



2ND INTERNATIONAL SYMPOSIUM
SMA2025
Sustainable Pathways: Green Synthesis for
Functional Materials and Eco-Friendly Applications

Organized by



FuNTech



SCI
SCHOOL OF SCIENCE
WALAILAK UNIVERSITY

ROOE
Walailak University



National Institute for Fusion Science

A A A P T
Asian African Association for Plasma Training

H-PLAS
HUB of TALENTS
for PLASMA TECHNOLOGY

**2nd International Symposium on Sustainable Pathways: Green Synthesis
for Functional Materials and Eco-Friendly Applications (SMA2025)**

28-29 March 2025

**Sithammarat Auditorium, Architecture and Design Building,
Walailak University, Thailand**

1. Tentative invited speakers

	Name/speaker type	Institute	Title
1.	Plenary Prof. Dr. Rajdeep Singh Rawat	Nanyang Technological University, Singapore	<i>Sustainable Carbon and Nitrogen Plasma based Green Synthesis and Processing of High-Performance Energy Storage and Conversion Electrode Materials</i>
2.	Keynote 1 Prof. Dr. Choong Choe Earn	Kwangwoon University, South Korea	<i>Plasma Catalysts Development for Water Treatment</i>
3.	Keynote 2 Asst.Prof.Dr. Sutatch Ratanaphan	King Mongkut's University of Technology Thonburi, Thailand	<i>Hydrothermal Synthesis of Carbon Quantum Dots with Size Tunability via Heterogeneous Nucleation</i>
4.	Keynote 3 Assoc. Prof. Dr. Nathapong Sukhawipat	King Mongkut's University of Technology North Bangkok, Thailand	<i>From Waste to Value: Conversion of Used Palm Oil to Polyurethane-Based Engineering Materials</i>
5.	Keynote 4 Prof. Dr. Takanori Murase	National Institute for Fusion Science, Japan	<i>Development of High-functional Activated Carbon Derived from Unused Agricultural Biomass</i>

6.	Keynote 5 Dr. Pongtanawat Khemthong	National Nanotechnology Center, Thailand	<i>Integrating Advanced Catalysis for Environmental Sustainability and Catalytic Biomass Conversion to Achieve SAF Production and CO₂ Utilization</i>
7.	Keynote 6 Prof. Dr. Pharkphoom Panichayupakaranant	Prince of Songkla University, Thailand	<i>Green Microwave Extraction: A Tailored Approach for the Extraction of Bioactive Compounds</i>
8.	Keynote 7 Assoc. Prof. Dr. Rawiwan Charoensup	Mae Fah Luang University, Thailand	<i>Advancing Sustainable Herbal Medicine: Strengthening Turmeric (<i>Curcuma longa</i> L.) Value Chain Through Capacity Building and Standardized Production</i>
9.	Keynote 8 Prof. Subash C.B. Gopinath	Universiti Malaysia Perlis, Malaysia	<i>Functional Nanomaterials in Clinical Diagnostics: Roads & Destinations</i>
10.	Keynote 9 Assoc. Prof. Dr. Purim Jarujamrus	Ubon Ratchathani University, Thailand	<i>Advances in Tailored Functional Nanomaterials on Microfluidic Paper-Based Devices for Optical Sensing Innovations</i>
11.	Keynote 10 Assoc. Prof. Dr. Theeraphong Puangmali	Khon Kaen University, Thailand	<i>Design and Development of Nanomaterials for Early Detection of Diseases Related to Epigenetics</i>
12.	Keynote 11 Prof. Dr. Siriporn Jungsuttiwong	Ubon Ratchathani University, Thailand	<i>Advancing Energy Material Design through Experimental and DFT Synergies for Climate Solutions</i>
13.	Keynote 12 Dr. Sanchai Kuboon	National Nanotechnology Center, Thailand	<i>Nickel Phyllosilicate Catalyst Derived from Bagasse Fly Ash for H₂ Production via Dry Reforming of Methane</i>
14.	Invited 1 Assoc. Prof. Dr. Mudtorlep Nisoa	FuNTech, Walailak University, Thailand	<i>Thermal plasmas for methane pyrolysis towards clean hydrogen energy</i>
15.	Invited 2 Assoc. Prof. Dr. Gorawit Yusakul	FuNTech, Walailak University, Thailand	<i>Microwave-assisted Extraction of Curcumin from <i>Curcuma longa</i> L. using microemulsion of Hydrophobic Deep Eutectic Solvents</i>
16.	Invited 3 Dr. Sakda Jampasa	FuNTech, Walailak, Thailand	<i>Biorecognition Elements for Selective Detection of Target Analytes Using Electrochemical Biosensors</i>
17.	Invited 4 Asst. Prof. Dr. Rathawat Daengngern	King Mongkut's Institute of Technology Ladkrabang, Thailand	<i>Ultrafast Excited State Proton Transfer Coupled with Twisted Intramolecular Charge Transfer</i>

