PROGRAM SCHEDULE

3rd ICoSeMT 2023 & INoDEx 2023
Date: 18 & 19 September 2023
Venue: Shangri-La Rasa Sayang,
Batu Ferringhi, Penang

ICoSeMT 2023 & INoDEx 2023 SCHEDULE

Day 0: 17 September 2023

Time	Programme
1400 –1900	Pre-Registration *Oral//Booth Participants can opt for pre-registration at the Pelangi Ballroom Entrance

Day 1: 18 September 2023

Time	Programme	
0800 – 0900	**Registration of Guest and Participant** **Booth set up** Venue: Pelangi Ballroom Entrance	
OPENING CEREMONY ***Venue: Pelangi Ballroom*** Chairperson: Ms. Nor Zulaikha Abu Hasan		
0900 – 0930	Doa Recital	
	National Anthem, Menara Ilmu, USM Transformation Video	
	Welcoming speech by Assoc. Prof. Ts. Dr. Mohd Zamir Pakhuruddin Program Chairman, ICoSeMT 2023 dan INoDEx 2023	
Time/Event	**ICoSeMT 2023**	**INoDEx 2023**
0930 – 1030	**KEYNOTE TALK 1** ***Venue: Pelangi Ballroom*** Prof Hiroshi Kawarada, Waseda University Title: Diamond p-FETs platform for wide bandgap n-FET	**Video presentation**
1030 – 1100	Photo Session and Coffee Break	
1100 – 1130	**VENDOR TALK 1** ***Venue: Pelangi Ballroom*** Hi-Tech Instruments Sdn Bhd	

PARALLEL ORAL SESSION 1		
1130 – 1250	**ORAL SESSION 1A** ***Venue: Pelangi Ballroom*** ➢ Invited Talk 1: 1A1 ➢ Oral Presentation: 1A2-1A5	**ORAL SESSION 1B** ***Venue: Sayang III Room*** ➢ Invited Talk 2: 1B1 ➢ Oral Presentation: 1B2-1B5
1250 – 1400	Lunch Break	
1400 – 1500	**KEYNOTE TALK 2** ***Venue: Pelangi Ballroom*** Dr. David Lacey, ams OSRAM Sdn Bhd. Title: Trends in Optoelectronic Devices & Applications	
1500 – 1530	**VENDOR TALK 2** ***Venue: Pelangi Ballroom*** nanophoton Korea/ Quasi-S Sdn Bhd.	
1530 – 1545	Coffee Break	
1545 – 1615	**VENDOR TALK 3** ***Venue: Pelangi Ballroom*** Gaia Science (M) Sdn Bhd	
PARALLEL ORAL SESSION 2		
1615 – 1705	**ORAL SESSION 2A** ***Venue: Pelangi Ballroom*** ➢ Invited Talk 2: 2A1 ➢ Oral Presentation: 2A2	**ORAL SESSION 2B** ***Venue: Sayang III Room*** ➢ Invited Talk 3: 2B1 ➢ Oral Presentation: 2B2-2B3
1705 – 1945	**Break**	
1945 – 2245	**ICoSeMT & INoDEx 2023: Opening Ceremony** **Venue: Pelangi Ballroom, Shangri-La Rasa Sayang**	
END OF DAY 1		

Day 2: 19 September 2023

<table>
<tr><th>Time/Event</th><th colspan="2">ICoSeMT 2023</th><th>INoDEx 2023</th></tr>
<tr><td>0830 – 0900</td><td colspan="2">Registration of Guest and Participant & Advertisement Video</td><td rowspan="10">Video presentations</td></tr>
<tr><td>0900 – 0945</td><td colspan="2">PLENARY TALK 1
Venue: Pelangi Ballroom

Assoc. Prof. Dr Jean-Jacques Delaunay, University of Tokyo
Title: Trends in Functional Optical Structures</td></tr>
<tr><td>0945 – 1000</td><td colspan="2">Photo Session and Coffee Break</td></tr>
<tr><td>1000 – 1030</td><td colspan="2">Vendor Talk 4
Venue: Pelangi Ballroom
Thermo Fisher Scientific</td></tr>
<tr><td>1030 – 1100</td><td colspan="2">Vendor Talk 5
Venue: Pelangi Ballroom
Inno Lab Engineering Sdn Bhd</td></tr>
<tr><td>1100 – 1250</td><td>PARALLEL SESSION 3A
Venue: Pelangi Ballroom

