PSG College of Technology, India
[3] Department of Electrical Engineering, Yuan Ze University, Taoyuan, Taiwan
[4] Department of Physics, PSG College of Technology, India

5 Mo Po.11.18 Area: 5 Sub Area: 5.1

Iodine outgassing and surface accumulation in MAPbI3-based solar cells under various storage atmospheres

Senku Tanaka [1, *], Takara Okada [1], He Haoyuan [1]

[1] Department of Energy and Materials, Faculty of Science and Engineering, Kindai University, Japan

5 Mo Po.12.1 Area: 5 Sub Area: 5.2

Al2O3 thin films grown by spray pyrolysis using a novel solution

Kenji Yoshino [1, *], Daiki Uto [1], Shintaro Yasui [2]

[1] Electronic and Electronics Engineering, University of Miyazaki, Japan
[2] Next-generation secondary battery Research Unit, Laboratory for Zero-Carbon Energy, Institute of Science Tokyo, Japan

Monday November 10, 2025 **Program**

Room G – Poster Room (1F) **Poster Session I**

5 Mo Po.12.2 Area: 5 Sub Area: 5.2

Thermally stable FTO thin films on quartz substrates by spray pyrolysis

Kenji Yoshino [1, *], Daiki Uto [1], Koichi Yoshiyama [1], Tomohiro Higashi [1]

[1] Electronic and Electronics Engineering, University of Miyazaki, Japan

5 Mo Po.12.3 Area: 5 Sub Area: 5.2

Effect of Ligand Removal on BaZrS3 Films Prepared from Nanoparticles dispersion liquid

Mitsuki Yamanishi [1, *]

[1] Ritsumeikan University, Japan

5 Mo Po.12.4 Area: 5 Sub Area: 5.2

Design and development of an optoelectronic perovskite structured material for agrivoltaics

Lahiru N. Jayasekera [1, *], Morawakage P. Rashmika [1], Galhenage A. Sewvandi [1]

[1] Department of Materials Science and Engineering, University of Moratuwa, Sri Lanka

5 Mo Po.12.5 Area: 5 Sub Area: 5.2

Solvent-free synthesis of δ-CsPbI3 via ball milling and its thermal phase transition to α-CsPbI3

Zhihao Xu [1, *], Hidetaka Kasai [2], Eiji Nishibori [1]

[1] Institute of Pure and Applied Sciences, University of Tsukuba, Japan
[2] Department of Materials Science, Osaka Metropolitan University, Osaka, Japan

6 Mo Po.13.1 Area: 6 Sub Area: 6.1

Dry-colloidal nanoimprint master mold for near-IR light trapping in silicon tandem solar cells

Yutong Wu [1, *], Yasuyoshi Kurokawa [1], Noritaka Usami [1]

[1] Department of Materials Process Engineering, Graduate School of Engineering, Nagoya University, Japan

6 Mo Po.13.2 Area: 6 Sub Area: 6.1

Light Management Studies in Perovskite/Silicon Tandem Solar Cells

Molang Cai [1, *], xianggang chen [1], Zishuo Wang [1]

[1] North China Electric Power University, Beijing, China

Monday November 10, 2025 **Program**

Room G – Poster Room (1F) **Poster Session I**

6 Mo Po.13.3 Area: 6 Sub Area: 6.1

Optimization of the Bill of Materials for Stable Perovskite-Silicon Tandem Mini-Modules

Romika Sharma [1, *], Stella Hadiwidjaja [1], Jeffrey Ison [1], Srinath Nalluri [1], Armin G. Aberle [1,2]

[1] Solar Energy Research Institute of Singapore (SERIS), National University of Singapore, Singapore
[2] Department of Electrical and Computer Engineering, National University of Singapore, Singapore

6 Mo Po.13.4 Area: 6 Sub Area: 6.1

Study on the carrier recombination layer in perovskite/CIGS tandem solar cells

Chihiro Mizushima [1, *], Shogo Ishizuka [2], Ryousuke Ishikawa [1, *]

[1] Electrical and Chemical Engineering, Interdisciplinary Graduate School of Science and Engineering, Tokyo City University, Japan
[2] Renewable Energy Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan

6 Mo Po.13.5 Area: 6 Sub Area: 6.1

Evaluation of band alignment of carrier recombination layers in perovskite/CIGS tandem solar cells using HAXPES

Yoshiharu Kirihara [1, *], Chihiro Mizushima [1], Shogo Ishizuka [2], Ryousuke Ishikawa [1], Hiroshi Nohira [1]

[1] Tokyo City University, Japan
[2] National Institute of Advanced Industrial Science and Technology, Ibaraki, Japan

6 Mo Po.14.1 Area: 6 Sub Area: 6.2

Tandem cells for BIPV: Predicting color induced inter-and intracell current mismatch for perovskite/silicon 2T tandem cells

Carlos Enrico Clement [1, *], Wilson Moyer [1], Stella Hadiwidjaja [1]

[1] Solar Energy Institute of Singapore, National University of Singapore, Singapore

Monday November 10, 2025 **Program**

Room G – Poster Room (1F) **Poster Session I**

6 Mo Po.14.2 Area: 6 Sub Area: 6.2

Physics-Aware Reinforcement Learning for High-Efficiency Design of Ratchet-Type Intermediate-Band Solar Cells

Takahiro Kochi [1, *], Yusuke Oteki [2], Yoshitaka Okada [2], Tomah Sogabe [1, *]

[1] Department of Engineering, The University of Electro-Communications, Tokyo, Japan
[2] RCAST, The University of Tokyo, Japan

6 Mo Po.14.3 Area: 6 Sub Area: 6.2

Multi-objective Optimization of an Off-grid Solar PV System Sizing for Electric Vehicle Charging Station Using PPO and DDPG-based Deep Reinforcement Learning

Promphak Boonraksa [1, *]

[1] Department of Mechatronics Engineering, Faculty of Engineering and Architecture, Rakamangla University of Technology Suvarnabhumi, Nonthaburi, Thailand

6 Mo Po.14.4 Area: 6 Sub Area: 6.2

Automatic Analysis and Prediction of Small Off-Grid PV System Performance in Remote Areas of Thailand

Bancha Janthong [1, *], Aswin Hongsingthong [2, *]

[1] Electrical and Computer Engineering, Engineering, King Mongkut's University of Technology North Bangkok, Bangkok, Thailand
[2] Solar Photovoltaic Research Team, National Energy Technology Center (ENTEC), National Science and Technology Development Agency (NSTDA), Bangkok, Thailand

6 Mo Po.14.5 Area: 6 Sub Area: 6.2

Investigation the effect of noises and non-uniformity of neuron activation functions on dedicated neural network circuits for high-throughput screening of materials in photovoltaics

Methawee Nukunudompanich [1, *], Ye Min Thant [2], Sergei Manzhos [3, *]

[1] Industrial Engineering, School of Engineering, King Mongut's Institute of Technology, Bangkok, Thailand
[2] School of Engineering, King Mongut's Institute of Technology, Lat Krabang, Bangkok, Thailand
[3] Material and Chemical Technology, School of Engineering, Institute of Science Tokyo, Japan

Oral Presentation

Tuesday November 11, 2025

Tuesday November 11, 2025 **Program**

Room C - 801 (8F) **Plenary**

Session Chair(s): Dusit Kruangam, Taweewat Krajangsang (ENTEC)

09:30 - 10:00

1 Tu Pl.1.1 Area: 1 Sub Area: 1.1

ASEAN Photovoltaics (PV): Development, Learning, Performance, Marketing, and Policy (Plenary Invited)

Krissanapong Kirtikara [1, 2] *

[1] King Mongkut's University of Technology Thonburi, Bangkok, Thailand

[2] Kasetsart University, Bangkok, Thailand

10:00 - 10:30

4 Tu Pl.8.1 Area: 4 Sub Area: 4.1

Molecular Engineering for Porphyrin-Based Dye-Sensitized Solar Cells (Plenary Invited)

Tomohiro Higashino [1, *]

[1] Department of Molecular Engineering, Graduate School of Engineering, Kyoto University, Japan

Tuesday November 11, 2025 **Program**

Room A - 701 (7F) **Oral Presentation**

Session Chair(s): Promphak Boonraksa (RUS)

11:00 – 11:20

1 Tu In.1.1 Area: 1 Sub Area: 1.1

The Japan`s 7th Strategic Energy Plan and Sustainable Penetration of Photovoltaics (Invited)

Shigeru Niki [1, *]

[1] New Energy and Industrial Technology Development Organization (NEDO)

11:20 - 11:40

1 Tu In.1.2 Area: 1 Sub Area: 1.1

A Snapshot of the Global PV Market and Industry (Invited)

Gaëtan Masson [1], Arnulf Jäger-Waldau [2], Izumi Kaizuka [3, *], Johan Lindahl [4], José Donoso [5], Melodie de l'Epine [6]

[1] IEA PVPS Task1, Belgium
[2] European Commission, JRC, Italy
[3] RTS Corporation, Tokyo, Japan
[4] Becquerel Sweden, Sweden
[5] UNEF, Spain
[6] Becquerel France, France

Tuesday November 11, 2025 **Program**

Room A - 701 (7F) **Oral Presentation**

11:40 - 11:55

1 Tu O.1.1 Area: 1 Sub Area: 1.1

Commemorating 50 Years of Solar PV in India: Achievements and Challenges Ahead

Juzer Vasi [1, *], Rajeewa R. Arya [1,2]

[1] National Centre for Photovoltaic Research and Education, Indian Institute of Technology Bombay, India
[2] Arya International, Beaverton, Oregon, United States

11:55 - 12:10

1 Tu O.1.2 Area: 1 Sub Area: 1.1

What happens when Solar Photovoltaic System Capacity in the European Union is larger than the Thermal Power Capacity

Arnulf Jaeger-Waldau [1, *], Georgia Kakoulaki [1], Anatoli Chatzipanagi [1], Sanor Szabo [1], Nigel Taylor [1]

[1] Joint Research Centre, European Commission, via E. Fermi 2749, Ispra, Italy

Session Chair(s): Promphak Boonraksa (RUS)

13:30 - 13:50

1 Tu In.1.3 Area: 1 Sub Area: 1.1

GIS Based Potential Analysis for PV in Europe (Invited)

Georgia Kakoulaki [1, *],

[1] European Commission, Joint Research Centre

13:50 - 14:10

1 Tu In.1.4 Area: 1 Sub Area: 1.1

Corporate Decarbonization in South East Asia -Role of Photovoltaic System (Invited)

Peter du Pont [1, *],

[1] Asia Clean Energy Partners Limited

Tuesday November 11, 2025 **Program**

Room A - 701 (7F) **Oral Presentation**

14:10 - 14:25

1 Tu O.1.3 Area: 1 Sub Area: 1.1

Towards a Low-Carbon University Student Housing: Complementing Campus-wide Solar PV Deployment with Policy for Reduced Electricity Consumption

Jeslin Liudy [1], Natasha Yu Zhen Wu [1], Nyuk Hien Wong [1], Li Neng Lee [2], Stephen En Rong Tay [1,3,*]

[1] Department of The Built Environment, College of Design and Engineering, National University of Singapore, Singapore
[2] Department of Psychology, College of Humanities and Sciences, National University of Singapore, Singapore
[3] Solar Energy Research Institute of Singapore, National University of Singapore, Singapore

14:25 - 14:40

1 Tu O.1.4 Area: 1 Sub Area: 1.1

PV Industry: More Jobs Created in Importing Countries than in China—But at the Cost of Slower Deployment

Pietro P Altermatt [1,*], Yifeng Chen [1]

[1] State Key Laboratory for Photovoltaic Science and Technology (SKL), Trinasolar, Changzhou, Jiangsu, China

14:40 - 14:55

1 Tu O.1.5 Area: 1 Sub Area: 1.1

De-risking Photovoltaic System Investments in Thailand: An Empirical Approach to Energy Yield P-Value Correction

Teerasak Somsak [1,*]

[1] Electrical Engineering, Faculty of Engineering, Rajamangala University of Technology Lanna, Chiang Mai, Thailand

Tuesday November 11, 2025 **Program**

Room A - 701 (7F) **Oral Presentation**

Session Chair(s): Peter du Pont (ACEP)

15:30 - 15:45

1 Tu 0.1.6 Area: 1 Sub Area: 1.1

Transformation of Energy and Regulatory Environment in Grid-scale Energy Storage in Thailand

Anawach Sangswang [1, *], Anittha Jutarosaga [2]

[1] Department of Electrical Engineering, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

[2] The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

15:45 - 16:00

1 Tu 0.1.7 Area: 1 Sub Area: 1.1

Understanding Disparities in Global Horizontal Irradiance (GHI): A Comparative study of Five Prominent Solar Data Repositories

Soniya Bajar [1, *]

[1] Electrical Engineering, Deenbandhu Chhotu Ram University of Science & Technology, Haryana, India

16:00 - 16:15

1 Tu 0.1.8 Area: 1 Sub Area: 1.1

Potential of business models without incentives in Japanese PV market: Self consumption and Corporate PPAs

Naofumi Ezawa [1, *], Yoshiyuki Ohashi [1], Koichi Sugibuchi [1], Haruki Yamaya [1], Satsuki Kanai [1], Osamu Ikki [1]

[1] RTS Corporation, TOKYO, Japan

16:15 - 16:30

1 Tu 0.1.9 Area: 1 Sub Area: 1.1

Comparative social life cycle assessment in emerging perovskite photovoltaic technologies

Anna Bargues [1, *]

[1] Becquerel Institute, France

Tuesday November 11, 2025	Program
Room A - 701 (7F)	Oral Presentation

16:30 - 16:45

1 Tu 0.2.1 Area: 1 Sub Area: 1.2

Interpretable intelligent method of precise PV active power prediction using advanced random vector functional link coupled with Eurasian-lynx optimization algorithm: The 1.50 GW Sudair solar PV park, Saudi Arabia

Mohamed E. Zayeda [1, *], Shafiqur Rehman [1,2, *], Mohamed Ghazy [1], Hassan Z. Al Garni [3], Faisal AlOmari [2], Kashif Irshad [1], Atif Saeed Alzahrani [1], Ahmed Safy Menesy [4], Kotb M. Kotb [1]

[1] IRC for Sustainable Energy Systems (IRC-SES), King Fahd University of Petroleum & Minerals, Saudi Arabia
[2] Mechanical Engineering Department, King Fahd University of Petroleum & Minerals, Saudi Arabia
[3] Department of Electrical Engineering, Jubail Industrial College, Jubail, Saudi Arabia
[4] Sudair One Renewable Energy Company, Sudair, Saudi Arabia
[5] Electrical Engineering Department, King Fahd University of Petroleum & Minerals, Saudi Arabia

16:45 - 17:00

1 Tu 0.2.2 Area: 1 Sub Area: 1.2

Development and validation of image-to-irradiance conversion implemented on Himawari-9 satellite images

Gokhan Mert Yagli [1, *]

[1] Electrical and Computer Engineering, National University of Singapore, Solar Energy Research Institute of Singapore (SERIS), National University of Singapore, Singapore

Tuesday November 11, 2025 **Program**

Room B - 702 (7F) **Oral Presentation**

Session Chair(s): Chen Ying Cheng (National Taiwan Ocean Univ.)

