



4th ICoSeMT 2025

Date: 29 & 30 September 2025

Venue: St. Giles Wembley Penang

GENERAL INFORMATION FOR ICoSeMT 2025 PARTICIPANTS

Registration of guests and participants will take place on 29 September 2025, from 7:30 AM to 9:00 AM, at Level 10. To gain access to all sessions, as well as lunch, coffee breaks, and tea breaks, it is mandatory to possess a badge. Please ensure that your badge is always kept with you, except during the dinner event. For those who have chosen to attend the dinner, a coupon will be provided during the registration process. Please note that individuals are not permitted to collect badges on behalf of other participants. Conference Cancellation Policy: No refunds will be granted.

INFORMATION FOR PRESENTERS:

For those delivering oral presentations, your allocated presentation time is limited to 15 minutes, comprising a 10-minute presentation followed by a 5-minute question and answer session. All oral session rooms will be equipped with a projector, a laptop computer, and a laser pointer. Presenters are allowed to use their own computers during their presentations. We kindly request presenters to upload their presentations to the laptop in their respective rooms before the commencement of their sessions.

AWARD:

The award for Best Presenter will be determined by the evaluation committee and announced during the Closing Ceremony on 30th September 2025.

ICoSeMT 2025 & INoDEx 2025 SCHEDULE

Day 1: 29 September 2025

Time	Programme	
OPENING CEREMONY		
0800 – 0900	Registration of Guest and Participant Venue: Level 10	
0900 – 0930	Arrival of VVIPs	
	Doa Recital	
	National Anthem, Menara Ilmu	
	Welcoming speech by Assoc. Prof. Ts. Dr. Mohd Zamir Pakhuruddin Program Chairman, ICoSeMT 2025 and INoDEx 2025	
0930 – 1000	Group Photo Session & Coffee Break	
Event	ICoSeMT 2025	INoDEx 2025
1000 – 1030	<div><div>KEYNOTE TALK 1 (30 min) Professor Dr Hideki Hirayama, Pioneering Research Institute (PRI), RIKEN Institute, Japan Title: Recent Progress of 230 nm AlGaIn far-UVC LED for Human Harmless Disinfection Applications</div><div>KEYNOTE TALK 2 (30 min) Mr. ET Tan Tech Innovator & Industry Leader / Board of Director, MIMOS Bhd Title: Shifting Trends in The Global Semiconductor Landscape</div><div>PLENARY TALK 1 (20 min) Mrs. Azimah Abdul Kadir Head of Market Intelligence, Investment and Portfolio Division at MIMOS Holdings Sdn Bhd Title: Strategic Stratification of Semiconductor Innovations: Bridging Advanced Materials to Economic Impact</div><div>Kirana Semikonduktor Sdn Bhd (20 min) Assoc. Prof. Dr. Norzaini Zainal Associate Professor of INOR and Founder of Kirana Semikonduktor Sdn Bhd Title: Kirana Semikonduktor Sdn Bhd as a Spin-off of INOR</div></div>	
1030 – 1100		
1100 – 1120		
1120 – 1140		
1150 – 1300		
	PARALLEL SESSION (1A) Chairperson: Dr. Rosfariza Radzali <ul style="list-style-type: none">Invited Talk 1 (20 min)	PARALLEL SESSION (1B) Chairperson: Dr. Mohd Muzafa Jumidali <ul style="list-style-type: none">Invited Talk 3 (20 min)