➢ Invited Talk 4: 3A1
➢ Oral Presentation: 3A2-3A7</td><td>PARALLEL SESSION 3B
Venue: Sayang III Room

➢ Invited Talk 5: 3B2
➢ Oral Presentation: 3B2-3B7</td></tr>
<tr><td>1250 – 1400</td><td colspan="2">Lunch Break / Advertisement Video</td></tr>
<tr><td>1400 – 1500</td><td colspan="2">KEYNOTE TALK 3
Venue: Pelangi Ballroom

Dr. Lee Hing Wah, MIMOS
Title: Catalysing Malaysia's Semiconductor Industry Development with High-Value Semiconductor Technology (HVST) Research & Innovation</td></tr>
<tr><td>1500 – 1545</td><td colspan="2">PLENARY TALK 2
Venue: Pelangi Ballroom

Dr. Guenther Maier, AT&S
Title: IC Substrate technology for Advanced Packaging</td></tr>
</table>

1545 – 1600	Coffee Break	
1600 – 1720	**PARALLEL SESSION 4A** ***Venue: Pelangi Ballroom*** ➢ Invited Talk 6: 4A1 ➢ Oral Presentation: 4A2-4A5	**PARALLEL SESSION 4B** ***Venue: Sayang III Room*** ➢ Invited Talk 7: 4B1 ➢ Oral Presentation: 4B2-4B5
CLOSING CEREMONY ***Venue: Pelangi Ballroom*** Chairperson: Ms. Nor Zulaikha Abu Hasan		
1720 – 1815	**Closing Speech** Dr Ainorkhilah Mahmood Deputy Chairman of ICoSeMT 2023 & INoDEx 2023	
	Award Announcement INoDEx 2023 & ICoSeMT 2023	
	End of Ceremony	
END OF EVENT		

ICoSeMT & INoDEx 2023: OPENING CEREMONY

Date : 18 September 2023 (Monday)
Venue : Grand Ballroom, Shangri-La Rasa Sayang
Time : 8.00 p.m – 11.00 p.m
Attire : Traditional

Time	Activities
7.45 PM	Arrival of Invited Guests and Program Participants *(Cocktail reception will be held in the Grand Ballroom lobby before the event commences)*
8.15 PM	Arrival of Minister of MOSTI, MOSTI delegates, Vice-Chancellor of USM, Deputy Vice-Chancellor of USM, VVIPs, Deans and Directors, and honoured guests
8.20 PM	National Anthem University Anthem USM Transformation Video Presentation
8.40 PM	Address by YBhg. Prof. Dato' Ir. Dr. Abdul Rahman Mohamed, FASc., Deputy Vice-Chancellor of USM Address by YB Chang Lih Kang, Minister of MOSTI & Official launch of ICoSeMT & INoDEx 2023
9.10 PM	Dinner Reception
	Performance 1
9.40 PM	Performance 2
10.00 PM	Presentation of Best Dress Award (by Assoc. Prof. Ts. Dr. Mohd Zamir Pakhuruddin)
10.15 PM	Performance 3
10.45 PM	End of ceremony

Event Chairman: Ir. Dr. Mohd Firdaus Abdullah

Performance by Adikarma

ICoSeMT 2023 PRESENTATION SCHEDULE

KEYNOTE SPEAKERS

DAY 1: 18 SEPTEMBER 2023 (MONDAY) **9:30 am – 10:30 am** **Pelangi Ballroom** Chairperson: Ts. Dr. Mohd Syamsul Nasyriq Samsol Baharin	
9:30 am	***Professor Dr. Hiroshi Kawarada*** *(Waseda University, JAPAN)* "Diamond p-FETs Platform for Wide Bandgap n-FET**"**
DAY 1: 18 SEPTEMBER 2023 (MONDAY) **2:00 pm – 3:00 pm** **Pelangi Ballroom** Chairperson: Dr Ainorkhilah Mahmood	
2.00 pm	***Dr. David Lacey*** *(ams OSRAM Sdn. Bhd., MALAYSIA)* "Trends in Optoelectronics Devices & Applications**"**
DAY 2: 19 SEPTEMBER 2023 (TUESDAY) **2:00 pm – 3:00 pm** **Pelangi Ballroom** Chairperson: Assoc. Prof. Ir. Dr. Nor Azlan Othman	
2:00 pm	***Dr. Lee Hing Wah*** *(MIMOS Berhad, MALAYSIA)* "Catalysing Malaysia's Semiconductor Industry Development with High-Value Semiconductor Technology (HVST) Research & Innovation"