11:00 - 11:15

4 Tu O.9.5 Area: 4 Sub Area: 4.2

Steady-state carrier profiles governing short-circuit current in homo-pn solar cells

Isshin Sumiyoshi [1, *], Yoshitaro Nose [1]

[1] Department of Materials Science and Engineering, Kyoto University, Japan

11:15 - 11:30

4 Tu O.9.6 Area: 4 Sub Area: 4.2

Approaching 20% efficiency in kesterite solar cells for indoor photovoltaic applications

Yuancai Gong [1], Outmal El Khouja [1], Alex Jimenez-Arguijo [1], Ivan Caño [1], Charalampos Goniotakis [1], Sergio Giraldo [1], Marcel Placidi [1], Zacharie Jehlk Li-Kao [1], Edgardo Saucedo [1, *]

[1] Electronic Engineering, EEBE, Universitat Politècnica de Catalunya (UPC), Barcelona, Spain

11:30 - 11:45

4 Tu O.9.7 Area: 4 Sub Area: 4.2

Selenium solar cells for transparent PV applications

Marcel Placidi [1, *]

[1] Electronic Engineering, Universitat Politècnica de Catalunya, Spain

11:45 - 12:00

4 Tu O.9.8 Area: 4 Sub Area: 4.2

Direct sputtering deposition of Zn–Ge–O buffer with conduction band controllability for Cd-free and all-dry process Cu(In,Ga)S2 solar cells

Takahito Nishimura [1, *], Yota Suzuki [1], Akira Yamada [1]

[1] Department of Electrical and Electronic Engineering, School of Engineering, Institute of Science Tokyo, Japan

Session Chair(s): Sojiphong Chatraphorn (CU), Taweewat Krajangsang (ENTEC)

13:30 - 13:50

4 Tu In.10.1 Area: 4 Sub Area: 4.3

High efficiency space solar cell and Quantum dot (Invited)

Sojiphong Chatraphorn [1, *]

[1] Faculty of Science, Chulalongkorn University, Bangkok, Thailand

Tuesday November 11, 2025 **Program**

Room B - 702 (7F) **Oral Presentation**

13:50 - 14:10

4 Tu In.10.2 Area: 4 Sub Area: 4.3

Final status of on-orbit demonstration test for next generation solar cell on HTV-X1 (Invited)

Teppei Okumura [1, *], Tetsuya Nakamura [1], Yoshiyuki Murakami [1], Taishi Sumita [1]

[1] Japan Aerospace Exploration Agency, Japan

14:10 - 14:25

4 Tu O.10.1 Area: 4 Sub Area: 4.3

Polarity dependence of III-V multijunction solar cells fabricated via wafer bonding technique

Hassanet Sodabanlu [1, *], Kentaroh Watanabe [2], Masakazu Sugiyama [1,2]

[1] Research Center for Advanced Science and Technology, University of Tokyo, Japan
[2] School of Engineering, University of Tokyo, Japan

14:25 - 14:40

4 Tu O.10.2 Area: 4 Sub Area: 4.3

Vacuum-free scalable fabrication of 6-inch SiGe/Si substrates using screen-printed Al-Ge paste and thermal annealing

Moeko Matsubara [1, *]

[1] Toyo Aluminium K. K., Japan

Session Chair(s): Sojiphong Chatraphorn (CU), Taweewat Krajangsang (ENTEC)

15:30 - 15:45

4 Tu O.10.3 Area: 4 Sub Area: 4.3

Thermal stability of N-H related donors in InGaAsN using CBE

Masahiro Kawano [1, *], Hirotaka Tamashiro [1], Nobuaki Kojima [1], Yoshio Ohshita [1]

[1] Toyota Technological Institute, Japan

15:45 - 16:00

4 Tu O.10.4 Area: 4 Sub Area: 4.3

Theoretical Output Characteristics of Various Mechanically Stacked Multi-Junction Solar Cell Architectures at Orbital Temperatures

Tetsuya Nakamura [1, *], Taketo Aihara [1], Minoru Iwasa [1]

[1] Japan Aerospace Exploration Agency (JAXA), Japan

Tuesday November 11, 2025 **Program**

Room B - 702 (7F) **Oral Presentation**

16:00 - 16:15

4 Tu O.10.5 Area: 4 Sub Area: 4.3

Time resolved emission spectroscopy of Si doped MBE grown GaAsPBi

Alexandre Jaffré [1, *], David Alamarguy [1], Keiki Fukumoto [2], Karim Ouaras [3], Songphol Kanjanachuchai [4], Chalermchai Himwas [4], Mohamed Boutchich [1]

[1] CNRS UM8507, Group of Elecrical Engineering Paris, France
[2] High Energy Accelerator Research Organization (KEK), Japan
[3] LPICM-CNRS, France
[4] Semiconductor Device Research Laboratory, Thailand

Tuesday November 11, 2025 **Program**

Room C - 801 (8F) **Oral Presentation**

Session Chair(s): Bancha Janthong (KMUTL)

11:00 - 11:15

3 Tu O.6.11 Area: 3 Sub Area: 3.1

Outstanding surface passivation of crystalline silicon by atomic-layer-deposited zinc sulphide

Gabriel Bartholazzi [1, *], Elodie Galinier [1], Daniel Macdonald [1], Lachlan Black [1]

[1] The Australian National University, Canberra, Australia

11:15 - 11:30

3 Tu O.6.12 Area: 3 Sub Area: 3.1

Fabrication of Silver-Coated Aluminum Spheres and Flakes for Next-Generation Photovoltaics

Yiyu Zeng [1, *]

[1] School of Photovoltaic and Renewable Energy Engineering, Sydney, NSW, Australia

11:30 - 11:45

3 Tu O.6.13 Area: 3 Sub Area: 3.1

Ultra-thin biPoly solar cells with front selective n-type TOPCon and rear blanket p-type TOPCon layers

Yuchi Lan [1,2, *], John Derek Arcebal [2], Gabby De Luna [2], Armin Gerhard Aberle [1,2], Aaron Danner [1,2], Pradeep Padhamnath [3]

[1] Department of Electrical and Computer Engineering, National University of Singapore, Singapore

[2] Solar Energy Research Institute of Singapore, National University of Singapore, Singapore

[3] AGH University of Krakow, Poland

Session Chair(s): Marwan Dhamrin (Osaka Univ.)

13:30 - 13:50

3 Tu In.7.1 Area: 3 Sub Area: 3.2

Cu screen printed TOPCon and TBC technology for GW production (Invited)

Lejo Joseph [1, *]

[1] The International Solar Energy Research Center Konstanz (ISC Konstanz)

Tuesday November 11, 2025 **Program**

Room C - 801 (8F) **Oral Presentation**

13:50 - 14:05

3 Tu O.7.1 Area: 3 Sub Area: 3.2

Advancing the Reliability of TOPCon Solar Cells: Understanding and Mitigating Contact and Surface Degradation under Damp-Heat Conditions

Xinyuan Wu [1, *], Xutao Wang [1], Jiexi Fu [1], Chandany Sen [1], Muhammad Umair Khan [1], Alison Ciesla [1], Bram Hoex [1]

[1] School of Photovoltaic and Renewable Energy Engineering, The University of New South Wales, Australia

14:05 - 14:20

3 Tu O.7.2 Area: 3 Sub Area: 3.2

Acetic Acid-Induced Contact Degradation of Laser-Assisted Fired TOPCon Solar Cells: Impact of Silver Paste Formulation

Jiexi Fu [1, *], Xinyuan Wu [1], Wei Wu [2], Lin Lv [2], Yan Zhang [2], Bram Hoex [1, *]

[1] School of Photovoltaic and Renewable Energy Engineering, Engineering, University of New South Wales, Australia
[2] Jolywood (Taizhou) Solar Technology Co., Jiangsu, China

14:20 - 14:35

3 Tu O.7.3 Area: 3 Sub Area: 3.2

Silicon heterojunction solar cells featuring TCO-free localized front CSPCs

Sebastian Smits [1, *], Yifeng Zhao [1], Brian Istvan Giam [1], Olindo Isabella [1]

[1] Photovoltaics materials and devices, Electrical Sustainable Energy, Delft University of Technology, Netherlands

14:35 - 14:50

3 Tu O.7.4 Area: 3 Sub Area: 3.1

Simplified processing of novel interdigitated-back-contacted silicon heterojunction solar cells with MoOx blanket layer

Katarina Kovačević [1, *]

[1] Photovoltaic Materials and Devices group, Faculty of Electrical Engineering, Mathematics and Computer Science, Delft University of Technology, Netherlands

Tuesday November 11, 2025 **Program**

Room C - 801 (8F) **Oral Presentation**

Session Chair(s): Ryosuke Ishikawa (Tokyo City Univ.)

15:30 - 15:50

3 Tu In.7.2 Area: 3 Sub Area: 3.2

High efficiency silicon heterojunction and perovskite/silicon tandem solar cells (Invited)

Xinbo Yang [1, *]

[1] College of Energy, Soochow University, Suzhou, China

15:50 - 16:05

3 Tu O.7.5 Area: 3 Sub Area: 3.2

Development of encapsulant-less vertical crystalline silicon photovoltaic modules with various thermoplastic materials as module base

Adrian Augusto Mendoza Sumalde [1, *], Kensaku Maeda [1], Keisuke Ohdaira [1]

[1] School of Materials Science, Japan Advanced Institute of Science and Technology (JAIST), Ishikawa, Japan

16:05 - 16:20

3 Tu O.7.6 Area: 3 Sub Area: 3.2

Correlation analysis between the silicon heterojunction solar cell degradation and the sodium contamination sources under damp heat conditions

Yiming Qin [1,2, *], Yunren Luo [1,3], Wenjie Zhao [1], Qiang Shi [1], Kazuhiro Gotoh [2,4], Atsushi Masuda [2,4], Fanying Meng [1,3], Zhengxin Liu [1,3]

[1] National Key Laboratory of Materials for Integrated Circuits, SIMIT, Chinese Academy of Sciences, Shanghai, China
[2] GSST, Niigata University, Niigata, Japan
[3] GUCAS, University of Chinese Academy of Sciences, Beijing, China
[4] IRCNT, Niigata University, Niigata, Japan

16:20 - 16:35

3 Tu O.7.7 Area: 3 Sub Area: 3.2

Can vibration resonance cause critical cracks or fatigue in c-Si modules? — Non-contact measurement methods and findings

Kenji Araki [1, *], Ryota Tsuji [2], Yasuyuki Ota [1], Daisuke Sato [2], Tatsuya Takamoto [1], Kensuke Nishioka [1]

[1] GX research center, University of Miyazaki, Japan
[2] Faculty of Engineering, University of Miyazaki, Japan

Tuesday November 11, 2025	Program
Room C - 801 (8F)	Oral Presentation

16:35 - 16:50

3 Tu O.7.8 Area: 3 Sub Area: 3.2

Stability study of laser enhanced contacts under the light anneal

Zhongshu Yang [1, *], Wei Wang [1], Anh Dinh Bui [1], Keqing Huang [1], Rabin Basnet [1], Kean Fong [1], AnYao Liu [1, *], Daniel Macdonald [1]

[1] The Australian National University, Australia

Tuesday November 11, 2025 **Program**

Room D - 802 (8F) **Oral Presentation**

Session Chair(s): Umarin Sangpanich (KU), Kullawadee Somboonviwat (KU)

11:00 - 11:15

2 Tu 0.4.12 Area: 2 Sub Area: 2.1

Assessment of the Impact of Vertical Agrivoltaics Installation on Rice Production

Kentaro Fukuoka [1, *], Kenji Araki [1], Kensuke Nishioka [1]

[1] Engineering, University of Miyazaki, Japan

11:15 - 11:30

2 Tu 0.4.13 Area: 2 Sub Area: 2.1

Techno-economic analysis of Energy Management System Using Optimize Algorithm and Rule-Based Control in Grid-Tied Hybrid Photovoltaic System

Thipwan Fangsuwannarak [1, *]

[1] Electrical Engineering, Engineering, Suranaree University of Technology, Nakhon Ratchasima, Thailand

11:30 - 11:45

2 Tu 0.5.1 Area: 2 Sub Area: 2.2

A Comprehensive Design and Analysis of an Isolated, High-Reliability DC Monitoring System for High-Voltage Photovoltaic Arrays

Worrajak Muangjai [1, *], Nattawat Panlawan [1, *], Teerasak Somsak [1], Kan Nakaiam [1], Montri Ngao-det [1], Jutturit Thongpron [1], Anon Namin [1], Nopporn Patcharaprakiti [1], Kittinun Srasuay [1]

[1] Electrical Engineering, Engineering, Rajamangala University of Technology Lanna, Muang, Chiang Mai, Thailand

11:45 - 12:00

2 Tu 0.5.2 Area: 2 Sub Area: 2.2

Uncovering preventable generation losses in Thai PV systems

Thornthanut Pakdeepinyo [1, *], Jason Ward [1], Andre M. Nobre [1]

[1] Business Development, PV Doctor Pte. Ltd., Singapore, Thailand

Tuesday November 11, 2025 **Program**

Room D - 802 (8F) **Oral Presentation**

Session Chair(s): Umarin Sangpanich (KU), Kullawadee Somboonviwat (KU)

13:30 – 13:50

2 Tu In.5.3 Area: 2 Sub Area: 2.2

Prospects of PV-Recycling in Japan and development of Si recycling technology (Invited)

Yasuyoshi Kurokawa [1,2,*], Katsumichi Hanzawa [1], Shinya Kato [3], Kengo Yamanaka [3], Taisuke Doi [4], Takashi Itoh [1], Noritaka Usami [1,2,5]

[1] Graduate School of Engineering, Nagoya University, Japan
[2] Institutes of Innovation for Future Society, Nagoya University, Japan
[3] Graduate School of Engineering, Nagoya Institute of Technology, Japan
[4] Matsuyama Factory, NPC incorporated, Ehime, Japan
[5] Institute of Materials and Systems for Sustainability, Nagoya University, Japan

13:50 - 14:05

2 Tu O.5.3 Area: 2 Sub Area: 2.2

Performance Analysis of a Dual Concentrated Photovoltaic System with Phase Change Materials

Qamar Abbas [1, *], Hafiz Muhammad Ali [1]

[1] Mechanical Engineering, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia

14:05 - 14:20

2 Tu O.5.4 Area: 2 Sub Area: 2.2

Performance Analysis of Half-Cut PV Modules Under Varying Shading Levels: Standard Measurements and LTspice-Based Simulations

Jing-Wu Dong [1,2, *], Jyun-Guei Huang [3], Yu-Min Lin [1], Kuan-Wei Lee [1], Yu-Qian Ye [1], Che-Yu Lin [1]

[1] Bachelor Program in Artificial Intelligence and Mechatronics, College of Professional Studies, National Pingtung University of Science and Technology, Pingtung, Taiwan
[2] Sustainable Circular Economy R&D Center, Pingtung, Taiwan
[3] Telecom Technology Center (TTC), Kaohsiung, Taiwan

Tuesday November 11, 2025 **Program**

Room D - 802 (8F) **Oral Presentation**

14:20 - 14:35

2 Tu O.5.5 Area: 2 Sub Area: 2.2

Thai standard related to the inspection of used photovoltaic module availability

Amornrat Limmanee [1, *], Nopphadol Sitthiphol [1], Taweewat Krajangsang [1], Aswin Hongsingthong [1], Thanyaluck Yimyong [2], Pijag Permprasert [2], Thirajed Panpaprai [2]

[1] ENTEC, National Science and Technology Development Agency, Thailand Science Park, Pathum Thani, Thailand

[2] NECTEC, National Science and Technology Development Agency, Thailand Science Park, Pathum Thani, Thailand

Session Chair(s): Umarin Sangpanich (KU), Kullawadee Somboonviwat (KU)

15:30 - 15:45

2 Tu O.5.6 Area: 2 Sub Area: 2.2

First-Principles PV Performance Modeling from Indoor IoT to Utility-Scale Systems using SOLEY

Zacharie Jehl Li-Kao [1, *], Sergio Giraldo [1], Alex Jimenez Arguijo [1], Edgardo Saucedo [1]

[1] Electronic Engineering, Polytechnic University of Catalonia, Barcelona, Spain

15:45 - 16:00

2 Tu O.5.7 Area: 2 Sub Area: 2.2

Weathering analysis of solar cells under typical climatic conditions in China: Using impedance spectroscopy

Ming Liu [1], Xiangan Zeng [2], Yanfang Zhou [3], Zhen Zhang [1, *]

[1] Shanghai JiaoTong University, Shanghai, China

[2] State Key Laboratory of Environmental Adaptability for Industrial Products, National Electric Apparatus Research Institute Co., Ltd, Guangzhou, China

[3] JA Solar Technology Yangzhou co., Yangzhou, China

16:00 - 16:15

2 Tu O.5.8 Area: 2 Sub Area: 2.3

Baseline energy assessment to investigate performance indicators for grid scale photovoltaic power plant in India

Nikhil Pattath Gopi [1, *], Arup Dhar [1,2], Rahul Pachauri [3], Jaiprakash Singh [4]

[1] Technical Consultancy Division, National Institute of Solar Energy India, India

Tuesday November 11, 2025	Program
Room D - 802 (8F)	Oral Presentation

16:15 - 16:30

2 Tu O.5.9 Area: 2 Sub Area: 2.3

A clustering-based approach to accurate performance loss rate estimation of solar farms