	<p>Dr. Yilmaz Dikme (Element 3-5)</p> <ul style="list-style-type: none">• Invited Talk 2 (20 min) Mr. Allen Cheah (AT&S)• <i>2 Oral Presentation (15mins x 2)</i>	<p>Assoc. Prof. Dr. Adnan Younis (United Arab Emirates University)</p> <ul style="list-style-type: none">• Invited Talk 4 (20 min) Assoc. Prof. Ir. Ts. Dr. Mohd Hanapiah Abdulah (UiTM)• <i>2 Oral Presentation (15mins x 2)</i>	
1300 – 1400	Lunch Break <ul style="list-style-type: none">• Networking / Collaboration Session		
1400 – 1420	Ministry of Science, Technology and Innovation (MOSTI) (20 min) Mr. Ismarul Nizam Ismail <i>Principle Assistant Director, National Nanotechnology Center (NNC)</i> Title: Strengthening Nanotechnology Strategies in the MOSTI's Perspectives		
1420 – 1440	PLENARY TALK 2 (20 min) Dr. David Lacey <i>Director of Advanced Development & Services, ams-OSRAM Sdn Bhd</i> Title: Advances in Compound Semiconductor Device Technologies: Paving the Way for Sustainable and Smart Applications		
1440 –1500	PLENARY TALK 3 (20 min) Prof. Dr. Julien Brault <i>Research Director, French National Centre for Scientific Research (CNRS)</i> Title: Fabrication of AlGaN Heterostructures by quasi van der Waals Epitaxy on 2D materials for Quantum Dots based UV LEDs		
1500 - 1530	Tea Break Networking / Collaboration Session		
1530 – 1630	PARALLEL SESSION (2A) Chairperson: Dr. Mohd Muzafa Jumidali <ul style="list-style-type: none">• <i>4 Oral Presentations (15mins x 4)</i>	PARALLEL SESSION (2B) Chairperson: Dr. Sabah M. Mohammad <ul style="list-style-type: none">• <i>4 Oral Presentations (15mins x 4)</i>	
1630 – 1945	Break		
1945 – 2245	Banquet Dinner		
END OF DAY 1			

Day 2: 30th September 2025

Time	ICoSeMT 2025		INoDEx 2025
0830 – 0900	Registration of Guest and Participant & Advertisement Video		Video presentation
0900 – 0920	PLENARY TALK 4 (20 min) Dr. M. Ajmal Khan <i>Senior Research Scientist, Pioneering Research Institute (PRI), RIKEN Institute, Japan</i> Title: Status and Challenges of Efficient AlGaIn far-UVC and UVB LED on c-plan Sapphire for Medical and Agricultural Applications		
0920 –0940	PLENARY TALK 5 (20 min) Mr. Thung Beng Joo <i>Vice-President of Emerging Technologies, SilTerra Malaysia Sdn Bhd</i> Title: Shaping Tomorrow: Where Optics, Electronics and Mechanics Converge		
0940 – 1000	Coffee Break		
1000 – 1030	KEYNOTE TALK 3 (30 min) Prof. Dr. Markus Weyers <i>Ferdinand-Braun Institute (FBH)</i> Title: Material Aspects of Vertical GaN Transistors		
1030 –1100	KEYNOTE TALK 4 (30 min) Mr. Sim Kang Wei <i>Senior Director, Head of Wide-Band-Gap Semiconductor R&D, Infineon (Kulim) Sdn. Bhd</i> Title: Advancing the Future of Power Electronics: Infineon’s Breakthroughs in GaN Technology		
1100 –1120	PLENARY TALK 6 (20 min) Prof. Dr. Tao Tao <i>School of Electronic Science and Engineering, Nanjing University, China</i> Tittle: GaN-Based Micro-LEDs For Advanced Display Application		
1130 – 1250	PARALLEL SESSION (3A) Chairperson: Assoc. Prof. Dr. Quah Hock Jin	PARALLEL SESSION (3B) Chairperson: Dr. Rosfariza Radzali	

	<ul style="list-style-type: none">• Invited Talk 5 (20 min) Assoc. Prof. Dr. Ilkay Demir (Sivas Cumhuriyet University, Turkey)• <i>4 Oral Presentations (15mins x 4)</i>	<ul style="list-style-type: none">• Invited Talk 6 (20 min) Assoc. Prof. Dr. Mundzir Abdullah (INOR)• <i>4 Oral Presentations (15mins x 4)</i>	
1250 –1400	Lunch Break Networking / Collaboration Session Advertisement Video		
1400 –1420	PLENARY TALK 7 (20 min) Dr. Sideq Salleh <i>Program Director Research, Market, and Industry Development, CREST</i> Title: Bridging the Innovation Gap: Advancing the National Semiconductor Strategy (NSS) through Effective Industry-Academia-Government Collaboration in Semiconductor R&D		
1420 –1500	Vendor Talk 1. CREST Analytic (20 min) 2. Inno Lab (20 min)		
1500 - 1530	Tea Break Networking / Collaboration Session		
1530 –1630	PARALLEL SESSION (4A & 5A) Chairperson: Dr. Azrinawati Mohd Zin <ul style="list-style-type: none">• <i>4 Oral Presentations (15mins x 4)</i>	PARALLEL SESSION (4B & 5B) Chairperson: Assoc. Prof. Dr. Lim Way Foong <ul style="list-style-type: none">• <i>4 Oral Presentations (15mins x 4)</i>	
CLOSING CEREMONY			
1630 – 1800	Closing Speech by Deputy Chairman of ICoSeMT 2025 & INoDEx 2025		
	Best ICoSeMT 2025 Oral Presenter Award		
	Booth Games Winner Announcement		
	Award Announcement INoDEx 2025		
END OF EVENT			