			<i>or Bifunctional Derivatives of Pyridine: A Theoretical Study</i>
18.	Invited 5 Asst. Prof. Dr. Purintorn Chanlert	Songkhla Rajabhat University, Thailand	<i>Bridging Nature and Technology: Bio-based Acoustic Materials for Sustainable Building Applications</i>

2. Tentative program

March 27, 2025

Time	Schedule
18.00 – 21.00	Welcome reception by the president of Walailak University

March 28, 2025

Master of Ceremony

Assoc. Prof. Dr. Piyaluk Nurerk and Asst. Prof. Dr. Theanchai Wiwasuku

Time	Schedule
8.00 – 9.00	Registration
9.00 - 9.30	Opening ceremony
<i>Chair: Assoc. Prof. Dr. Dheerawan Boonyawan</i> <i>Co-chair: Dr. Vikas Rathore</i>	
9.30 – 10.10	Plenary Talk Prof. Dr. Rajdeep Singh Rawat; Nanyang Technological University, Singapore <i>“Sustainable Carbon and Nitrogen Plasma based Green Synthesis and Processing of High-Performance Energy Storage and Conversion Electrode Materials”</i>
10.10 – 10.30 Coffee break	
10.35 – 11.05	Keynote 1 Prof. Dr. Choong Choe Earn; Kwangwoon University, South Korea <i>“Plasma Catalysts Development for Water Treatment”</i>
11.10 – 11.40	Keynote 2 Asst. Prof. Dr. Sutatch Ratanaphan; King Mongkut's University of Technology Thonburi, Thailand <i>“Hydrothermal Synthesis of Carbon Quantum Dots with Size Tunability via Heterogeneous Nucleation”</i>
11.45 – 12.05	Invited 1 Assoc. Prof. Dr. Mudtorlep NisoaA; FuNTech, Walailak University, Thailand <i>“Thermal plasmas for methane pyrolysis towards clean hydrogen energy”</i>
12.10 – 13.10 Lunch at Co-working space (1st floor)	
<i>Chair: Assoc. Prof. Dr. Kotchaphan Kanjana</i> <i>Co-chair: Dr. Narongrit Sosa</i>	