Ali Shakiba [1, *], Brendan Wright [1], David Moser [2], Ziv Hameiri [1]

[1] School of Photovoltaic and Renewable Energy Engineering, University of New South Wales (UNSW), Sydney, Australia
[2] Becquerel Institute Italia (BII), Italy

16:30 - 16:45

2 Tu O.5.10 Area: 2 Sub Area: 2.3

Network of Decentralized Microgrids Using Grid Forming Inverters: Experimentation, Testing, and Implementation Experience in Southeast Asia

Wuthipong Suponthana [1, *], Wilailuk Pokakul [1], Weerapun Pornthapthong [1], Arunkij Sorsukphaiboon [1], Nipon Ketjoy [2], Weerakorn Ongsakul [3]

[1] Leonics Co., Ltd, Bangkok, Thailand
[2] SGteah, Naresuan University, Muang, Phitsanulok, Thailand
[3] ECC, Asian Institute of Technology, Pathum Thani, Thailand

16:45 - 17:00

2 Tu O.5.11 Area: 2 Sub Area: 2.3

Preliminary cost-effectiveness assessment of second-life solar photovoltaic project in Thailand

Amornrat Limmanee [1, *], Rangson Pluemkamon [1], Saifon Kotesopa [1], Nuttakarn Udomdachanut [1], Pratan Kosuwan [1], Nopphadol Sitthiphol [1], Nisa Pakvilai [2]

[1] ENTEC, National Science and Technology Development Agency, Thailand Science Park, Pathum Thani, Thailand
[2] Factory of Science and Technology, Valaya Alongkorn Rajabhat University, Pathum Thani, Thailand

Tuesday November 11, 2025 **Program**

Room E - Convention (20F) **Oral Presentation**

Session Chair(s): Pisist Kumnorkaew (NANOTEC), Rongrong Cheacharoen (CU)

11:00 - 11:15

5 Tu O.11.23 Area: 5 Sub Area: 5.1

Efficient and Stable Tin-Based Perovskite Solar Cells via Multifunctional Interfacial Engineering

Jun Ryu [1], Jun Ryu [1], Jun Ryu [1], Padmini Pandey [2], Rashi Kedia [2], Padmini Pandey [2], Dong-Won Kang [2, *]

[1] Smart cities, Chung-Ang University, South Korea
[2] Energy system engineering, South Korea

11:15 - 11:30

5 Tu O.11.24 Area: 5 Sub Area: 5.1

Enhancing the Efficiency and Stability of Perovskite Solar Cells through Passivation with Mn^{2+}-Doped $CsPbCl_3$ Perovskite Quantum Dots

Seok-Hyun Jeong [1, *], Dongjin Choi [1], Sujin Cho [1], Dowon Pyun [1], Hyunju Lee [2], Yoshio Ohshita [3], Hae-Seok Lee [4, *]

[1] Department of Materials Science and Engineering, Korea University, South Korea
[2] Meiji Renewable Energy Laboratory, Meiji University, Japan
[3] Toyota Technological Institute, Japan
[4] Department of Energy Environment Policy and Technology, Graduate School of Energy and Environment (KU-KIST Green School), Korea University, South Korea

11:30 - 11:45

5 Tu O.11.25 Area: 5 Sub Area: 5.1

Economical perovskite solar cell design

Kanokwan Choodam [1, *], Pongsakorn Kanjanaboos [1, *], Nattawut Kamjam [1], Noppawit Sukpan [1], Chaowaphat Seriwattanachai [1], Anuchytt Inna [1], KoKo Shin Thant [1], Ladda Srathongsian [1], Ratchadaporn Supruangnet [2], Hideki Nakajima [2], Anusit Kaewprajak [3], Pisist Kumnorkaew [3], Duangmanee Wongratanaphisan [4], Pipat Ruankham [4], Pasit Pakawatpanurut [5]

[1] The School of Materials Science and Innovation, Faculty of Science, Mahidol university, Nakhon Pathom, Thailand
[2] Synchrotron Light Research Institute, Nakhon Ratchasima, Thailand
[3] National Nanotechnology Center (NANOTEC), National Science and Technology Development Agency (NSTDA), Thailand Science Park, Pathum Thani , Thailand
[4] Physics and Materials Science, Science, Chiang Mai University, Chiang Mai , Thailand
[5] Chemistry, Science, Mahidol University, Bangkok, Thailand

Tuesday November 11, 2025 **Program**

Room E - Convention (20F) **Oral Presentation**

11:45 - 12:00

5 Tu O.11.26 Area: 5 Sub Area: 5.1

Scalable carbon electrode-based perovskite solar cells via robotic green antisolvent deposition under ambient air conditions

Duangmanee Wongratanaphisan [1, *]

[1] Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Thailand

Session Chair(s): Pongsakorn Kanjanaboos (MU), Duangmanee Wongratanaphisan (CMU)

13:30 - 13:50

5 Tu In.11.4 Area: 5 Sub Area: 5.1

How to reduce cost of perovskite solar cells (Invited)

Pongsakorn Kanjanaboos [1, *]

[1] School of Materials Science and Innovation, Faculty of Science, Mahidol University, Nakhon Pathom, Thailand

13:50 - 14:10

5 Tu In.12.1 Area: 5 Sub Area: 5.2

Future of Scalable Organic Solar Cell Fabrication Process – The Case for Solar Cell Fibers (Invited)

Tung Nguyen-Dang [1, *]

[1] Center for Environmental Intelligence, College of Engineering and Computer Science, VinUniversity, Hanoi, Vietnam

14:10 - 14:25

5 Tu O.11.27 Area: 5 Sub Area: 5.1

Perovskite powder recycling: an insight into perovskite micro-cages within the precursor solution and their consequences

Tanakorn Kittikool [1,2, *], Ladda Srathongsian [1,2], Jintara Padchasri [3], Krongthong Kamonsuangkasem [3], Duangmanee Wongratanaphisan [4], Pipat Ruankham [4], Pasit Pakawatpanurut [5,6], Pongsakorn Kanjanaboos [1,2,6, *]

[1] School of Materials Science and Innovation, Faculty of Science, Mahidol University, Nakhon Pathom, Thailand
[2] Center for Cooling and Energy-saving Materials, Faculty of Science, Mahidol University, Nakhon Pathom, Thailand
[3] Synchrotron Light Research Institute (Public Organization), Nakhon Ratchasima, Thailand
[4] Department of Physics and Materials Science, Faculty of Science, Chiang Mai

University, Chiang Mai, Thailand
[5] Department of Chemistry and Center of Sustainable Energy and Green Materials, Faculty of Science, Mahidol University, Bangkok, Thailand
[6] Center of Excellence for Innovation in Chemistry (PERCH-CIC), Ministry of Higher Education, Science, Research and Innovation, Bangkok, Thailand

14:25 - 14:40

5 Tu O.11.28 Area: 5 Sub Area: 5.1

Unveiling the strategy for crystallization of FAPbI3 Perovskite Solar Cell using antisolvent engineering

Paulomi Singh [1, *]
[1] School of Interdisciplinary and Research, Indian Institute of Technology, Delhi, India

14:40 - 15:00

5 Tu O.11.29 Area: 5 Sub Area: 5.1

ETL-free and HTL-free perovskite solar cell as a simplified power source for energy-frugal indoor IoTs

Nattawut Kamjam [1, *], Pongsakorn Kanjanaboos [1, *]
[1] School of Materials Science, Science, Mahidol University, Nakhon Pathom, Thailand

Session Chair(s): Pisist Kumnorkaew (NANOTEC), Watcharaphol Paritmongkol (VISTEC)

15:30 - 15:50

5 Tu In.12.2 Area: 5 Sub Area: 5.2

Advancement of Flexible Perovskite Solar Cells Toward Scalable and Sustainable Photovoltaic Technologies (Invited)

Norasikin Ahmad Ludin[1, *]
[1] Research Group (Advanced Solar Cells and PV Systems), Solar Energy Research Institute (SERI), Universiti Kebangsaan, Malaysia

15:50 - 16:05

5 Tu O.11.30 Area: 5 Sub Area: 5.1

Nanoscale mapping of PCE temperature coefficients in perovskite solar cells via C-AFM

Pongsakorn Kanjanaboos [1, *], Varakorn Phiriyasas [1], Chaowaphat Seriwattanacha [1], Nattawut Kamjam [1]
[1] School of Materials Science and Innovation, Science, Mahidol University, Nakhon Pathom, Thailand

Tuesday November 11, 2025	Program
Room E - Convention (20F)	Oral Presentation

16:05 - 16:20

5 Tu O.11.31 Area: 5 Sub Area: 5.1

Interface-induced degradation by gold diffusion in perovskite solar modules

Yoonmook Kang [1, *], Jiyeon Nam [2], Won-Kyu Lee [2], Da Seul Lee [3]

[1] Energy Environment Policy and Technology, Graduate School of Energy and Environment (KU-KIST Green School), Korea University, South Korea
[2] Department of Materials Science and Engineering, Korea University, South Korea
[3] Advanced Institute of Nano Technology (SAINT), Sunkyunkwan University, South Korea

16:20 - 16:35

5 Tu O.11.32 Area: 5 Sub Area: 5.1

Sri Lankan Vein Graphite-Based Counter Electrodes for Perovskite Solar Cells

Pabasara W.G.A. [1, *], Kariyawasam I.K. [1], Sewvandi G.A. [1]

[1] Department of Materials Science and Engineering, Faculty of Engineering, University of Moratuwa, Sri Lanka

16:35 - 16:50

5 Tu O.11.33 Area: 5 Sub Area: 5.1

Techno-economic evaluation of an integrated 4-terminal perovskite tandem (PST) facility from mgSi production to system assembly

Julian Reichle [1, *], Mehul Raval [1], Siddhartha Garud [2], Wolfgang Jooss [1], Peter Fath [1], Rutger Schlatmann [2]

[1] RCT Solutions GmbH, Line-Eid-Straße 1, Konstanz, Germany
[2] Helmholtz-Zentrum Berlin, Line-Eid-Straße 1, Konstanz, Germany

16:50 - 17:05

5 Tu O.11.34 Area: 5 Sub Area: 5.1

Progress in the research on the performance, processing and reliability of lightweight and flexible thin-film photovoltaic foils.

Arno Hendrikus Marie Smets [1, *], Govind Padmakumar1 [1], Federica Saitta [1], Peer Sluijs [1], Reinder Boekhof [1], Niels van Silfhout [1], K.P. Sreejith [1]

[1] Photovoltaic Materials and Devices Group, Department of Electrical Sustainable Energy, Faculty of Electrical Engineering, Mathematics and Computer Science, Delft University of Technology, Netherlands

Tuesday November 11, 2025 **Program**

Room F - 803 (8F) **Oral Presentation**

Session Chair(s): Takuya Matsui (AIST), Surawut ChuangChote (KMUTT)

11:00 - 11:15

6 Tu 0.14.4 Area: 6 Sub Area: 6.2

Machine Learning Framework Using Industrial Data for Smart Solar Cell Manufacturing

Seungtae Lee [1], Yoonmook Kang [2, *]

[1] Department of Materials Science and Engineering, Korea University, South Korea
[2] Energy Environment Policy and Technology, Graduate School of Energy and Environment (KU-KIST Green School), Korea University, South Korea

11:15 - 11:30

6 Tu 0.14.5 Area: 6 Sub Area: 6.2

An automated diagnostics algorithm for performance assessment of utility-scale solar farms

Brendan Wright [1, *], Ali Shakiba [1], Abhnil Prasad [1], John Rodriguez [1], Ziv Hameiri [1]

[1] School of Photovoltaic and Renewable Energy Engineering, Engineering, University of New South Wales, Australia

11:30 - 11:45

6 Tu 0.14.6 Area: 6 Sub Area: 6.2

A unified framework for automated diagnostics of solar modules using multi-modal images

Brendan Wright [1, *], Rama Sharma [1], Gaia M. N. Javier [1], Zubair Abdullah-Vetter [1], Ziv Hameiri [1]

[1] School of Photovoltaic and Renewable Energy Engineering, Engineering, University of New South Wales, Australia

11:45 - 12:00

6 Tu 0.14.7 Area: 6 Sub Area: 6.2

Fully automated detection of multi-type solar cell defects and severity using label-free learning

Rama Sharma [1, *], Brendan Wright [1], Gaia M. N. Javier [1], Grace Liu [1], Zubair Abdullah-Vetter [1], Ziv Hameiri [1]

[1] School of Photovoltaic and Renewable Energy Engineering, Engineering, University of New South Wales, Australia

Tuesday November 11, 2025 **Program**

Room F - 803 (8F) **Oral Presentation**

Session Chair(s): Surawut ChuangChote (KMUTT), Roongrojana Songprakorp (KMUTT)

13:30 - 13:50

6 Tu In.14.1 Area: 6 Sub Area: 6.2

Advancing Photovoltaic Performance with Aiko's ABC Technology (Invited)

Kuntanun Sukkachantr [1, *]

[1] Aiko Solar Technology Co., Ltd., Bangkok, Thailand

13:50 - 14:10

6 Tu O.15.1 Area: 6 Sub Area: 6.3

Optimal Inter-seasonal hydrogen chain deployment solution by multi-objective optimization after applying m-TOPSIS applied to Corsica

Christian Cristofari [1, *], Mai Moustapha [1], Maude Chin Choi [1], Mohamed Hajjaji [1], Catherine Azzaro-Pantel [2]

[1] Energy, University of Corsica, Corsica, France

[2] Génie Chimique, University of Toulouse, France

14:10 - 14:25

6 Tu O.15.2 Area: 6 Sub Area: 6.3

Two-Step Photon Harvesting in Hematite/Silicon Photoanodes for Z-Scheme Water Splitting: Experimental validation and Drift-Diffusion Modelling

Tomah Sogabe [1, *], Yoshitaka Okada [1]

[1] Research Center for Advanced Science and Technology (RCAST), The University of Tokyo, Japan

14:25 - 14:40

6 Tu O.15.3 Area: 6 Sub Area: 6.3

Controlling the Synthesis of Titanium-Based Metal-Organic Framework Photocatalysts for the Selective Conversion of Lignin Model Compounds

Nattida Srisasiwimon [1, *], Surawut Chuangchote [2]

[1] The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

[2] Department of Tool and Materials Engineering, Faculty of Engineering, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

Tuesday November 11, 2025 **Program**

Room F - 803 (8F) **Oral Presentation**

Session Chair(s): Takuya Matsui (AIST), Roongrojana Songprakorp (KMUTT)

15:30 – 15:50

6 Tu In.14.2 Area: 6 Sub Area: 6.2

Toward Microstructure Design of Polycrystalline Materials Using Generative Artificial Intelligence (Invited)

Noritaka Usami [1, *]

[1] Nagoya University, Japan

15:50 – 16:10

6 Tu In.13.3 Area: 6 Sub Area: 6.1

Novel Passivating Contact and Interconnection Technologies for Monolithic Perovskite/Silicon Tandem Solar Cells (Invited)

Takuya Matsui [1, *], Calum McDonald [1], Abduhabir Mirza [1], James McQueen [2], Ruy Sebastian Bonilla [2], Hitoshi Sai [1]

[1] Renewable Energy Advanced Research Center, AIST, Tsukuba, Ibaraki, Japan
[2] Department of Materials, University of Oxford, United Kingdom

16:10 - 16:30

6 Tu In.15.1 Area: 6 Sub Area: 6.3

Structural Development of Solar Cells and Integrated Devices for Bendable and Adaptable Applications (Invited)

Surawut Chuangchote [1,2 *]

[1] Department of Tool and Materials Engineering, Faculty of Engineering, King Mongkut's University of Technology Thonburi, Bangkok, Thailand
[2] Research Center of Advanced Materials for Energy and Environmental Technology (MEET), Faculty of Engineering, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

16:30 - 16:45

6 Tu O.15.4 Area: 6 Sub Area: 6.3

A modified g-C_3N_4 photocatalyst with a surface hole influences the selective oxidation of glucose to value-added chemicals

Atita Tapo [1, *], Surawut Chuangchote [1,2]