ICoSeMT & INoDEx 2025: BANQUET DINNER

Date : 29 September 2025 (Monday)
Venue : Grand Ballroom, St. Giles Wembley Penang
Time : 8.00 p.m – 11.00 p.m
Attire : Traditional

Time	Programme
7.45 PM	Arrival of Guests
8.10 PM	Arrival of YBhg. Professor Dato' Seri Ir. Dr. Abdul Rahman Mohamed, FASc., Vice-Chancellor, Universiti Sains Malaysia
8.15 PM	Arrival of YBr. Mr. Ismarul Nizam bin Ismail, Senior Assistant Director, National Nanotechnology Centre (NNC), MOSTI
8.20 PM	Singing of <i>Negaraku</i> Singing of <i>Menara Ilmu</i>
8.30 PM	Welcoming Speech by YBhg. Professor Dato' Seri Ir. Dr. Abdul Rahman Mohamed, FASc., Vice-Chancellor, Universiti Sains Malaysia Opening Address by YBr. Mr. Ismarul Nizam bin Ismail, Senior Assistant Director, NNC, MOSTI Opening Gimmick of ICoSeMT & INoDEx 2025 Presentation of Souvenirs of Appreciation to the Guests of Honour
9.00 PM	Performance by Adikarma Cultural Troupe, USM Dinner Commences
9.30 PM	Presentation of Tokens of Appreciation to Keynote Speakers
9.40 PM	Performance by Adikarma Cultural Troupe, USM
10.00 PM	Announcement of "Best Dressed" Winner
10.15 PM	Performance by Adikarma Cultural Troupe, USM
10.45 PM	End of Ceremony

PRESENTATION SCHEDULE

ORAL PRESENTATION

DAY 1: 29th SEPTEMBER 2025 (MONDAY)

	Parallel Session 1A: (Devices)	Parallel Session 1B: (Devices)
	Venue: Ballroom 2 Chairperson: Dr. Rosfariza Radzali	Venue: Wembley 7 Chairperson: Dr. Mohd Muzafa Jumidali
11:50 am	Dr. Yilmaz Dikme <i>(Technical Director and Co-Founder, Element 3-5 GmbH, Germany)</i> “Next Level Epitaxy for Semiconductor Thin Films”	Assoc. Prof. Dr. Adnan Younis <i>(Department of Physics, College of Science, United Arab Emirates University)</i> “Solution-Processed Functional Nanostructures for High-Performance Next-Generation Electronics”
12:10 pm	Mr. Allen Cheah <i>(AT&S Malaysia)</i> “Advanced Packaging Substrates for AI Chips”	Assoc. Prof. Ir. Ts. Dr. Mohd Hanapiah Abdullah <i>(Faculty of Electrical Engineering, Universiti Teknologi MARA, UiTM)</i> “Revolutionizing Organic Dye Molecules in DSSCs: Unlocking Higher Efficiency Solar Harvesting through Low-Cost Metal Salt Additive”
12:30 pm	Mr. Muhammad Farizuan Nor Effendy <i>(Institute of Nano Optoelectronics Research and Technology, Universiti Sains Malaysia)</i> “Modelling and Simulation of AlGaIn/GaN HEMT with Hybrid Gate-Recessed and AlN/Al ₂ O ₃ Stacked Structure” (Paper ID: IC0046)	Dr. Wan Tatt Wai <i>(Infineon (Kulim) Technologies Sdn. Bhd.)</i> “Application of Cu Material & Process in Semiconductor Manufacturing” (Paper ID: IC0048)
12:45 pm	Mr. Amirul Firdaus <i>(Institute of Nano Optoelectronics Research and Technology, Universiti Sains Malaysia)</i>	Mr. Syed Muhammad Hafiz Syed Mohd Jaafar <i>(Faculty of Science, Universiti Malaya)</i>