PLENARY SPEAKERS

DAY 2: 19 SEPTEMBER 2023 (TUESDAY) **9:00 am – 9:45 am** **Pelangi Ballroom** Chairperson: Dr. Yusnita Mohd Ali	
9:00 am	***Associate Professor Dr. Jean-Jacques Delaunay*** *(University of Tokyo, JAPAN)* "Trends in Functional Optical Structures**"**
DAY 2: 19 SEPTEMBER 2023 (TUESDAY) **3:00 pm – 3:45 pm** **Pelangi Ballroom** Chairperson: Assoc. Prof. Ir. Dr. Nor Azlan Othman	
3.00 pm	***Dr. Guenther Maier*** *(AT&S: Advanced Technologies & Solution, MALAYSIA)* "IC Substrate Technology for Advanced Packaging"

VENDOR TALK

DAY 1: 18 SEPTEMBER 2023 (MONDAY) **Pelangi Ballroom** Chairperson: Wan Anisha Wan Mohammad	
11:00 am	***Abby Soo Mun Teng,*** *Tay Khoon Yang* *(Hi-Tech Instruments Sdn. Bhd., MALAYSIA)* "Atomic Resolution Observation and Analysis on Nanomaterials and Nanodevices by using Advanced Aberration-Corrected SEM/STEM/TEM Technologies and Triple Beam System (FIB/SEM/ARGON) for High Quality Lamella Preparation**"**
DAY 1: 18 SEPTEMBER 2023 (MONDAY) **Pelangi Ballroom** Chairperson: Dr. Azrinawati Mohd Zin	
3:00 pm	*Tae-Hyun Kim, Hye-Kyung Shin****, Hyo-Jin Kim*** *(Photonic Division, Nanophoton Korea, KOREA/Quasi-S Sdn. Bhd., MALAYISA)* "From Scıence to Industry for Defects Analysıs of 2 D Materıals and SiC Wafers by Ultra-Fast Raman Imagıng Mıcroscopy"
3.45 pm	***Rocky Nguyen*** *(Park Systems Corp., KOREA/Gaia Science (M) Sdn. Bhd., MALAYSIA)* "AFM-Based Failure Analysis for Electronics and Semiconductor Manufacturing"
DAY 2: 19 SEPTEMBER 2023 (TUESDAY) **Pelangi Ballroom** Chairperson: Assoc. Prof. ChM. Dr. Nor Aziyah Bakhari	
10.00 am	***Yongkai Zhou*** *(Thermo Fisher Scientific, SINGAPORE)* "Advanced Dualbeam's Applications for the Research in Semiconductor's Materials and Technology"
10.30 am	***Low Hou Ran*** *(Inno Lab Engineering Sdn. Bhd., MALAYSIA)* "Thin Film Analysis by XRF – An Overview"

ORAL PRESENTATIONS

ORAL SESSION SESSION 1 DAY 1: 18 SEPTEMBER 2023 (MONDAY)		
PARALLEL SESSION 1A (Pelangi Ballroom) Chairperson: Dr. Nor Shahanim Mohamad Hadis		
Time	**Title/Presenter**	**ID**
11:30 am	Role of Physical Modelling and Optimization in Optical Product Development ***INVITED TALK*: *Sai Cheong Lee****	1A1
11:50 am	Advanced Potentiometric Water-Gated Configuration Using AlGaN/GaN High Electron Mobility Transistor (WGHEMT) ***Amirul Firdaus****, *Najihah Fauzi, Shaili Falina, Hiroshi Kawarada, Mohd Syamsul*	1A2
12:05 pm	An Experimental Model Analysis on Aerofoil Shaped Pin Fin Arrays ***Mainak Bhaumik ****, *Kavita Dhanawade*	1A3
12:20 pm	Impact of Protection Diodes on Bias Temperature Instability in SOI Technology *Mohd Hanif Kamaruddin, Mohd Amir Zulkefli**, ***Ahmad Aiman Mohd Nazir**, Muhammad 'Arif Razali, Sharifah Shafini Syed Shahabuddin*	1A4
12:35 pm	Accelerating Forward Electromagnetic Scattering Prediction Using Neural Networks and Generalized Mie Theory *Ying Li Thong, ***Tiem Leong Yoon****	1A5