[1] Department of Tool and Materials Engineering, Faculty of Engineering, King Mongkut's University of Technology Thonburi, Bangkok, Thailand
[2] Research Center of Advanced Materials for Energy and Environmental Technology (MEET), Faculty of Engineering, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

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6 Tu O.15.5 Area: 6 Sub Area: 6.3

Natural Rubber Composite Foams with ZnO and TiO2 Metal Oxide Photocatalysts for Degradation Water Pollutant

Kamonthip Singbumrung [1, *]

[1] Department of Tool and Materials Engineering, Faculty of Engineering, King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand

Poster Session II

Tuesday November 11, 2025

Tuesday November 11, 2025 **Program**

Room G – Poster Room (1F) **Poster Session II**

Session Chair(s): Kobsak Sriprapha (NECTEC), Sasiwimon Songtrai (NECTEC)

1 Tu Po.1.1 Area: 1 Sub Area: 1.1

Potential Analysis of Agri-PV Systems for Sustainable Energy in Phitsanulok, Thailand

Tossaphon Sa-ard [1, *]

[1] School of Renewable Energy and Smart Grid Technology, Naresuan University, Phitsanulok, Thailand

1 Tu Po.1.2 Area: 1 Sub Area: 1.1

Adapting a Global Deep Learning Model for Automated Solar Plant Detection in the Tropical Environment of Thailand

Kandanai phumeesut [1, *]

[1] Naresuan university, Phitsanulok, Thailand

1 Tu Po.1.3 Area: 1 Sub Area: 1.1

Challenge and opportunity of Solar Photovoltaics in Taiwan

Chung-wen Lan [1, *]

[1] Chemical Engineering, College of Engineering, National Taiwan University, Taiwan

1 Tu Po.2.1 Area: 1 Sub Area: 1.2

Evaluation of Dispatch Strategy for a Utility-Scale PV-Integrated BESS Power Plant under Contractual Constraint

Sorawut Jittanon [1, *], Nipon Ketjoy [1], Yodthong Mensin [1], Chakkrit Termritthikun [1]

[1] School of Renewable Energy and Smart Grid Technology, Naresuan University, Thailand

1 Tu Po.2.2 Area: 1 Sub Area: 1.2

Classification of photovoltaic output waveforms using random forest

Yuya Nakata [1, *], Jindan cui [1], Kenji Utsunomiya [2], Jun Sasaki [2], Maki Okada [2], Koji Yamaguchi [2], Yuzuru Ueda [1]

[1] Electrical Engineering, Engineering, Tokyo University of Science, Japan
[2] Japan Weather Association, Japan

Tuesday November 11, 2025 **Program**

Room G – Poster Room (1F) **Poster Session II**

1 Tu Po.2.3 Area: 1 Sub Area: 1.2

Alternative Configurations Using Solar PV for EV Charging by Using HOMER Software

Promphak Boonraksa [1, *]

[1] Department of Mechatronics Engineering, Faculty of Engineering and Architecture, Rakamangla University of Technology Suvarnabhumi, Nonthaburi, Thailand

1 Tu Po.2.4 Area: 1 Sub Area: 1.2

Weather Data Characterization for Solar PV Applications in Tropical Thailand: A Regional Analysis

Wiwat Tippachon [1, *]

[1] Electrical Engineering, Rajamangala University of Technology Lanna (RMUTL), Chiang Rai, Thailand

1 Tu Po.2.5 Area: 1 Sub Area: 1.2

Tunable Energy Ratio Management for PV-Integrated EV Charging Station

Thipwan Fangwannarak [1, *]

[1] Electrical Engineering, Suranaree University of Technology, Nakhon Ratchasima, Thailand

1 Tu Po.2.6 Area: 1 Sub Area: 1.2

Driving Sustainable Aquaculture with Photovoltaics through Energy and Cost Optimization in Tilapia Recirculating Systems

Usa Boonbumroong[1], Tanokkorn Chenvidhya[2], Shewin Attasat[3], Chamnan Limsakul[2,*]

[1] Clean Energy Systems Integration (CESi) Laboratory
[2] CES Solar Cells Testing Center
[3] Aquaculture Engineering Laboratory
Pilot Plant Development and Training Institute, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

2 Tu Po.4.1 Area: 2 Sub Area: 2.1

Structural Integration of CNF Films into Photovoltaic Modules and Comparative Analysis of Output Characteristics

Seohee Hwang [1], Yohan Noh [2], Jaehyeong Lee [2, *]

[1] Department of Semiconductor Convergence Engineering, Sungkyunkwan University, South Korea
[2] Department of Electrical and Computer Engineering, Sungkyunkwan University, South Korea

Tuesday November 11, 2025 **Program**

Room G – Poster Room (1F) **Poster Session II**

2 Tu Po.4.10 Area: 2 Sub Area: 2.1

Investigation of Microgreen Cultivation with Agrivoltaics's Concept: A Case Study of Water Spinach.

Sasiwimon Songtrai [1, *], Perawut Chinnavornrungsee [2], Supoj Sodarat [2], Sirimongkon Sangkhawong [2], Kriengkrai Mosaleeyanon [3], Kobsak Sriprapha [1]

[1] National Electronics and Computer Technology Center, Thailand Science Park, Pathum Thani, Thailand
[2] National Energy Technology Center, Thailand Science Park, Pathum Thani, Thailand
[3] National Center for Genetic Engineering and Biotechnology, Thailand Science Park, Pathum Thani, Thailand

2 Tu Po.4.11 Area: 2 Sub Area: 2.1

Planning and Optimal Sizing Design of a Stand-Alone Hybrid PV-Battery-Diesel Generator System: A Case Study of Sichang Island

Kullawadee Somboonviwat [1, *], Umarin Sangpanich [2], Roongrojana Songprakorp [3], Chakphed Madtharad [4]

[1] Department of Computer Engineering, Faculty of Engineering at Sriracha, Kasetsart University, Thailand
[2] Department of Electrical Engineering, Faculty of Engineering at Sriracha, Kasetsart University, Thailand
[3] School of Energy, Environment and Materials, King Mongkut's University of Technology Thonburi, Thailand
[4] Provincial Electricity Authority (PEA), Thailand

2 Tu Po.4.12 Area: 2 Sub Area: 2.1

Study on the heat transfer performance of solar PV with different module structures and installation configurations under Thailand's climatic conditions

Amornrat Limmanee [1, *], Suttinan Jaroensathainchoke [1], Nopphadol Sitthiphol [1], Wijitar Sremjun [2], Somboon Otarawan [2], Yotsakorn Pratumwal [2]

[1] ENTEC, National Science and Technology Development Agency, Thailand
[2] MTEC, National Science and Technology Development Agency, Thailand

2 Tu Po.4.13 Area: 2 Sub Area: 2.1

Agrivoltaic poly tunnels with semi-transparent organic PV modules

Matthias Meier-Gruell [1, *]

[1] Plant Sciences, Forschungszentrum Jülich, Germany

Tuesday November 11, 2025 **Program**

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2 Tu Po.4.14 Area: 2 Sub Area: 2.1

Forecasting Global Horizontal Irradiance Using LSTM Networks for Enhanced Solar Energy Integration

Maklewa Agoundedemba [1, *]

[1] Physics Department, Applied Science, Kenyatta University, Nairobi, Kenya

2 Tu Po.4.2 Area: 2 Sub Area: 2.1

Pvquick – an intelligent and comprehensive PV system design tool

Kai Wang [1, *]

[1] Aviatrix Inc., United States

2 Tu Po.4.3 Area: 2 Sub Area: 2.1

White-colored solar cells enabled by nanoparticle-based scattering layers

Sho Watanabe [1, *], Sara Konishi [1], Yukiko Takahashi [1], Hiroki Gonome [2], Noboru Yamada [1]

[1] Nagaoka University of Technology, Nagaoka, Niigata, Japan
[2] Yamagata University, Yonezawa, Yamagata, Japan

2 Tu Po.4.4 Area: 2 Sub Area: 2.1

Electrical and Image based analysis of non-destructive laser cutting processed solar cells

Jaehyeong Lee [1, *], Youngkuk Kim [1]

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2 Tu Po.4.5 Area: 2 Sub Area: 2.1

Implementation and validation of a deep learning-based predictive dispatch algorithm for off-grid PV/diesel/battery hybrid power systems

Usa Boonbumroong [1, *]

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2 Tu Po.4.6 Area: 2 Sub Area: 2.1

Evaluating Suitable DSM Resolutions for Agrivoltaics Site Selection Using GIS

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2 Tu Po.4.7 Area: 2 Sub Area: 2.1

Optimal dispatch strategy analysis for PV/diesel/battery hybrid power systems in remote areas using MATLAB simulation

Usa Boonbumroong [1, *]

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2 Tu Po.4.8 Area: 2 Sub Area: 2.1

Enhancing PV System Modeling Accuracy with the Irradiance Intensity Selection Technique

Sasiwimon Songtrai [1, *], Perawut Chinnavornrungsee [2], Kobsak Sriprapha [3], Surasak Niemcharoen [1], Rangsan Muanglue [1]

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2 Tu Po.4.9 Area: 2 Sub Area: 2.1

Integrating Renewable Energy System for Powering RO Desalination for Water-Energy Nexus

Ahmed Geweda [1, *], Mohamed E. Zayed [2], Ahmed Omera [1], M. A. Antar [1,3]

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2 Tu Po.5.1 Area: 2 Sub Area: 2.2

Time Series Forecasting of Dust Deposition on PV module for Efficiency Planning

Nattakarn Sakarapunthip [1, *], Ballang Muenpinij [1], Yaowanee Sangpongsanont [1], Tanokkorn Chenvidhya [1], Surawut Chuangchote [2], Dhirayut Chenvidhya [1], Chamnan Limsakul [1], Manit Seapan [1], Usman Yahaya [1]

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2 Tu Po.5.2 Area: 2 Sub Area: 2.2

Impact of global warming on PV performance assessed with an explicit one-diode model equation

Jordan Ciucea [1, *], Andreea Sabadus [1], Marius Paulescu [1]

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2 Tu Po.5.3 Area: 2 Sub Area: 2.2

Evaluation of PV modules conversion efficiency under real weather conditions

Andreea Sabadus [1, *], Marius Paulescu [1]

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2 Tu Po.5.4 Area: 2 Sub Area: 2.2

Comparative Performance Analysis of Rooftop Solar PV Systems Using Half-Cut and Shingled Modules under Real Outdoor Conditions Based on IEC 61724-1

Teerasak Somsak [1, *]

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2 Tu Po.5.5 Area: 2 Sub Area: 2.2

Optimization of Inverter Allocation in Floating PV Systems: A Performance and Loss

Hyejeong Jin [1, *]

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2 Tu Po.5.6 Area: 2 Sub Area: 2.2

PV Module Abnormal Assessing using Open Circuit Voltage Values Detection

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2 Tu Po.5.7 Area: 2 Sub Area: 2.2

Improving the efficiency of PV system performance through climate-adaptive operation and maintenance: a case study in Thailand.

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2 Tu Po.5.8 Area: 2 Sub Area: 2.2

Detection and classification of failure types of solar panels using machine learning with I-V curve parameters

Kittipob Wiriyavorawet [1, *], Manit Seapan [1], Dhirayut Chenvidhya [1], Panusorn Polchai [1], Tanokkorn Chenvidhya [1], Yaowanee Sangpongsanont [1], Chamnan Limsakul [1]

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2 Tu Po.5.9 Area: 2 Sub Area: 2.2

Integrated Electroluminescence and Image Processing for Crack Expansion in PV Modules under Dynamic Mechanical Load Testing

Panusorn Polchai [1, *], Yaowanee Sangpongsanont [1, *], Manit Seapan [1], Tanokkorn Chenvidhya [1], Krissanapong Kirtikara [1], Dhirayut Chenvidhya [1], Kittipob Wiriyavorawet [1]

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2 Tu Po.5.10 Area: 2 Sub Area: 2.2

Low-Cost Solar Powered Portable Testing System for Perovskite Solar Cells with Advanced Characterization and IoT Integration

Rongrong Cheacharoen [1, *], Chattarin Muensuksaeng [2], Chinnatip Harnmanasvate [3]

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2 Tu Po.5.11 Area: 2 Sub Area: 2.2

Automated Detection and Classification of Solar Cell Defects via EL Imaging and Deep Neural Networks

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2 Tu Po.5.12 Area: 2 Sub Area: 2.2

Comparative study of Q(U) reactive power control on power control flexibility across IEC and IEEE standards and Thailand's provincial distribution network grid code

Sittichai Munggonrit [1, *], Chaiyawut Kanjanajongkon [1], Ballang Muenpinij [1], Manit Seapan [1], Chamnan Limsakul [1], Anawach Sangswang [1], Dhirayut Chenvidhya [1]

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2 Tu Po.5.13 Area: 2 Sub Area: 2.2

Field Experience in Long-Term Evaluation of PV Module Degradation in Utility-Scale Power Plants in Thailand

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2 Tu Po.5.14 Area: 2 Sub Area: 2.2

Evaluation of five-direction solar irradiance in urban Thailand

Chamnan Limsakul [1, *], Usman Yahaya [1], Manoch Sanluang [2], Kriangkrai Pattanapakdee [2]

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2 Tu Po.5.15 Area: 2 Sub Area: 2.2

Performance comparison of Lead-acid and LFP battery-powered systems in a 5.2 kWp solar power generation system.

Rangson Pluemkamon [1, *], Aswin Hongsingthong [1]

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2 Tu Po.5.16 Area: 2 Sub Area: 2.2

AIoT Driven Self-Powered Edge Computing Data Platform for Real-Time PV Health Monitoring and Diagnosis

Umarin Sangpanich [1, *], Kullawadee Somboonviwat [2], Roongrojana Songprakorp [3]

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[3] School of Energy, Environment and Materials, King Mongkut's University of Technology Thonburi, Thailand

2 Tu Po.5.17 Area: 2 Sub Area: 2.2

High-Yield Back-to-Back III-V/Si Tandem System Utilizing Albedo for Simplified Integration

Junhan Bae [1, *], Yousuf Hasnain [1], Alamgeer Khan [1], Seokjin Jang [2], Hyejeong Jin [3], Muhammad Quddamah Khokhar [3], Sangheon Park [4], Youngkuk Kim [1, *], junsin yi [3, *]

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2 Tu Po.5.18 Area: 2 Sub Area: 2.2

Performance Evaluation of A 5.2 kWp Off-Grid PV System with Two Battery Types: A Case Study in Northern Thailand

Aswin Hongsingthong [1, *], Rangson Pluemkamon [1]

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2 Tu Po.5.19 Area: 2 Sub Area: 2.2

Time analysis of damp heat test for 25-year based on real-time temperature and humidity big data inside c-Si photovoltaic modules under tropical and moderate climate conditions

Jae-Seong Jeong [1, *]

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2 Tu Po.5.20 Area: 2 Sub Area: 2.2

A differentiable fast fault simulation model for photovoltaic arrays

Kun Ding [1, *], Zenan Yang [1], Jingwei Zhang [1], Xiang Chen [2]

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2 Tu Po.5.21 Area: 2 Sub Area: 2.3

Correlation Study of Damp Heat (DH) and Highly Accelerated Stress Test (HAST) for Accelerated Reliability Testing of Hybrid Passivated Back Contact (HPBC) Photovoltaic Modules

Kiseok Jeon [1, *], Geonu Kim [1,2], Woocheol Choi [1,3], Min Kwak [1,3], Eunae Jo [1], Chaehwan Jeong [1,3, *]

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[2] Department of Polmer Science and Engineering, Chonnam National University, South Korea
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2 Tu Po.5.22 Area: 2 Sub Area: 2.2

A modified recycling process of PV waste for highly stable nano-silicon anodes in LIBs

Jin-Seok Lee [1, *], Jun-Hong Min [1], Woogyun Shin [1], Sukwhan Ko [1], Hyemi Hwang [1], Youngchul Ju [1], Gi-Hwan Kang [2]

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2 Tu Po.5.23 Area: 2 Sub Area: 2.2

Fabrication of silicon nanoparticles from silicon solar cells for lithium-ion batteries

Shinya Kato [1, *], Dev Bahadur Khadka [1], Yasuyoshi Kurokawa [2]

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2 Tu Po.5.24 Area: 2 Sub Area: 2.2

Comparative analysis of bypass diode activation in bifacial PERC, TOPCon, and HJT PV