	<p>"Water Gated HEMT: A Next Gen Sensor for Glyphosate"</p> <p>(Paper ID: IC0045)</p>	<p>"Additive Manufacturing of Printed Electronics Technology for Hybrid Electronic Sensor System"</p> <p>(Paper ID: IC0044)</p>
	<p>Parallel Session 2A: (Optical and Electronic Material)</p>	<p>Parallel Session 2B: (Devices)</p>
	<p>Venue: Ballroom 2 Chairperson: Dr. Azrinawati Mohd Zin</p>	<p>Venue: Wembley 7 Chairperson: Dr. Sabah Mohammad</p>
15:30 pm	<p>Ms. Nor Syafiqah Azmi (Institute of Nano Optoelectronics Research and Technology, USM)</p> <p>"Impact of AlN Buffer Layer Thickness on High Temperature Annealed AlGaIn:Si for Enhanced UVB LED Performance"</p> <p>(Paper ID: IC0036)</p>	<p>Dr. Nee Chen Hon (Faculty of Engineering at Multimedia University)</p> <p>"The Effects of PDINN as Electron Extraction Layer in Organic Solar Cell"</p> <p>(Paper ID: IC0024)</p>
15:45 pm	<p>Ms. Yuganesini Naidu A/P Siva Kumar (Institute of Nano Optoelectronics Research and Technology, Universiti Sains Malaysia)</p> <p>"Numerical Modeling of Homogeneous and Inhomogeneous Porosity Effects in Nanoporous GaN DBRs"</p> <p>(Paper ID: IC0031)</p>	<p>Ms. Siti Ameenah Suhel (Institute of Nano Optoelectronics Research and Technology, Universiti Sains Malaysia)</p> <p>"Effect of Nitrous Oxide Flow Rate on Structural, Surface Morphological and Optical Properties of Copper Oxide Thin Films"</p> <p>(Paper ID: IC0029)</p>
16:00 pm	<p>Mr. Mohd Nazri Kasuan (Universiti Malaya)</p> <p>"Growth of GaN on Sapphire for High Voltage Vertical Devices"</p> <p>(Paper ID: IC0023)</p>	<p>Ms. Nor Athirah Mohd Sukri (Institute of Nano Optoelectronics Research and Technology, Universiti Sains Malaysia)</p> <p>"Effects of Thermal Annealing in Nitrous Oxide Ambient on Structural, Optical, and Electrical Properties of P-Type InGaIn Films"</p> <p>(Paper ID: IC0032)</p>

16:15 pm	Dr. Muhammad Syazwan Mustaffa <i>(MIMOS Bhd.)</i> “Machine Learning for Data-Driven Optimization of 2D HBN Growth By CVD” (Paper ID: IC00028)	Ms. Elahe Bayat <i>(Institute of Nano Optoelectronics Research and Technology, Universiti Sains Malaysia)</i> “Multi-Objective Optimization of InGan-Si Tandem Solar Cells: Integrating LION And SCAPS-1D for Enhanced Power Conversion Efficiency” (Paper ID: IC0034)
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DAY 2: 30th SEPTEMBER 2025 (TUESDAY)

	Parallel Session 3A: (Optical and Electronic Material)	Parallel Session 3B: (Devices)
	Venue: Ballroom 2 Chairperson: Assoc. Prof. Dr. Quah Hock Jin	Venue: Wembley 7 Chairperson: Dr. Rosfariza Radzali
11:30 am	Assoc. Prof. Dr. Ilkay Demir <i>(Director of the Nanophotonic Research and Application Center (CÜNAM), Sivas Cumhuriyet University, Turkey)</i> “Doping-Enhanced High-Quality AlN Epitaxy on Sapphire: Growth and Defect Management”	Assoc. Prof. Dr. Mundzir Abdullah <i>(Institute of Nano Optoelectronics Research and Technology, INOR, Universiti Sains Malaysia)</i> “AlGaN Microring Resonators with Composition-Driven Tunability for High-Q Photonics”
11:50 am	Dr. Noratiqah Yusop <i>(Institute of Nano Optoelectronics Research and Technology, Universiti Sains Malaysia)</i> “Effect of indium surfactant concentration in p-layers growth for InGaN/GaN LEDs” (Paper ID: IC0041)	Mr. Muhammad Ramzan <i>(Institute of Nano Optoelectronics Research and Technology, Universiti Sains Malaysia)</i> “Numerical Investigation of Gan Waveguide Grating Coupler with Depth Gradients using COMSOL for Mode Controlled Light Coupling” (Paper ID: IC0030)