PARALLEL SESSION 1B (Sayang Room) Chairperson: Dr. Rosfariza Radzali		
Time	**Title/Presenter**	**ID**
11:30 am	A Study on the Effect of PECVD Nitride Process Parameters on Stress Hysteresis ***INVITED TALK**: **Abd Rahman Irfan****, *Karthigesu Malathi, Packeer Mohamed Mohamed Fauzi*	1B1
11:45 am	$CsPbBr_3$ Plasmonıc-Waveguıde Small Laser ***Ahmad Syazwan Ahmad Kamal****, *Cheng-Chieh Lin, Zhiyu Wang, Di Xing, Yang-Chun Lee, Mu-Hsin Chen, Ya-Lun Ho, Chun-Wei Chen, Jean-Jacques Delaunay*	1B2
12:00 pm	Recovery of Precıous Metals from Electronıc Waste through Acıd Leachıng ***Wan Nur Fazlina Abdol Jani***,* *Noor Hidayu Abdul Rani, Nor Fadilah Mohamad, Sharifah Iziuna Sayed Jamaludin, Fatihah Suja*	1B3
12:15 pm	Anchorıng Pt-Ni Nanosponges on Graphene for Efficıent Methanol Oxıdatıon Reactıon ***Mahayatun Dayana Johan Ooi****, *Natasha Liyana Hishammudin, Ainorkhilah Mahmood, Yushamdan Yusof*	1B4
12:30 pm	The Physıcal and Racah Parameter of Erbıum-Samarıum Co-Doped Zınc Sodıum Tellurıte Glass for Solıd-State Laser Use: The Impact of Rıce Husk-Derıved Mıcro/Nano-Sılıca *Nur Nabihah Yusof,* ***Nurulhuda Mohammad Yusoff***,* *Siti Maisarah Aziz, Iskandar Shahrim Mustafa, Muhammad Fadhirul Izwan bin Abdul Malik*	1B5

ORAL SESSION SESSION 2 DAY 1: 18 SEPTEMBER 2023 (MONDAY)		
PARALLEL SESSION 2A (Pelangi Ballroom) Chairperson: ChM. Marina Mokhtar		
Time	**Title/Presenter**	**ID**
16:15 pm	Fabrication of Chemical Solution Grown Zinc Oxide Nanomaterials for Humidity Sensing Applications ***INVITED TALK**: **Mohamad Hafiz Mamat****	2A1
16:35 pm	The Study of Nonlinear Optical Behavior of Gold, Silver Nanoparticles and Their Combinations Synthesized by Palsed Laser Ablation in Liquid ***Md Rumon Shahrier***, Sabah M. Mohammad, Mundzir Abdullah, Suvindraj Rajamanickam, Shireen Mohammed Abed, Abubakar A. Sifawa*	2A2

PARALLEL SESSION 2B (Sayang Room) Chairperson: Ts. Anith Nuraini Abd Rashid		
Time	**Title/Presenter**	**ID**
16:15 pm	Low Temperature Grown AlN ***INVITED TALK**: **Yilmaz Dikme*,** Khosrow Rahimi, Mohd Anas Ahmad, Mohd Ann Amirul Zulffiqal Md Sahar, Nur Atiqah Hamzah, Rahil Izzati Mohd Asri, Norzaini Zainal, Mohd Zamir Pakhuruddin*	2B1
16:35 pm	Observation of 3rd Order Optical Nonlinearity in Long-Chaın Alkylammonıum Bismuth Iodide Quantum Dots ***Han Yann Heng**, Muhammad Aizat Abu Bakar, Leong Wei Xian Rebecca, Mohamad Shuaib Mohamed Saheed, Muhamad Fikri Zaini, Mohd Mustaqim Roslib, Noor Aswafi Ahmad Zaini, Dian Alwani Zainuri, Abdul Razak Ibrahim, Mundzir Abdullah**	2B2
16:50 pm	Structural Properties and Hardness of Erbium-Doped Calcium Sodium Fluorophosphate Glass Embedded with Silver Nanoparticles *Faizani Mohd Noor, **Siti Maisarah Aziz***, Nadira Basri*	2B3