Tanokkorn Chenvidhya [1], Manit Seapan [1, *], Panusorn Polchai [1], Watcharee Phojan [1], Yaowanee Sangpongsanont [1], Dhirayut Chenvidhya [1], Buntoon Wiengmoon [2]

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3 Tu Po.6.1 Area: 3 Sub Area: 3.1

Controlling Ion Flux via Substrate Biasing during ITO deposition: A Key to Preserving Passivation Quality in Silicon Heterojunction Solar Cells

Shahnawaz Alam [1, *], Silajit Manna [1], Kishan Bajpai [1], Arnab Jyoti Mandal [1], Manvendra Singh Gangwar [1], Son Pal singh [1], Vamsi Krishna Komarala [1, *]

[1] Energy Science and Engineering, Indian Institute of Technology Delhi, India

3 Tu Po.6.2 Area: 3 Sub Area: 3.1

Passivation performance of Cat-CVD silicon nitride films deposited on the edges of crystalline silicon solar cells

Ming Qi [1, *], Keisuke Ohdaira [1], Kensaku Maeda [1]

[1] Japan Advanced Institute of Science and Technology, Ishikawa, Japan

3 Tu Po.6.3 Area: 3 Sub Area: 3.1

Organic-passivated singlet fission c-Si solar cells

Victor Yu Zhang [1, *]

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3 Tu Po.6.4 Area: 3 Sub Area: 3.1

Influence of Al doping ratio on properties of ZnO:Al passivating contacts for crystalline silicon solar cells

Piyumi Kodithuwakku [1, *], Daniel Macdonald [1], Christian Samundsett [1], Lachlan Black [1, *]

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3 Tu Po.6.5 Area: 3 Sub Area: 3.1

Light trapping enhancement of thin silicon by hyperuniform disordered structure for space solar cells

Hyunsun Song [1, *], Gavin Conibeer [1, *], Alex Lambertz [2], Chukwuka Madumelu [1], Bram Hoex [1], Esther Alarcon-Llado [2], Peter Toth [3]

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[3] Extra Terrestrial Power, Sydney, NSW, Australia

3 Tu Po.6.6 Area: 3 Sub Area: 3.1

Identifying Thermally Activated Defects Behind Carrier Lifetime Loss in FZ-Silicon via DLTS

Subhash Chand Yadav [1, *], Kohaku Abe [1], Tomohiko Hara [2], Hyunju Lee [3], Yoshio Ohshita [1],

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[2] Ritsumeikan University, Japan
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3 Tu Po.6.7 Area: 3 Sub Area: 3.1

The Bondi process: fire-through micro-contact PERC Al that outperforms LCO PERC solar cells

Alexander Mason Slade [1, *]

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3 Tu Po.6.8 Area: 3 Sub Area: 3.1

Compound Crystalline Silicon Solar Cells with up to 24.31% efficiency achieved via a patterning technique

Wanyu Lu [1, *], Qian Kang [1, *], Zilong Zheng [2, *], Yongzhe Zhang [1, *]

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3 Tu Po.7.1 Area: 3 Sub Area: 3.2

TOPCon structure with new tunnel layer maximizes etching selectivity of Poly Si

Yoonmook Kang [1, *]

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3 Tu Po.7.2 Area: 3 Sub Area: 3.2

Potential-Induced Degradation (PID) of FTO in Photovoltaic Modules

Hae-seok Lee [1, *], Tae-Kyung Lee [2], Jongwon Ko [3]

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[2] Department of Materials Engineering and Convergence Technology, Gyeongsang National University (GNU), South Korea
[3] Department of Materials Science of Engineering, Korea University, South Korea

3 Tu Po.7.3 Area: 3 Sub Area: 3.2

Study to improve the heat dissipation performance of substrates for c-Si-based solar cell modules without using encapsulant materials

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3 Tu Po.7.4 Area: 3 Sub Area: 3.2

Influence of Resin Encapsulation on Strain in Crystalline Silicon Solar Cells

Yukito Soejima [1, *], Yoshio Ohshita [2], Noboru Yamada [3], Hyunju Lee [4], Atsushi Ogura [1,4]

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[3] Nagaoka University of Technology, Niigata, Japan
[4] Meiji Renewable Energy Laboratory, Japan

3 Tu Po.7.5 Area: 3 Sub Area: 3.2

Heat Dissipation of c-Si Solar Cell Modules Using MgO Particles and Support for Larger Areas

Yuta Ninomiya [1, *]

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3 Tu Po.7.6 Area: 3 Sub Area: 3.2

Recombination current in Rear Junction Silicon Heterojunction solar cell and its effect on Device performance

Vamsi Krishna Komarala [1, *], Mrutyunjay Nayak [1], Shahnawaz Alam [1], Silajit Manna [1], Kishan Bajpai [1], Arnab Jyoti Mandal [1], Manvendra Singh Gangwar [1], Son Pal Singh [1]

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3 Tu Po.7.7 Area: 3 Sub Area: 3.2

Thermal stress reduction of lightweight polymer-based PV modules: application of zero thermal expansion metamaterial

Tomoya Tanimoto [1, *], Suguru Watanabe [1], Daisuke Sato [2], Noboru Yamada [1]

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3 Tu Po.7.8 Area: 3 Sub Area: 3.2

The Impact of Passivation Quality in the Gap Region on the Performance of Back-Contact Silicon Solar Cells

Qiming Liu [1, *]

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3 Tu Po.7.9 Area: 3 Sub Area: 3.2

Temperature-Accelerated UV-Induced Degradation in Heterojunction Solar Cells: Mechanism Insight and Recovery Pathways

Yiyu Zeng [1, *]

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3 Tu Po.7.10 Area: 3 Sub Area: 3.2

Radiative Cooling Using TiO_2 Coatings Enhances Energy Yield in Bifacial Solar Modules through Simulation and Field Experiments

Yoonmook Kang [1, *]

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4 Tu Po.9.1 Area: 4 Sub Area: 4.2

Improving photovoltaic performance of SnSxSe1-x thin film solar cell: Optimizing Se to S source ratio

Parag Rajendra Patil [1, *], Pravin Shivaji Pawar [1], Yong Tae Kim [1], Jaeyeong Heo [1, *]

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4 Tu Po.9.2 Area: 4 Sub Area: 4.2

Optimizing Photovoltaic Performance of Sb2S3 Thin-Film Solar Cells via Temperature-Controlled Vapor Transport Deposition

Aparna Shivaji Girigosavi [1, *], Indu Sharma [1], Jaeyeong Heo [1, *]

[1] Materials Science and Engineering, Chonnam National University, South Korea

4 Tu Po.9.3 Area: 4 Sub Area: 4.2

The investigation of self-healing effect of CIGS solar cells after proton irradiation

Yoshiyuki Murakami [1, *], Tetsuya Nakamura [1], Takato Ishiuchi [2], Hiroshi Tomita [2], Ryoya Ishigami [3], Shin-ichiro Sato [4], Takeshi Ohshima [4,5]

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[3] The Wakasa Wan Energy Research Center (WERC), Japan
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[5] Tohoku University, Japan

4 Tu Po.9.4 Area: 4 Sub Area: 4.2

Development of Large-Area Cu_2O Top Cells for 30%-Efficiency Tandem Photovoltaics

Yukitami Mizuno [1, *], Naoyuki Nakagawa [1], Soichiro Shibasaki [1], Yuya Honishi [1], Atsushi Wada [1], Sara Yoshio [1], Yasutaka Nishida [1], Motohiro Toyota [1], Takashi Yamamoto [1], Junji Sano [1], Kanta Sugimoto [1], Kazushige Yamamoto [1]

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4 Tu Po.9.5 Area: 4 Sub Area: 4.2

Two-Step Strategy for Boosting VTD-SnS Solar Cell Efficiency via Point Junctions and Alkali-Assisted Selenium Diffusion

Neha Bisht [1, *], Indu Sharma [1], Jaeyeong Heo [1, *]

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4 Tu Po.9.6 Area: 4 Sub Area: 4.2

SnS thin films via solution combustion synthesis: optimization of combustion temperature and fuel-to-oxidizer ratio

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4 Tu Po.9.7 Area: 4 Sub Area: 4.2

Crystal Growth and Fundamental Properties of Bulk Cu3BiS3 for Application as a Photocathode in Z-Scheme Photocatalytic Water Splitting

Shigeru Ikeda [1, *]

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4 Tu Po.9.8 Area: 4 Sub Area: 4.2

Electrical activation and self-compensation effect of gallium in CdTe single crystals for application to n-type CdTe photovoltaic devices

Hayato Tsuru [1, *], Akira Nagaoka [1], Isshin Sumiyoshi [2], Yoshitaro Nose [2], Kenji Yoshino [1]

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4 Tu Po.9.9 Area: 4 Sub Area: 4.2

Synthesis of (Ag,Cu)8SnS6 thin films with partial Cu substitution via sulfurization of stacked metal precursors

Hideaki Araki [1, *], Aya Homma [1], Haruto Asai [1], Shigeyuki Nakamura [2], Yoji Akaki [3]

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[3] National Institute of Technology, Miyakonojo College, Miyakonojo, Miyazaki, Japan

4 Tu Po.9.10 Area: 4 Sub Area: 4.2

Structural characterization of Ag8SnS6 thin films prepared by sulfurization process

Yoji Akaki [1, *], Tomohiro Uchimura [2], Shigeyuki Nakamura [3], Hideaki Araki [4]

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[2] Tohoku University, Miyagi, Japan
[3] National Institute of Technology (KOSEN), Tsuyama College, Okayama, Japan
[4] National Institute of Technology (KOSEN), Nagaoka College, Niigata, Japan

4 Tu Po.9.11 Area: 4 Sub Area: 4.2

Mitigation of Voc deficit in RbF-treated CIGS solar cells: Insights from Urbach energy and diode parameter analysis

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4 Tu Po.9.12 Area: 4 Sub Area: 4.2

Pressure-Engineered CdS Thin Films via CBD for Enhanced Solar Cell Performance

Maria de Lourdes Albor-Aguilera [1, *], Miguel Angel Gonzalez-Trujillo [2], Cesar Hernandez-Vasquez [2]

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4 Tu Po.10.1 Area: 4 Sub Area: 4.3

Graded SiGe Layer Formation on Si via Screen-Printed Al-Ge Pastes for Si Tandem Solar Cells

Taruna Teja Jupalli [1, *], Sarah Aalmri [1], Yuqing Li [1], Shota Suzuki [2], Moeko Matsubara [2], Ryo Nakao [2], Nozomu Kitamura [2], Hideaki Minamiyama [2], Marwan Dhamrin [1,2]

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[2] Toyo Aluminium K.K, Yao, Osaka, Japan

4 Tu Po.10.2 Area: 4 Sub Area: 4.3

Effect of Annealing Conditions on SiGe Epitaxial Growth via Al-Induced Crystallization from Screen-Printed Al–Ge Source on Silicon Wafers

Yuqing Li [1, *]

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4 Tu Po.10.3 Area: 4 Sub Area: 4.3

Ultra-Thin III-V Semi-Transparent Photovoltaics: Exploring Thickness Effects on Transparency and Efficiency

Kentaroh Watanabe [1, *], Hassanet Sodabanlu [2], Masakazu Sugiyama [1,2]

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4 Tu Po.10.4 Area: 4 Sub Area: 4.3

Controlled Liquid-Phase Growth of SiGe Layers Using Screen-Printed Al-Ge Paste for On-Si III–V Solar Cells approach

Sarah Alamri [1, *]

[1] Materials and Manufacturing Science, Graduate School of Engineering, Osaka University, Japan

4 Tu Po.10.5 Area: 4 Sub Area: 4.3

Optical structural design and fabrication of broad oblique-incident liquid crystal lenses for concentrator photovoltaic

Masakazu Nakatani [1, *], Hiroaki Kashihara [1], Kento Kitamura [1], Hideo Fujikake [1]

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4 Tu Po.10.6 Area: 4 Sub Area: 4.3

InGaP/GaAs//CIGS Voltage-Matching Multi-Junction Solar Cells

Taketo Aihara [1, *], Tetsuya Nakamura [1], Yuta Matsumoto [2], Hiroshi Yamaguchi [2], Hiroshi Tomita [3]

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[3] Idemitsu Kosan Company Limited, Japan

4 Tu Po.10.7 Area: 4 Sub Area: 4.3

Composition-graded dilute nitride intermediate band solar cells fabricated by nitrogen δ-doping technique

Shuhei Yagi [1, *], Kohta Nakamura [1], Amir Muhammad [1], Yoshitaka Okada [2], Hiroyuki Yaguchi [1]

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5 Tu Po.11.1 Area: 5 Sub Area: 5.1

Effects of ETL Layers on the Performances of HTL-Free 2D/3D Hybrid Perovskite Solar Cells: A Simulation Study

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[1] Department of Materials Science and Engineering, Faculty of Engineering, University of Moratuwa, Sri Lanka

5 Tu Po.11.2 Area: 5 Sub Area: 5.1

Optimizing ultrathin Al2O3 interlayers at the hole transport layer–perovskite interface for enhanced performance in p–i–n perovskite solar cells

Chu-Hsuan Lin [1,*], Masauko Utila [1,2], Ru-Jun Liu [1], Chih-Hung Tsai [1], Wang-Chi V. Yeh [2]

[1] Department of Opto-Electronic Engineering, Science and Engineering, National Dong Hwa University, Taiwan
[2] Department of Physics, Science and Engineering, National Dong Hwa University, Taiwan

Tuesday November 11, 2025	Program
Room G – Poster Room (1F)	Poster Session II

5 Tu Po.11.3 Area: 5 Sub Area: 5.1

Optical and Mechanical properties of Single crystal Perovskite solar materials

Murthy D S [1,*], Parga Bhargava [1]

[1] Metallurgical Engineering and Material Sciences, Indian Institute of Technology Bombay, Maharashtra, India

5 Tu Po.11.4 Area: 5 Sub Area: 5.1

Harnessing interface engineering to unlock performance in lead-free, ETL-free perovskite solar cells: a SCAPS-1D defect tolerance study

Nabilah Ahmad Jalaludin [1, *], Faiz Arith [1], Fauziyah Salehuddin [1]

[1] Micro and Nano Electronics Research Group, Faculty of Electronics and Computer Technology and Engineering, Universiti Teknikal, Melaka, Malaysia

5 Tu Po.11.5 Area: 5 Sub Area: 5.1

Quantifying DFT Band-Gap Underestimation in Mixed Halide Perovskites: Experimental Validation of Virtual-Crystal-Approximation based Predictions

Morawakage P. Rashmika [1, *], Lahiru N. Jayasekera [1], Galhenage A. Sewvandi [1]

[1] Department of Materials Science and Engineering, Faculty of Engineering, University of Moratuwa, Sri Lanka

5 Tu Po.11.6 Area: 5 Sub Area: 5.1

Dual-layer Carbon Electrode for Low-Cost Indoor Perovskite Solar Modules

Pongsakorn Kanjanaboos [1, *]

[1] School of Materials Science and Innovation, Faculty of Science, Mahidol University, Nakhon Pathom, Thailand

5 Tu Po.11.7 Area: 5 Sub Area: 5.1

Effects of argon/nitrogen gas flow ratios in RF magnetron sputtering of copper nitride precursors on morphology of copper iodide layers via ethanol/iodine solution method

Yue Wen [1, *], Auttaphon Ploypradit [2], Tetsuya Kaneko [1,2,3]

[1] Electrical and Electronic Engineering, Graduate School of Engineering, Tokai University, Kanagawa, Japan
[2] Science and Technology, Graduate School of Science and Technology, Tokai University, Kanagawa, Japan
[3] Electrical and Electronic Engineering, School of Engineering, Tokai University, Hiratsuka, Kanagawa, Japan

5 Tu Po.11.8 Area: 5 Sub Area: 5.1

Water-stable encapsulation for perovskite solar cells towards low light usage

Anuchytt Inna [1,*], Chaowaphat Seriwattanachai [1,2], Ladda Srathongsian [1,2], Noppawit Sukpan [1,2], Kanokwan Choodam [1,2], Thana Chotchuangchutchaval [3], Anusit Kaewprajak [4], Pisist Kumnorkaew [4], Pasit Pakawatpanarut [5], Duangmanee Wongratanaphisan [6], Pipat Ruankham [6], Pongsakorn Kanjanaboos [1,2,7,*]

[1] Advanced Technologies for Energy and Sustainability Lab, School of Materials Science and Innovation, Science, Mahidol University, Nakhon Pathom, Thailand
[2] Center for Cooling and Energy-saving Materials, Science, Mahidol University, Nakhon Pathom, Thailand
[3] Department of Mechanical Engineering Technology and Center of Sustainable Energy and Engineering Materials (SEEM), College of Industrial Technology, King Mongkut's University of Technology North Bangkok, Bangkok, Thailand
[4] Innovative Nanocoating Research, National Nanotechnology Center (NANOTEC), National Science and Technology Development Agency (NSTDA), Thailand Science Park, Pathum Thani, Thailand
[5] Department of Chemistry and Center of Sustainable Energy and Green Materials, Science, Mahidol University, Bangkok, Thailand
[6] Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Thailand
[7] Center of Excellence for Innovation in Chemistry (PERCH-CIC), Ministry of Higher Education, Science, Research and Innovation, Bangkok, Thailand

5 Tu Po.11.9 Area: 5 Sub Area: 5.1

AFM study of interface-driven electrical and physical changes in perovskite films using dielectric nanoparticles

Phyo Thuta Tun [1,2,*], Ko Ko Shin Thant [1,2], Kanokwan Choodam [1,2], Pongsakorn Kanjanaboos [1,2,3,*]

[1] Advanced Technologies for Energy and Sustainability Lab, School of Materials Science and Innovation, Faculty of Science, Mahidol University, Nakhon Pathom, Thailand
[2] Center for Cooling and Energy-saving Materials, Faculty of Science, Mahidol University, Nakhon Pathom, Thailand
[3] Center of Excellence for Innovation in Chemistry (PERCH-CIC), Ministry of Higher Education, Science, Research and Innovation, Bangkok, Thailand

Tuesday November 11, 2025 **Program**

Room G – Poster Room (1F) **Poster Session II**

5 Tu Po.11.10 Area: 5 Sub Area: 5.1

Predicting Mixed-Cation Perovskite Solution Stability using Mathematical models based on In-House Experimental Data.