12:05 am	Ms. Lee Mai Woon <i>(MIMOS Bhd.)</i> “Optical Classification of Amorphous Carbon Films Deposited by Plasma-Enhanced Chemical Vapor Deposition” (Paper ID: IC0027)	Mrs. Nurin Jazlina Zaidi <i>(Universiti Malaya)</i> “Effects of MOCVD Growth Parameters on m-Plane GaN Epitaxy on Sapphire Substrate” (Paper ID: IC0017)
12:20 pm	Mr. Muhammad Iznul Hisyam Mohd Norizan <i>(Universiti Malaya)</i> “Growth of Crack-Free GaN on Si(111) Employing Pulse Atomic Layer Epitaxy AlN Buffer Layer” (Paper ID: IC0026)	Ms. Nur Lili Suraya <i>(Nanomalaysia Bhd.)</i> “Revolutionizing Precision Agriculture: Next-Gen Nanosensors for Intelligent Crop Monitoring and Smart Prediction” (Paper ID: IC0013)
12:35 pm	Ms. Nidhi Patel <i>(Institute of Nano Optoelectronics Research and Technology, Universiti Sains Malaysia)</i> “Growth of Aluminum Nitride (AlN) at 1175°C” (Paper ID: IC0040)	Mr. Aijaz Ali Soomro <i>(Institute of Nano Optoelectronics Research and Technology, Universiti Sains Malaysia)</i> “Performance Enhancement of β -Ga ₂ O ₃ NRs/p-GaN MSM UV Photodetector Via Thermal Annealing” (Paper ID: IC0021)
	Parallel Session 4A: (Optical and Electronic Material)	Parallel Session 4B: (Devices)
	Venue: Ballroom 2 Chairperson: Assoc. Prof. Dr. Quah Hock Jin	Venue: Wembley 7 Chairperson: Assoc. Prof. Dr. Lim Way Foong
15:30 pm	Mr. Nabil Najmi Norpiah <i>(Universiti Malaya)</i> “Enhancement of Gallium Nitride on Silicon (111) Using Pulse Atomic-Layer Epitaxy (PALE) AlN with Composition-Graded AlGaN Buffer” (Paper ID: IC0018)	Ms. Anam Irshad <i>(School of Physics, Universiti Sains Malaysia)</i> “Colorimetric Variability Analysis of Post-Harvest Harum Manis Mangoes using Tristimulus Measurement” (Paper ID: IC0039)

15:45 pm	<p>Mr. Irfan Abd Rahman (Infineon (Kulim) Technologies Sdn. Bhd.)</p> <p>“Influence of PECVD Process Parameters on the Surface Morphology and Wettability of Silicon Nitride Films”</p> <p>(Paper ID: IC0022)</p>	<p>Mrs. Zuraihana Bachok (Universiti Sains Malaysia)</p> <p>“Optimisation of Laser Soldering Parameters in PTH Assemblies: Effects of Lead Angle, Pad Design, and SAC Alloy Type”</p> <p>(Paper ID: IC0016)</p>
16:00 pm	<p>Ms. Hanadi Ahmed Yaslam Baqandwan (Universiti Sains Malaysia)</p> <p>“Investigation on 2D Lead-Free $\text{Cs}_3\text{Sb}_2\text{C}_x\text{I}_{9-x}$ Perovskite Thin Films on Planar and Black Silicon”</p> <p>(Paper ID: IC0015)</p>	<p>Ms. Kirran Nisha Krishnan (School of Physics, Universiti Sains Malaysia)</p> <p>“pH Measurement in Harum Manis Mango using An 18-Channel Multispectral Reflectance Sensor”</p> <p>(Paper ID: IC0038)</p>
	Parallel Session 5A: (Organic and Polymeric Material)	Parallel Session 5B: (Packaging Technology)
16:15 pm	<p>Ms. Nur Ummul Waliyyatullah (UiTM Pasir Gudang)</p> <p>“Preliminary Study of Dissolution Recycled Textile using Dimethyl Sulfoxide: Effect of Temperature”</p> <p>(Paper ID: IC0025)</p>	<p>Dr. Norfarariyanti Parimon (Engineering Faculty, Universiti Malaysia Sabah)</p> <p>“Enhanced Thermal Management: Copper- and Silver-Coated Heat Spreaders on Aluminium Nitride/Silicon Wafers”</p> <p>(Paper ID: IC0014)</p>