ORAL SESSION SESSION 3 DAY 2: 19 SEPTEMBER 2023 (TUESDAY)		
PARALLEL SESSION 3A (Pelangi Ballroom) Chairperson: Dr. Shaili Falina Binti Mohd Sukri		
Time	**Title/Presenter**	**ID**
11:00 am	Development of InGaN Epıtaxıal Fılms for Long-Wavelength LEDs and Hıgh-Efficıency Solar Cells Applıcatıons ***INVITED TALK*: S. S. Ng****, *A. K. Tan, A. S. Yusof, N. A. Hamzah, M. A. Ahmad, Z. Hassan, S. O. S. Hamady*	3A1
11:20 am	Characterization of The Heat Affected Zone of Gold Wire Bond ***Koh Shiann Chern Jason****	3A2
11:35 am	Electrical Characterization of Hybrid P3HT: Cds and Pristine P3HT ***Nabila Anis Zakaria****	3A3
11:50 am	Effect of Rapıd Thermal Annealıng Process on $Ga_xCe_yO_z$ Passıvatıon Layer ***Kammutty Musliyarakath Abdul Shekkeer*,*** *Kuan Yew Cheong, Hock Jin Quah*	3A4
12:05 pm	Optımızatıon of Modıfied Actıvated Carbon Coconut Shell wıth Tetraethylenepentamıne (TEPA) and Imıdazole (Ims) for Carbon Capture Usıng Response Surface Methodology Approach *Noor Hidayu Abdul Rani, Nur Farah Anisah Radzuwan,* ***Nor Fadilah Mohamad****, Nurul Hazwani Sabri, Wan Nur Fazlina Abdol Jani*	3A5
12.20 pm	Innovatıve Acıd Treatment Strategıes for Enhanced Multıwalled Carbon Nanotube Functıonalıty ***Jemilat Yetunde Yusuf****, Hassan Soleimani, Lee Kean Chuan, Bashiru Bolaji Balogun, Abdullahi Abbas Adam, Balogun Asmau Iyabo*	3A6
12.35 pm	Investıgate the Behavıour of Fıeld Plate on E-Mode AlGaN/GaN MISHEMT Devıces for Power Devıces Applıcatıon ***Naeemul Islam****, Mohamed Fauzi Packeer Mohamed, Mohd Syamsul Nasyriq Samsol Baharin, Shaili Falina, Alhan Farhanah Abd Rahim*	3A7

PARALLEL SESSION 3B (Sayang Room) Chairperson: Ms. Siti Azlina Rosli		
Time	**Title/Presenter**	**ID**
11:00 am	Epıtaxy of AlN/Sapphıre Templates for Uv LEDs ***INVITED TALK*: *Norzaini Zainal****	3B1
11:20 am	Development of Amıne-Modıfied Sılıca Gel from Rıce Husk for Effıcıent Carbon Dıoxıde Capture ***Noor Hidayu Abdul Rani****, *Nur Najiha Najwa Bahri, Nor Fadilah Mohamad, Nurul Hazwani Sabri, Wan Nur Fazlina Abdol Jani*	3B2
11:35 am	Study on Anodıc Growth Tungsten Oxıde Nanopartıcle on ITO Glass : Structural, Morphology and Optıcal Properties ***Farhat M Ali Salem****, *Yam Fong Kwong, Mahayatun Dayana Johan Ooi*	3B3
11:50 am	Enhancing Solid-State Laser Performance: The Impact of Plasmonic Nanoparticles on Photoluminescence in Er^{3+}-Doped Sodium Zinc Tellurite Glass ***Nur Nabihah Yusof****, *Nurul Huda Mohd Yusoff, Siti Maisarah Aziz, Iskandar Shahrim Mustafa, Suhairul Hashim, Muhammad Noorazlan Bin Abd Azis, Nazirul Nazrin Shahrol Nidzam, Mohd Hafiz Mohd Zaid, Rosdiyana Hisam*	3B4
12:05 pm	Enhancıng Selectıve Wavelength Sensıng in PANI-ZnO Composıtes-Based Photodetectors through LSPR Effects of Gold and Sılver Nanopartıcles ***Suvindraj Rajamanickam*,** *Sabah M. Mohammad, Ibrahim Abdul Razak, Md Rumon Shahrier, Mundzir Abdullah*	3B5
12.20 pm	An Efficient Method of High Temperature Reverse Bias (HTRB) using Fluorinert Isolation in Discrete Technology *Mohd Amir Zulkefli*, Nur Azmina Md. Sakri,* ***Ahmad Aiman Mohd Nazir****, Mohd Hanif Kamaruddin, Muhammad 'Arif Razali, Sharifah Shafini Syed Shahabuddin*	3B6
12.35 pm	Study of Bio-Organic Based Natural Rubber Thin Film as a Resistive Switching Material ***Muhammad Awais*,** *Kuan Yew Cheong, Nadras Binti Othman, Feng Zhao*	3B7