Pongsakorn Kanjanaboos [1,*], Ladda Srathongsian [1], Tanakorn Kittikul [1], Thananya Soonkum [1]

[1] School of Materials Science and Innovation, Science, Mahidol University, Nakhon Pathom, Thailand

5 Tu Po.11.11 Area: 5 Sub Area: 5.1

$CsPbBr_3$ Perovskite Solar Cells for Building-Integrated Photovoltaics via Multi-Step Spin-Coating

Teerapong Watthana [1, *], Pongsakorn Kanjanaboos [1, *], Ladda Srathongsian [1], Kanokwan Choodam [1], Natthawut Kamjam [1], Tanakorn Kittikool [1]

[1] School of Materials Science and Innovation, Science, Mahidol university, Thailand

5 Tu Po.11.12 Area: 5 Sub Area: 5.1

Materials selection and structural design to achieve functional and low-cost flexible perovskite solar cell.

Naruedej Thamangraksat [1,2, *], Chaowaphat Seriwatanachai [1,2], Ko Ko Shin Thant [1,2], Pongsakorn Kanjanaboos [1,2,3, *]

[1] Advanced Technologies for Energy and Sustainability Lab, School of Materials Science and Innovation, Faculty of Science, Mahidol University, Nakhon Pathom, Thailand

[2] Center for Cooling and Energy-saving Materials, Faculty of Science, Mahidol University, Nakhon Pathom, Thailand

[3] Center of Excellence for Innovation in Chemistry (PERCH-CIC), Ministry of Higher Education, Science, Research and Innovation, Bangkok, Thailand

5 Tu Po.11.13 Area: 5 Sub Area: 5.1

Efficient wide-bandgap perovskite solar cells and their applications in indoor lighting energy harvesting

Fang-Chung Chen [1, *], Chia-Tse Hsu [1], Ching-Wei Lee [1]

[1] Department of Photonics, College of Electrical and Computer Engineering, National Yang Ming Chiao Tung University, Taiwan

5 Tu Po.11.14 Area: 5 Sub Area: 5.1

Enhancing the Stability of Perovskite Solar Modules via Low-Temperature Lamination

JungYup Yang [1, *], MoonHoe Kim [1]

[1] Department of Physics, Kunsan National University, South Korea

5 Tu Po.11.15 Area: 5 Sub Area: 5.1

Hybrid metal—organic chalcogenides as hole-transport materials for high-performance perovskite solar cells

Watcharaphol Paritmongkol [1, *], Chanisara Chooseng [1,2], Pimpan Leangtanom [2, *], Chanisara Chooseng [1,2], Chanisara Chooseng [2, *], Pimpan Leangtanom [1], Pimpan Leangtanom [2, *], Pimpan Leangtanom [2], Pimpan Leangtanom [1], Achawee Dangkongko [1], Pimpan Leangtanom [2, *], Achawee Dangkongko [2], Achawee Dangkongko [1], Watcharaphol Paritmongkol [1, *], Watcharaphol Paritmongkol [2, *]

[1] Chemical and Biomolecular Engineering, School of Energy Science and Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC), Rayong, Thailand

[2] Materials Science and Engineering, School of Molecular Science and Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC), Rayong, Thailand

5 Tu Po.11.16 Area: 5 Sub Area: 5.1

Driving Sustainable Aquaculture with Photovoltaics through Energy and Cost Optimization in Tilapia Recirculating Systems

Watcharaphol Paritmongkol [1, *], Chanisara Chooseng [1,2], Chanisara Chooseng [1,2, *], Chanisara Chooseng [1,2], Pimpan Leangtanom [2], Pimpan Leangtanom [1], Pimpan Leangtanom [1], Achawee Dangkongko [2], Achawee Dangkongko [1], Achawee Dangkongko [1], Watcharaphol Paritmongkol [2, *], Watcharaphol Paritmongkol [1, *], Watcharaphol Paritmongkol [1, *]

[1] Material Science and Engineering, School of Molecular Science and Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC), Rayong, Thailand

[2] Chemical and Biomolecular Engineering, School of Energy Science and Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC), Rayong, Thailand

5 Tu Po.11.17 Area: 5 Sub Area: 5.1

Polymeric Ionic Liquid-Based Interface Passivation for High-Performance Perovskite Solar Cells

JungYup Yang [1, *], Hana Kang [1]

[1] Department of Physics, Kunsan National University, South Korea

Tuesday November 11, 2025 **Program**

Room G – Poster Room (1F) **Poster Session II**

5 Tu Po.11.18 Area: 5 Sub Area: 5.1

Understanding Humidity-Induced Degradation via Hydrate Formation in Flexible Perovskite Solar Cells During Damp Heat Stress

Navapat Krobkrong [1, *], Abdurashid Mavlonov [1], Tomohiko Hara [1], Yoshihiro Hishikawa [1], Yu Kawano [2], Takayuki Negami [1], Takashi Minemoto [1]

[1] Research Organization of Science and Technology, Ritsumeikan University, Shiga, Japan

[2] Department of Electrical and Electronic Engineering, Ritsumeikan University, Shiga, Japan

5 Tu Po.12.1 Area: 5 Sub Area: 5.2

Comparative study of graphitic carbon quantum dots as ETL-additive for boosting ambient fabricated carbon-based electrode perovskite solar cells performance

Rongrong Cheacharoen [1, *], Ping Chaiyariti [1,2], Joongjai Panpranot [2,3]

[1] Metallurgy and Materials Science Research Institute, Chulalongkorn University, Bangkok, Thailand

[2] Chemical Engineering, Engineering, Chulalongkorn University, Bangkok, Thailand

[3] CrystalLyte Co., Ltd., Pathumwan, Bangkok, Thailand

5 Tu Po.12.2 Area: 5 Sub Area: 5.2

Tuning the electrical properties of lead-free CsSnBr3 perovskite through controlled synthesis

Swarnima Singh [1, *], Uma Sharma [1], Prabhakar Singh [1]

[1] Indian Institute of Technology (Banaras Hindu University) Varanasi, Uttar Pradesh, India

5 Tu Po.12.3 Area: 5 Sub Area: 5.2

Application of TiC and TiC–TiO_2 Nanoparticles in Perovskite Solar Cells

Kamol Sagonvaree [1,2, *], kamol Sagonvaree [1,2], Surawut Chuangchote [1,2], Wassana Lekkla [1,2], Wassana Lekkla [1,2], Surawut Chuangchote [1,2, *]

[1] Department of Tool and Materials Engineering, Faculty of Engineering, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

[2] Research Center of Advanced Materials for Energy and Environmental Technology (MEET), King Mongkut's University of Technology Thonburi, Bangkok, Thailand

5 Tu Po.12.4 Area: 5 Sub Area: 5.2

Development of Bagasse Waste-Derived Carbon as Counter Electrodes in Perovskite Solar Cells

Wassana Lekkla [1, *], Surawut Chungchote [1, *], Taweewat Krajangsang [2]

[1] Department of Tool and Materials Engineering, Faculty of Engineering, King Mongkut's University of Technology Thonburi, Bangkok, Thailand
[2] Solar Photovoltaic Research Team, National Energy Technology Center (ENTEC), National Science and Technology Development Agency (NSTDA), Thailand Science Park, Pathum Thani, Thailand

6 Tu Po.15.1 Area: 6 Sub Area: 6.3

Novel hybrid thermal-photovoltaic powerplant integrated with blue hydrogen production unit

Alaa Mohamed Khedr [1, *]

[1] IRC-HTCM, Research and Innovation Institute, King Fahd University for Petroleum and Minerals, Saudi Arabia

6 Tu Po.15.2 Area: 6 Sub Area: 6.3

Sustainable sand-derived silicon/silica integrated metal oxide (CuO, ZnO) composites for improved photonic and photocatalytic performance

Abdul Kuddus [1, *], Chaity Ghosh [2], Md. Sakib Ahmed [2], Shinichiro Mouri [1,3], Abu Bakar Md. Ismail [2]

[1] Ritsumeikan Global Innovation Research Organization (R-GIRO), Ritsumeikan University, Japan
[2] Solar Energy Lab, Department of Electrical and Electronic Engineering, Engineering, University of Rajshahi, Bangladesh
[3] Department of Electrical and Electronic Engineering, Graduate School of Science and Engineering, Ritsumeikan University, Japan

6 Tu Po.15.3 Area: 6 Sub Area: 6.3

Target Indicators of Bandgap Energy and External Luminescence Efficiency of Thermo-Radiative Diodes for Assumed Use Case in Space

Tetsuya Nakamura [1, *], Keisuke Yamane [2]

[1] Japan Aerospace Exploration Agency (JAXA), Japan
[2] Toyohashi University of Technology, Japan

6 Tu Po.15.4 Area: 6 Sub Area: 6.3

Sand-derived silica-dispersed few-layer MoS_2 films for enhanced visible-light photodetection

Abdul Kuddus [1, *], Koshiro Kawakami [2], Md. Sakib Ahmed [1,3]

[1] Ritsumeikan Global Innovation Research Organization (R-GIRO), Ritsumeikan University, Japan
[2] Department of Electrical and Electronic Engineering, Graduate School of Science and Engineering, Ritsumeikan University, Japan
[3] Department of Electrical and Electronic Engineering, Faculty of Engineering, University of Rajshahi, Bangladesh

6 Tu Po.15.5 Area: 6 Sub Area: 6.3

Role of Eu doping in microstructural engineering and trap-state passivation in copper iodide thin films for perovskite solar cells

Omsri Vinasha Aliyaselvam [1, *], Faiz Arith [1], Mohd Asyadi Azam [2]

[1] Faculty of Electronics and Computer Technology and Engineering, Universiti Teknikal Malaysia Melaka, Malaysia
[2] Faculty of Industrial and Manufacturing Technology and Engineering, Universiti Teknikal Malaysia Melaka, Malaysia

6 Tu Po.15.6 Area: 6 Sub Area: 6.3

Scalable Sputtered $BiVO_4$/CZTSSe Photoelectrodes for Efficient and Stable Solar-to-Hydrogen Conversion

Suyoung Jang [1, *], Jin Hyeok Kim [1, *], Gaikwad Mayur Anandrao [1]

[1] Materials Science and Engineering, Chonnam National University, South Korea

6 Tu Po.15.7 Area: 6 Sub Area: 6.3

Correlation of Crystalline Characteristics of MoO_3 Hole Transport Layers with Perovskite Solar Cell Performance

Zulfanizam Abdul Wahab [1, *], Faiz Arith [1], Fauzyah Sallehudin [1]

[1] Department of Computer Engineering, Faculty of Electronics and Computer Technology and Engineering (FTKEK), Universiti Teknikal Malaysia Melaka, Malaysia

6 Tu Po.15.8 Area: 6 Sub Area: 6.3

PHOTOELECTROCHEMICAL CHARACTERISTICS OF CZTSSE THIN FILMS AS A FUNCTION OF ABSORBER LAYER THICKNESS

Youngrog Kim [1, *], Jin Hyeok Kim [1, *]

[1] Materials Science and Engineering, Chonnam National University, Gwangju, South Korea

6 Tu Po.15.9 Area: 6 Sub Area: 6.3

Bandgap Tuning of Lanthanum-doped CuSCN via Chemical Wet Process in Enhancing HTL for PSC

Farah Liyana Rahim [1, *], Faiz Arith [1], Fauziyah Salehuddin [1]

[1] Universiti Teknikal Malaysia Melaka, Malaysia

6 Tu Po.15.10 Area: 6 Sub Area: 6.3

Enhancement of photoconversion over time in Nb-doped ZnO nanorods via luminescent downshifting

Yaumee Natasha Jusoh [1, *], Faiz Arith [1]

[1] Faculty of Electronics and Computer Technology and Engineering, University Technical Malaysia Malacca (UTeM), Malaysia

6 Tu Po.15.11 Area: 6 Sub Area: 6.4

A hybrid PV–PCM approach for enhancing building energy efficiency and thermal comfort: a step towards net-zero energy buildings

Zeyad Amin Al-Absi [1,2, *], Muhammad Asif [2,3]

[1] Center of Excellence in Energy Efficiency, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia
[2] Interdisciplinary Research Center for Sustainable Energy Systems, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia
[3] Department of Architectural Engineering and Construction Management, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia

Oral Presentation

Wednesday November 12, 2025

Wednesday November 12, 2025	Program
Room C - 801 (8F)	Plenary

Session Chair(s): Surawut ChuangChote (KMUTT), Roongrojana Songprakorp (KMUTT), Rongrong Cheacharoen (CU)

09:30 - 10:00

6 We Pl.13.1 Area: 6 Sub Area: 6.1

Importance of Solar-powered Vehicles toward Creation of Clean Energy Society (Plenary Invited)

Masafumi Yamaguchi [1, *]

[1] Semiconductors Labs., Toyota Technological Institute, Nagoya, Aichi, Japan

10:00 - 10:30

5 We Pl.12.1 Area: 5 Sub Area: 5.2

High-Performance Transparent Luminescent Solar Concentrators (TLSCs) Using ESIPT Luminophores (Plenary Invited)

Vinich Promarak [1, *], Pattarapapa Janthakit [1], Phatsathorn Chonlateeroj [1], Pisist Kumnorkaew [2], Wijitra Waengdongbung [1]

[1] Materials Science and Engineering, School of Molecular Science and Engineering, Vidyasirimedhi Institute of Science and Technology, Rayong, Thailand

[2] National Nanotechnology Center, National Science and Technology Development Agency, Thailand Science Park, Pathum Thani, Thailand

Wednesday November 12, 2025	Program
Room A - 701 (7F)	Oral Presentation

Session Chair(s): Prapita Thanarak (NU), Dr.Vorachack KONGPHET (NUL)

11:00 – 11:20

1 We In.2.1 Area 1 Sub Area 1.2

Energy Efficiency with Solar Photovoltaic Energy for Smart Home Energy Management Systems (HEMS) (Invited)

Nowshad Amin [1, *]

[1] American International University-Bangladesh, Bangladesh

11:20 - 11:35

1 We O.2.3 Area: 1 Sub Area: 1.2

Day-Ahead Plan Revision Utilizing the Intraday Market for Securing Reserve Power in PV Power Plants with Batteries