13.15 – 13.45	Keynote 3 Assoc. Prof. Dr. Nathapong Sukhawipat; King Mongkut's University of Technology North Bangkok, Thailand <i>“From Waste to Value: Conversion of Used Palm Oil to Polyurethane-Based Engineering Materials”</i>
13.50 – 14.20	Keynote 4 Prof. Dr. Takanori Murase; National Institute for Fusion Science, Japan <i>“Development of High-functional Activated Carbon Derived from Unused Agricultural Biomass”</i>
14.25 – 14.55	Keynote 5 Dr. Pongtanawat Khemthong; National Nanotechnology Center, Thailand <i>“Integrating Advanced Catalysis for Environmental Sustainability and Catalytic Biomass Conversion to Achieve SAF Production and CO₂ Utilization”</i>
15.00– 15.20 Coffee break	
<i>Chair: Asst. Dr. Prof. Kannika Thongkhao</i> <i>Co-chair: Dr. Passakorn Teerapongpisarn</i>	
15.25 – 15.55	Keynote 6 Prof. Dr. Pharkphoom Panichayupakaranant; Prince of Songkla University, Thailand <i>“Green Microwave Extraction: A Tailored Approach for the Extraction of Bioactive Compounds”</i>
16.00 – 16.30	Keynote 7 Assoc. Prof. Dr. Rawiwan Charoensup; Mae Fah Luang University, Thailand <i>“Advancing Sustainable Herbal Medicine: Strengthening Turmeric (Curcuma longa L.) Value Chain Through Capacity Building and Standardized Production”</i>
16.35 – 17.05	Invited 2 Assoc. Prof. Dr. Gorawit Yusakul; FuNTech, Walailak University, Thailand <i>“Microwave-assisted Extraction of Curcumin from Curcuma longa L. using microemulsion of Hydrophobic Deep Eutectic Solvents”</i>
<i>Visit Walailak Botanical Park and Sky walk</i>	
18.30– 21.00 Banquet at WEDA CAFÉ (Science and Technology Park Building, WU)	

March 29, 2024

Time	Schedule
<i>Chair: Dr. Waroton Paisuwan</i> <i>Co-chair: Dr. Nattaporn Malahom</i>	
9.00 – 9.30	Keynote 8 Prof. Subash C.B. Gopinath; Universiti Malaysia Perlis, Malaysia <i>“Functional Nanomaterials in Clinical Diagnostics: Roads & Destinations”</i>

9.35 – 10.05	Keynote 9 Assoc. Prof. Dr. Purim Jarujamrus; Ubon Ratchathani University, Thailand <i>“Advances in Tailored Functional Nanomaterials on Microfluidic Paper-Based Devices for Optical Sensing Innovations”</i>
10.10 – 10.30	Invited 3 Dr. Sakda Jampasa; FuNTech, Walailak, Thailand <i>“Biorecognition Elements for Selective Detection of Target Analytes Using Electrochemical Biosensors”</i>
10.35 – 12.00	Poster session and coffee break at Co-working space (1st floor)
12.00 – 13.00 Lunch at Co-working space (1st floor)	
<i>Chair: Assoc. Prof. Dr. Phimphaka Harding</i> <i>Co-chair: Dr. Yawanda Injongkol</i>	
13.10 – 13.40	Keynote 10 Assoc. Prof. Dr. Theeraphong Puangmali; Khon Kaen University, Thailand <i>“Design and Development of Nanomaterials for Early Detection of Diseases Related to Epigenetics”</i>
13.45 – 14.15	Keynote 11 Prof. Dr. Siriporn Jungstittiwong; Ubon Ratchathani University, Thailand <i>“Advancing Energy Material Design through Experimental and DFT Synergies for Climate Solutions”</i>
14.20 – 14.40	Invited 4 Asst. Prof. Dr. Rathawat Daengngern; King Mongkut's Institute of Technology Ladkrabang, Thailand <i>“Ultrafast Excited State Proton Transfer Coupled with Twisted Intramolecular Charge Transfer or Bifunctional Derivatives of Pyridine: A Theoretical Study”</i>
14.40 – 15.10 Coffee break	
<i>Chair: Dr. Arreerat Jiamprasertboon</i> <i>Co-chair: Dr. Jatuporn Parnthong</i>	
15.15 – 15.45	Keynote 12 Dr. Sanchai Kuboon; National Nanotechnology Center, Thailand <i>“Nickel Phyllosilicate Catalyst Derived from Bagasse Fly Ash for H₂ Production via Dry Reforming of Methane”</i>
15.50 – 16.10	Invited 5 Asst. Prof. Dr. Purintorn Chanlert; Songkhla Rajabhat University, Thailand <i>“Bridging Nature and Technology: Bio-based Acoustic Materials for Sustainable Building Applications”</i>
16.15 Poster presentation award and Closing Remark	

3. Venue

- Oral sessions at Sithammarat Auditorium, AD building (3rd Floor)



- Poster session and Lunch at Co-Working space, AD building (1st floor)