ORAL SESSION
SESSION 4
DAY 2: 19 SEPTEMBER 2023 (TUESDAY)

PARALLEL SESSION 4A
(Pelangi Ballroom)
Chairperson: Azlina Mohd Mydin

Time	Title/Presenter	ID
16:00 pm	High-Quality GaN on Silicon Using Aluminum Nitride Pulsed-Atomic Layer Epitaxy Inserted Buffer ***INVITED TALK*: *Ahmad Shuhaimi Abu Bakar****	4A1
16:20 pm	Influence of Annealing Treatment Duration on the Formation of Tb_4O_7 Passivation Layer on Si Substrate in Argon Ambient ***Abubakar A. Sifawa****, *Sabah M. Mohammad, Suvindraj Rajamanickam, Shireen Mohammed Abed, Md Rumon Shahrier, Way Foong Lim*	4A2
16:35 pm	Effect of Forming Gas-Oxygen-Forming Gas Annealing on Thulium Oxide Passivation Layer on Silicon ***Junchen Deng****, *Hock Jin Quah*	4A3
16:50 pm	Effect of PVA-G-GMA/PAA Solutıon Concentratıon on the Porous Fıber Structure ***Arbanah binti Muhammad****, *Juhyun Park*	4A4
17.05 pm	Improvement of UV Photodetector Performance through Coatıng Si Nanowıres wıth Au Nanopartıcle-Decorated ZnO Thın Fılm ***Shireen Mohammed Abed*,** *Sabah M. Mohammad, Z. Hassan, Suvindraj Rajamanickam, Md Rumon Shahrier, Abubakar A. Sifawa*	4A5

PARALLEL SESSION 4B (Sayang Room) Chairperson: Dr. Sabah M. Mohammad		
Time	**Title/Presenter**	**ID**
16:00 pm	Epıtaxy Development for Hıgh Volume Poductıon of LEDS ***INVITED TALK: K. Azharul Ariff****	4B1
16:20 pm	Characterization of Mechanical Properties of PMMA Reinforced Nano-SiO_2 for Denture Base Application ***Nada R. Kareem**;* *MdRadzi. Y., Awham M. Hameed*	4B2
16:35 pm	The Influence of Dıfferent Graphene Nanoplatelets (GNPS) Loadıngs on Mechanıcal and Thermal Behavıor of Epoxıdızed Palm Oıl-Epoxy Resın Nanocomposıtes ***Nur Aliaa Zulkefli**,* *Rohani Mustapha, Suriani Mat Jusoh, Mohamad Awang, Che Mohd Ruzaidi Ghazali, Siti Noor Hidayah Mustapha*	4B3
16:50 pm	Feasibility Study of Gold Nanoislands on AlGaN/GaN HEMT for PH Sensing ***Najihah Fauzi*,*** *Amirul Firdaus, Shaili Falina, Masafumi Inaba, Hiroshi Kawarada, Mohd Syamsul*	4B4
17.05 pm	Comparative Study between CeO_2 and Boron Doped CeO_2 for Si Based Metal Oxide Semiconductor Device ***Ainita Rozati Mohd Zabidi**,* *Zainuriah Hassan, Way Foong Lim*	4B5