Yihe Wei [1, *]

[1] Tokyo University of Science, Japan

Wednesday November 12, 2025	Program
Room A - 701 (7F)	Oral Presentation

11:35 - 11:50

1 We O.2.4 Area: 1 Sub Area: 1.2

Performance Impact of a Smart Home PV-Battery System under Multiple Feed-in Control Modes

Pathomthit Chaisedthaphong [1, *]

[1] Clean Energy System Integration laboratory, Pilot Plant Development and Training Institute, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

11:50 - 12:05

1 We O.2.5 Area: 1 Sub Area: 1.2

Energy optimization of an agrivoltaic system with grid backup: A case study at ENTEC

Pikkanate Angaphiwatchawal [1, *], Taweewat Krajangsang [1], Amornrat Limmanee [1]

[1] ENTEC, National Science and Technology Development Agency, Thailand

Wednesday November 12, 2025	Program
Room A - 701 (7F)	Workshop

12:00 - 13:30

Women in PV Workshop

Keynote

- ☐ Izumi Kaizuka (RTS, IEA PVPS Task 1, Japan)
- ☐ Siripha Junlakarn (ERI, Chula Univ., Thailand)
- ☐ Pawita Bunme, Thailand (AIST, Japan)
- ☐ Norasikin Ahmad Ludin (SERI, Malaysia)

Panel discussion

Moderator: Warisa Sihirunwong, Thailand (GIZ)

Wednesday November 12, 2025	Program
Room B - 702 (7F)	Oral Presentation

Session Chair(s): Patamaporn Sripadungtham (KU)

11:00 - 11:15

1 We O.2.6 Area: 1 Sub Area: 1.2

Optimal Battery Charge/Discharge Operation for Resilient Community Microgrids

Seiji Saito [1, *], Jindan Cui [1], Yuzuru Ueda [1]

[1] Department of Electrical Engineering, Graduate School of Engineering, Tokyo University of Science, Japan

11:15 - 11:30

1 We O.2.7 Area: 1 Sub Area: 1.2

Energy Flow and Cost Saving Impact of a Smart Home PV-Battery System under Time-of-Use Tariff

Nitikorn Nanthawirojsiri [1, *]

[1] Clean Energy System Integration laboratory, Pilot Plant Development and Training Institute, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

11:30 - 11:45

1 We O.2.8 Area: 1 Sub Area: 1.2

An integrated modular PV-bioenergy hybrid microgrid for community energy resilience in Northern Thailand

Hathaithip Sintuya [1, *], Narakorn Songkittirote [1], Nattapat Leeraphan [1], Sasiprapha Kaewdang [1], Chayanont Sawatdeenarunat [1], Panlop Sintuya [2], Wattanapong Rakwichian [1], Worajit Setthapun [1]

[1] Asian Development College for Community Economy and Technology, Chiang Mai Rajabhat University, Thailand

[2] Faculty of Agricultural Technology, Chiang Mai Rajabhat University, Thailand

11:45 - 12:00

1 We O.3.1 Area: 1 Sub Area: 1.3

Comparative study of virtual power purchase agreement (VPPA) regulatory frameworks: Empowering multi-level energy transition in the ASEAN region (Thailand, Vietnam, and Malaysia)

Ploykamon Ruengchaisin [1, *], Nirawit Krainara [1], Benjamin Sa-Ong Luis [1]

[1] Deputy Secretary, Office of the Secretariat, PT & Associates (PTA) Energy Law Center, Bangkok, Thailand

Wednesday November 12, 2025	Program
Room C - 801 (8F)	Oral Presentation

Session Chair(s): Amornrat Limmanee (ENTEC)

11:00 - 11:15

3 We O.7.9 Area: 3 Sub Area: 3.2

Laser-modified silicon nitride enabling damage-free patterning for back-contact silicon solar cells with over 27% photovoltaic conversion efficiency

Hao Liu [1, *]

[1] Lanzhou university, China

11:15 - 11:30

3 We O.7.10 Area: 3 Sub Area: 3.2

Development of the structure to suppress water ingress for encapsulant-less crystalline silicon photovoltaic modules

Keisuke Ohdaira [1, *], Mitsunori Nagahara [1], Huynh Thi Cam Tu [1]

[1] Japan Advanced Institute of Science and Technology, Ishikawa, Japan

11:30 - 11:45

3 We O.7.11 Area: 3 Sub Area: 3.2

Toward Enhanced Reliability of Solar Modules via a Five-Layer Multifunctional Glass Coating

Ning Song [1, *], Shuo Deng [1], Angus Gentle [1], Jialiang Huang [1]

[1] School of Photovoltaics and Renewable Engineering, Engineering, UNSW Sydney, Australia

11:45 - 12:00

3 We O.7.12 Area: 3 Sub Area: 3.2

Recent improvements in TOPCon production at Trinasolar

Pietro P Altermatt [1, *], Tao Wang [1], Kuiyi Wu [1], Zigang Wang [1], Daming Chen [1], Yifeng Chen [1]

[1] State Key Laboratory for Photovoltaic Science and Technology (SKL), Trinasolar, Changzhou, Jiangsu, China

Wednesday November 12, 2025	Program
Room D - 802 (8F)	Oral Presentation

Session Chair(s): Dhirayut Chenvidhya (KMUTT)

11:00 - 11:15

2 We O.5.12 Area: 2 Sub Area: 2.2

Performance Evaluation of Mist-Cooled PV Panels in Arid Regions

Asim Ahmad [1, *], Salah Fahad M Aljuwaysir [2], Kashif Irshad [1,3], Shafiqur Rehman [1,3]

[1] Interdisciplinary Research Center for Sustainable Energy Systems (IRC-SES), King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia
[2] School of Mechanical Engineering Department, King Fahd University of Petroleum & Minerals (KFUPM), Saudi Arabia
[3] Mechanical Engineering Department, Universiti Teknologi Malaysia (UTM), Malaysia

11:15 - 11:30

2 We O.5.13 Area: 2 Sub Area: 2.2

Performance and reliability of SHJ, PERT, and PERC PV Modules in Tracked PV Systems in Desert Environments

Maulid Kivambe [1, *], Mohamed Abdelrahim [1], Dhanup Pillai [1], Mohamed Elgaili [1], Amir Abdallah [1]

[1] Hamad Bin Khalifa University (HBKU)/Qatar Environment and Energy Research Institute (QEERI), Qatar

11:30 - 11:45

2 We O.5.14 Area: 2 Sub Area: 2.2

Using an algorithm for simulating harmonic current mitigation in power systems to safeguard inverters linked to Single-phase power systems in situations of distorted voltage

Thanet Phugun [1], Worrajak Muangjai [1], Worrajak Muangja [1], Anon Namin [1], Nopporn Patcharaprakiti [1], Montri Ngao-det [1], Kan Nakaiam [1], Nattawat Panlawan [1], Kittinun Srasuay [1], Teerasak Somsak [1], Wiwat Tippachon [1, *]

[1] Clean Energy System (CES-RMUTL), Faculty of Engineering, Rajamangala University of Technology Lanna (RMUTL), Chiang Mai, Thailand

Wednesday November 12, 2025	Program
Room D - 802 (8F)	Oral Presentation

11:45 - 12:00

2 We O.5.15 Area: 2 Sub Area: 2.2

Fault detection and classification in PV systems using a hybrid self-supervised learning approach

Imane Flouchi [1,2,3,*], Yasmine El Mrabet [3], Nassim Lamrini [3], Said Elhamaoui [3], Khadija El Ainaoui [3], Ayyoub Smaiti [3], Hassan Nounah [1], Khalid Bouabid [2], Abdellatif Ghennioui [3]

[1] Laboratory of metrology and Information Processing, Ibn Zohr University, Agadir, Morocco.
[2] Laboratory of Materials and Renewable Energies, Ibn Zohr University, Agadir, Morocco.
[3] Electrical Systems and Photovoltaics Department, Green Energy Park, Benguerir, Morocco

Wednesday November 12, 2025	Program
Room E - Convention (20F)	Oral Presentation

Session Chair(s): Vinich Promarak (VISTEC)

11:00 - 11:15

5 We O.11.35 Area: 5 Sub Area: 5.1

Design and simulation of sandwich and quasi-interdigitated back-contact perovskite solar cells

Erik O. Shalenov [1, *], Madina Seisembayeva [1,2], Yeldos Seitkozhanov [1,2], Karlygash Dzhumagulova [1,2], Askhat Jumabekov [3], Zhansaya Omarova [4]

[1] Department of General Physics, Institute of Energy and Mechanical Engineering, Almaty, Kazakhstan
[2] Department of Plasma Physics, Nanotechnology and Computer Physics , Faculty of physics and technology, Farabi University, Almaty, Kazakhstan
[3] Department of Physics, School of Sciences and Humanities, Nazarbayev University, Astana, Kazakhstan
[4] Department of Standardization, Certification and Metrology, Institute of Energy and Mechanical Engineering, Satbayev University, Almaty, Kazakhstan

11:15 - 11:30

5 We O.11.36 Area: 5 Sub Area: 5.1

Efficient and Stable MA-free Sn-Pb Perovskite Solar Cells with NiOx-based HTL over 23%

Seojun Lee [2], Seojun Lee [1,2], Jun Ryu [1,2], Jun Ryu [2], Dong-Gun Lee [2], Dong-Gun Lee [1,2], Padmini Pandey [3], Padmini Pandey [1,3], SungWon Cho [2], SungWon Cho [1,2], Saemon Yoon [1,2], Saemon Yoon [2], Jeong-Yeon Lee [1,2], Jeong-Yeon Lee [2], Dong-Won Kang [1,3, *], Dong-Won Kang [3, *], Akdie Lee [2], Donggyu Park [3]

[1] Chung-Ang University, Seoul, South Korea
[2] Department of Smart Cities, Chung-Ang University, Seoul, South Korea
[3] Department of Energy Systems Engineering, Chung-Ang University, Seoul, South Korea

11:30 - 11:45

5 We O.11.37 Area: 5 Sub Area: 5.1

Sublimation-Assisted Conversion of $FAPbI_3$ from PbI_2 Precursors for High-efficiency Perovskite Solar Cells

Hae-Seok Lee [2, *], Jinho Jeong [1], Dowon Pyun [1], Ji-Seong Hwang [1], Jiyeon Nam [1], Seok-Hyun Jeong [1], Sujin Cho [1]

[1] Department of Materials Science and Engineering, Korea University, South Korea
[2] Energy Environment Policy and Technology, Graduate School of Energy and Environment (KU-KIST Green School), Korea University, South Korea

Wednesday November 12, 2025	Program
Room E - Convention (20F)	Oral Presentation

11:45 - 12:00

5 We O.11.38 Area: 5 Sub Area: 5.1

All-Layer Inorganic Perovskite Solar Cells via NiOx–Perovskite Interface Compatibility Enhancement

Dong-Gun Lee [1, *], Dong-Won Kang [2, *]

[1] Department of Smart Cities, Chung-ang University, Chung-ang university, Seoul, South Korea

[2] Department of Energy Systems Engineering, Chung-ang University, Seoul, South Korea

12:00 - 12:15

5 We O.11.39 Area: 5 Sub Area: 5.1

Dimensional engineering of perovskite surfaces via DBABr treatment for enhanced efficiency and stability of solar cells

Duangmanee Wongratanaphisan [1, *]

[1] Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Thailand

Wednesday November 12, 2025 **Program**

Room F - 803 (8F) **Oral Presentation**

Session Chair(s): Usa Boonbumrung (KMUTT)

11:00 - 11:15

1 We 0.2.10 Area: 1 Sub Area: 1.2

Short-term GHI Forecasting based on All-Sky Images using a CNN-LSTM Architecture

Mario Blomenkamp [1, *], Grit Behrens [1], Chamnan Limsakul [2], Yaowanee Sangpongsanont [2], Usman Yahaya [2]

[1] Department of Computer Science, Campus Minden, Bielefeld University of Applied Sciences, Germany

[2] CES Solar Cells Testing Center (CSSC), Pilot Plant Development and Training Institute, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

11:15 - 11:30

1 We 0.2.11 Area: 1 Sub Area: 1.2

Estimation of Solar Radiation Forecast Errors for Rare Frequency Risks Using Machine Learning with GPV-GSM Data

Shuzo Yamanaka [1, *], Jindan Cui [1], Yuzuru Ueda [1]

[1] Department of Electrical Engineering, Graduate School of Engineering, Tokyo University of Science, Japan

11:30 - 11:45

1 We 0.2.12 Area: 1 Sub Area: 1.2

Assessment of wind-solar complementarity and synergy characteristics in Thailand

Usman Yahaya [1, *], Dhirayut Chenvidhya [1], Chamnan Limsakul [1], Yaowanee Sangpongsanont [1], Tanokkorn Chenvidhya [1], Ballang Muenpinij1 [1], Manit Seapan [1], Nattakarn Sakarapunthip [1]

[1] CES Solar Cells Testing Center (CSSC), Pilot Plant Development and Training Institute, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

11:45 - 12:00

1 We 0.2.13 Area: 1 Sub Area: 1.2

Building-Scale Time-Series Assessment of Urban PV Potential and Load Matching

Taiju Igarashi [1, *], JIndan Cui [1], Yuzuru Ueda [1]

[1] Engineering, Electrical Engineering, Tokyo University of Science, Japan

Wednesday November 12, 2025	Program
Room F - 803 (8F)	Oral Presentation

12:00 - 12:15

1 We 0.2.14 Area: 1 Sub Area: 1.2

Exploring the near optimum space of 100% renewable supply for a Thailand-Laos interconnected grid

Cheng Cheng [1, *], Anna Nadolny [1], Andrew Blakers [1]

[1] School of Engineering, College of Systems and Society, Australian National University, Australia

Oral Presentation

Thursday November 13, 2025

Thursday November 13, 2025	Program
Room C - 801 (8F)	Plenary

Session Chair(s): Rongrong Cheacharoen (CU), Watcharaphol Paritmongkol (VISTEC)

09:00 - 09:30

5 Th Pl.11.1 Area 5 Sub Area 5.1

Integrating perovskite with thin-film technologies: challenges and breakthroughs in flexible and tandem solar cells (Invited Speaker) (Plenary Invited)

Makoto Konagai [1, *]

[1] Advanced Research Laboratories, Tokyo City University, Tokyo, Japan

09:30 – 10:00

5 Th Pl.11.2 Area 5 Sub Area 5.1

Scaling Up Processing of Perovskite Photovoltaics (Plenary Invited)

Eva Urgan [1, *]

[1] Humboldt University, Helmholtz-Zentrum Berlin, Germany

Thursday November 13, 2025	Program
Room A - 701 (7F)	Oral Presentation

Session Chair(s): Duangmanee Wongratanaphisan (CMU)

10:30 - 10:45

5 Th O.11.44 Area: 5 Sub Area: 5.1

A High-efficiency and Durable C60-free PIN-type Semitransparent Perovskite Solar Cell with Metal Oxide ETL

Motoshi Nakamura [1, *], Ching Chang Lin [1], Hiroki Sugimoto [1]

[1] PXP Corporation, Sagamihara, Japan

10:45 - 11:00

5 Th O.11.45 Area: 5 Sub Area: 5.1

Toward Practical Perovskite Solar Cells: Sustainable Ambient Processing and Outdoor Operational Stability

Rongrong Cheacharoen [1, *]

[1] Metallurgy and Materials Science Research Institute, Chulalongkorn University, Bangkok, Thailand

Thursday November 13, 2025	Program
Room A - 701 (7F)	Oral Presentation

11:00 - 11:15

5 Th O.11.46 Area: 5 Sub Area: 5.1

IWO interconnecting recombination layers for efficient monolithic perovskite-silicon tandem solar cells

Hyunju Lee [1, *], Yoshio Ohshita [2], Atsushi Ogura [3]

[1] Meiji Renewable Energy Laboratory, Meiji University, Japan
[2] Toyota Technological Institute, Japan
[3] School of Science and Technology, Meiji University, Japan

11:15 - 11:30

5 Th O.11.47 Area: 5 Sub Area: 5.2

The rise of (Sb,Bi)(S,Se)(Br,I) van der Waals compounds as tunable materials for energy conversion applications

Edgardo Saucedo [1, *], David Rovira [1], Alejandro Navarro-Güell [1], Ivan Caño [1]

[1] Electronic Engineering, EEBE, Universitat Politècnica de Catalunya (UPC), Barcelona, Spain

Thursday November 13, 2025 **Program**

Room B - 702 (7F) **Oral Presentation**

Session Chair(s): Anittha Jutarosaga (KMUTT)

10:30 - 10:50

1 Th In.2.2 Area: 1 Sub Area: 1.2

Reliability Assessment of Photovoltaic Systems in Lao PDR via Health Monitoring Systems and Standardization (Invited)

Worajit Setthapun [1, *], Hathaithip Sintuya [1]

[1] Asian Development College for Community Economy and Technology, Chiang Mai Rajabhat University, Chiang Mai, Thailand

10:50 - 11:05

1 Th 0.3.2 Area: 1 Sub Area: 1.3

Smart solar legal architecture for smart energy city: Smart city models in Thailand and the Philippines powered by decentralized peer-to-peer electric cooperative networks

Piti Eiamchamroonlarp [1, *], Benjamin Sa-Ong Luis [1]

[1] Office of the Director, PT & Associates (PTA) Energy Law Center, Bangkok, Thailand

11:05 - 11:20

1 Th 0.3.3 Area: 1 Sub Area: 1.3

Policy Impacts on ASEAN Solar PV Adoption: Elasticity Analysis (2015–2024) and Future Scenarios

Nopbhorn Leeprechanon [1, *]

[1] Thammasat School of Engineering (TSE), Thammasat University, Pathum Thani, Thailand

11:20 - 11:35

1 Th 0.2.9 Area: 1 Sub Area: 1.2

Community microgrid monitoring and load profile optimization in a solar hybrid system

Worajit Setthapun [1, *], Nattapat Leelaphan [1], Narakorn Songkittirote [1], Thananchai Sataklang [1], Wattanapong Rakwichian [1], Hathaithip Sintuya [1]

[1] Asian Development College for Community Economy and Technology, Chiang Mai Rajabhat University, Chiang Mai, Thailand

Thursday November 13, 2025 **Program**

Room C - 801 (8F) **Oral Presentation**

Session Chair(s): Vinich Promarak (VISTEC)

10:30 - 10:45

5 Th O.12.1 Area: 5 Sub Area: 5.2

Transparent Contacts and Anti-Soiling Coatings Based on SiO_2/ITO for Improving the Efficiency of Semi-Transparent Perovskite Solar Cells in Harsh environments

Mohammad Istiaque Hossain [1, *]

[1] Qatar Environment and Energy Research Institute, Qatar Foundation, DOHA, Qatar

11:45 - 11:00

5 Th O.12.2 Area: 5 Sub Area: 5.2

Thermal Evaporation of CsGeBr3 Thin Films from single evaporation source for Photovoltaic Power Converter in Optical Wireless Power Transmission System

Atsuto Watanabe [1, *], Shinsuke Miyajima [1, *]

[1] Department of Electrical and Electronic Engineering, School of Engineering, Institute of Science Tokyo, Japan

11:00 - 11:15

5 Th O.12.3 Area: 5 Sub Area: 5.2

Analysis of Theoretical Conversion Efficiency of Quantum-Cutting Luminescent Solar Concentrators (QC-LSCs) using a CsPb(Br1-xClx)3:Yb3+ Luminescent layer

Keita Fujimoto [1, *], Shinsuke Miyajima [1]

[1] Electrical and Electronic Engineering, School of Engineering, Institute of Science Tokyo, Japan

11:15 - 11:30

5 Th O.12.4 Area: 5 Sub Area: 5.2

Photocurrent and photovoltage enhancement in two-step photon upconversion solar cells based on CsPbBr3-xClx nanocrystals with embedded PbS quantum dots

Soma Ueno [1, *], Hambalee Mahamu [1], Shigeo Asahi [1], Takashi Kita [1]

[1] Electrical and Electronic Engineering, Graduate School of Engineering, Kobe University, Japan

Thursday November 13, 2025 **Program**

Room D - 802 (8F) **Oral Presentation**

Session Chair(s): Dhirayut Chenvidhya (KMUTT), Anawach Sangswang (KMUTT)

10:30 - 10:45

2 Th 0.5.16 Area: 2 Sub Area: 2.3

Investigation of reverse current phenomena in the utility-scale photovoltaic power plant

Usman Yahaya [1], Dhirayut Chenvidhya [1], Ballang Muenpinij [1], Chamnan Limsakul [1, *], Yaowanee Sangpongsanont [1], Tanokkorn Chenvidhya [1], Nattakarn Sakarapunthip [1], Manit Seapan [1]

[1] CES Solar Cells Testing Center (CSSC), Pilot Plant Development and Training Institute, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

10:45 - 11:00

2 Th 0.5.17 Area: 2 Sub Area: 2.3

Optical isolated M-sequence like modulation of daylight PL intensity of PV string using a liquid crystal scattering device

Kanji Ozeki [1, *], Hiroki Yoshida [1], Lihito Sano [1], Noa Faleola Halaevalu Moheofo Latu [1], Shuko Yamada [2], Kyoichi Kato [2], Tetsuo Kato [2]

[1] Electrical, Electronic and Computer Engineering, Faculty of Engineering, Gifu University, Japan
[2] Kernel Hardware Engineering, Nagoya, Aichi Prefecture, Japan

11:00 - 11:15

2 Th 0.5.18 Area: 2 Sub Area: 2.3

Fault diagnosis of Photovoltaic System by I-V curve using Random Forest

Akira Tanaka [1, *], Jindan Cui [1], Yuzuru Ueda [1]

[1] Department of Electrical Engineering, Graduate School of Engineering, Tokyo University of Science, Japan

11:15 - 11:30

2 Th 0.5.19 Area: 2 Sub Area: 2.3

Machine Learning Model for Initial Degradation in PV Modules based on Field Investigation

Porselvan S Srinivasan [1, *], Nikhil PG [1], Arup Dhar [1], Jai Prakash [1]

[1] National Institute of Solar Energy GwalPahari, Gurugram, Haryana, India

Thursday November 13, 2025 **Program**

Room E - Convention (20F) **Oral Presentation**

Session Chair(s): Watcharaphol Paritmongkol (VISTEC)

10:30 - 10:45

5 Th O.11.40 Area: 5 Sub Area: 5.1

In-situ Studies for Probing Natural-Additive Assisted Formation of High-Quality Perovskite under Ambient Conditions

Rongrong Cheacharoen [1, *], Chinnatip Harnmanasvate [2], Erik Wutke [3], Anton Dzhong [3], Lennart Reb [3], Yuxin Liu [4], Rico Meitzner [3], Eva Unger [3,4, *]

[1] Metallurgy and Materials Science Research Institute, Chulalongkorn University, Bangkok, Thailand
[2] International Graduate Program in Nanoscience & Technology, Graduate School, Chulalongkorn University, Bangkok, Thailand
[3] Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Germany
[4] Institut für Chemie & IRIS Adlershof , Humboldt-Universität zu Berlin, Berlin, Germany

10:45 - 11:00

5 Th O.11.41 Area: 5 Sub Area: 5.1

Blade-Coated $MAPb(I_{0.95}Cl_{0.05})_3$ Single Crystals Synthesized via Inverse Temperature Crystallization for High-Stability Perovskite Solar Cell

Pisist Kumnorkaew [1, *]

[1] National Science and Technology Development Agency National Nanotechnology Center, Thailand Science Park, Pathum Thani, Thailand

11:00 - 11:15

5 Th O.11.42 Area: 5 Sub Area: 5.1

Lattice-engineered Wide-bandgap Tin-based Perovskites for Lead-free Tandem Solar Cells

Saemon Yoon [1], Jun Ryu [1], SungWon Cho [1], Hyung Do Kim [2], Dong-Won Kang [3, *]

[1] Department of Smart Cities, Chung-Ang University, Seoul, South Korea
[2] Department of Polymer Chemistry, Graduate School of Engineering, Kyoto University, Kyoto, Japan
[3] Department of Energy Systems Engineering, Chung-Ang University, Seoul, South Korea

Thursday November 13, 2025	Program
Room E - Convention (20F)	Oral Presentation

11:15 - 11:30

5 Th O.11.43 Area: 5 Sub Area: 5.1

The Impact of Thiocyanate and Chloride Additives on the Performance and Stability of Wide Bandgap Perovskite Solar Cells

Aman Shukla [1,2,*], Aly Aly [1], Richard Murdey [1], Atsushi Wakamiya [1,*]

[1] Institute for Chemical Research, Science, Kyoto University, Japan

[2] Department of Materials Science & Engineering, Engineering, Indian Institute of Technology Kanpur, Pradesh, India

Thursday November 13, 2025 **Program**

Room F - 803 (8F) **Oral Presentation**

Session Chair(s): Chamnan Limsakul (KMUTT), Anon Namin (RMUTL)

10:30 - 10:45

2 Th 0.5.20 Area: 2 Sub Area: 2.3

Remote fault detection method for residential PV systems through comparative analysis

Yohei Sumikoshi [1, *]

[1] Tokyo University of Science, Japan

10:45 - 11:00

2 Th 0.5.21 Area: 2 Sub Area: 2.3

Towards accurate degradation assessment: STC translation of outdoor I-V characteristics of PV modules

Arup Dhar [1, *], Shanu Kumari [1], Birinchi Bora [1], Chandan Banerjee [1]

[1] National Institute of Solar Energy, Gwal Pahari, Haryana, India

11:00 - 11:15

2 Th 0.5.22 Area: 2 Sub Area: 2.3

Impact of desert dust on spectral irradiance distribution and its influence on the current balance of multijunction PV technologies

Min Hsian Saw [1, *], Sagarika Kumar [1], Mauro Pravettoni [1]

[1] Technology Innovation Institute (TII), Renewable and Sustainable Energy Research Center, Abu Dhabi, United Arab Emirates

11:15 - 11:30

2 Th 0.5.23 Area: 2 Sub Area: 2.3

Non-invasive day-time photoluminescence methods originated only time-series images

Hiroki Yoshida [1, *], Kanji Ozeki [1], Noa Latu [1], Lihito Sano [1], Shuko Yamada [2], Kyoichi Kato [2], Tetsuo Kato [2]

[1] Electrical, Electronic and Computer Engineering, Engineering, Gifu University, Japan

[2] Kernel Hardware Engineering, Nagoya, Japan

Thursday November 13, 2025	Program
Room G – Poster Room (1F)	Oral Presentation
Session Chair(s): Prapita Thanarak(NU)	

10:30 – 10:50

1 Th In.3.6 Area 1 Sub Area 1.3

Overview and Outlook of Solar PV in Malaysia (Invited)

Nofri Yenita Dahlan[1, *]

[1] Solar Research Institute (SRI), College of Engineering, Universiti Teknologi MARA (UiTM), Malaysia

10:50 – 11:10

1 Th In.3.7 Area 1 Sub Area 1.3

Overview and Outlook of Solar PV in Philippines (Invited)

Filmann T. Simpao[1, *]

[1] University of Southeastern Philippines, Philippines

11:10 – 11:30

1 Th In.3.8 Area 1 Sub Area 1.3

Overview and Outlook of Solar PV in Myanmar (Invited)

Soe Win[1, *]

[1] Electrical Power Engineering Department, Yangon Technological University (YTU), Yangon, Myanmar

Oral Presentation

Friday November 14, 2025

Friday November 14, 2025	Program
Room A - 701 (7F)	Oral Presentation

Session Chair(s): Kobsak Sriprapha (NECTEC)

09:30 - 09:45

2 Fr 0.5.24 Area: 2 Sub Area: 2.2

Techno-economic assessment of hybrid PV/diesel/battery hybrid power systems based on actual performance in Thailand's national parks

Usa Boonbumroong [1, *]

[1] King Mongkut's University of Technology Thonburi, Bangkok, Thailand

09:45 - 10:00

2 Fr 0.5.25 Area: 2 Sub Area: 2.2

An investigation of the effects of dust on PV system under the salts dust environment

Nattakarn Sakarapunthip [1, *], Yaowanee Sangpongsanont [1], Thanita Areerob [2], Surawut Chuangchote [3]

[1] CES Solar Cells Testing Center (CSSC), Pilot Plant Development and Training Institute (PDTI), King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand

[2] Faculty of Technology and Environment, Prince of Songkla University, Phuket Campus, Phuket, Thailand

[3] Department of Tool and Materials Engineering, Faculty of Engineering, King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand

10:00 - 10:15

2 Fr 0.5.26 Area: 2 Sub Area: 2.2

Investigation of the PV module electrical performance and the corrosion expansion by Python Image Processing

Archapong Chittrapinate [2], Naris Prathinthong [2], Yaowanee Sangpongsanont [1], Dhirayut Chenvidhya [1, *],

[1] CES Solar Cells Testing Center (CSSC), Pilot Plant Development and Training Institute (PDTI), King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand

[2] School of Energy, Environment and Material (SEEM), King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand

Friday November 14, 2025	Program
Room B - 702 (7F)	Oral Presentation

Session Chair(s): Chamnan Limsakul (KMUTT)

09:30 - 09:45

2 Fr O.5.27 Area: 2 Sub Area: 2.2

Optimizing solar PV exports in Singapore and Thailand: insights from residential and commercial systems

Andre M Nobre [1, *], Ratwade Dhithijaiyratn [1,2], Marta Millan [1], Cyndi Tiong [1,2], Manav Gupta [1], Thornthanut Pakdeepinyo [1], Jason Ward [1], Edna Wei Qi Seah [3], Xiaoqi Xu [2]

[1] PV Doctor Pte. Ltd., Cross Street Exchange, Singapore

[2] Solar Energy Research Institute of Singapore (SERIS), Engineering, National University of Singapore (NUS), Singapore

[3] Engineering, Singapore Institute of Technology (SIT), Singapore

09:45 - 10:00

2 Fr O.5.28 Area: 2 Sub Area: 2.2

Diagnostic analysis of temperature-dependent LETID behavior in PERC PV modules during accelerated cycling

Tanokkorn Chenvidhya [1, *], Manit Seapan [1], Panusorn Polchai [1], Kittipob Wiriyavorawet [1], Yaowanee Sangpongsanont [1], Dhirayut Chenvidhya [1], Krissanapong Kirtikara [1]

[1] CES Solar Cells Testing Center, Pilot Plant Development and Training Institute, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

Friday November 14, 2025	Program
Room D - 802 (8F)	Oral Presentation

Session Chair(s): Rongrong Cheacharoen (CU)

09:30 - 09:45

5 Fr O.11.46 Area: 5 Sub Area: 5.1

How to get highly efficient and stable perovskite solar cells via slot-die coating: mechanisms, materials, methods, and marketability

Ko Ko Shin Thant [1,2,*], Chaowaphat Seriwattanachai [1,2], Thantham Jittham [1], Naruedej Thamangraksat [1,2], Patawee Sakata [1,2], Pongsakorn Kanjanaboos [1,2,3,*]

[1] Materials Science & Engineering, Faculty of Science, Mahidol University, Nakhon Pathom, Thailand
[2] Center for Cooling and Energy-saving Materials, Faculty of Science, Mahidol University, Nakhon Pathom, Thailand
[3] Center of Excellence for Innovation in Chemistry (PERCH-CIC), Ministry of Higher Education, Science, Research and Innovation, Bangkok, Thailand

09:45 - 10:00

5 Fr O.11.47 Area: 5 Sub Area: 5.1

Scalable Meniscus Coating for Uniform, High-Efficiency Perovskite Solar Cells and Modules

Pisist Kumnorkaew [1,*]

[1] National Nanotechnology Center (NANOTEC) National Science and Technology Development Agency (NSTDA), Thailand Science Park, Pathum Thani, Thailand

10:00 - 10:15

5 Fr O.12.7 Area:5 Sub Area: 5.2

Tailoring Crystallization in Emerging Hybrid Metal Organochalcogenide Semiconductors: From Large Structures to Nanocrystals

Watcharaphol Paritmongkol [1,*]

[1] Materials Science and Engineering, School of Molecular Science and Engineering, VISTEC, Rayong, Thailand

Friday November 14, 2025	Program
Room D - 801 (8F)	Closing Ceremony

11:00 – 12:00

Conference summary & Presentation Awards