



**Department of Chemical Engineering
De La Salle University-Manila**



29th Regional Symposium on Chemical Engineering

*Building a Resilient Future: Engineering Solutions
for Global Uncertainties*

October 29-30, 2025
Dusit Thani Hotel
Makati, Philippines

Programme

ORGANIZED BY



Contact Information:

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RSCE 2025

29th Regional Symposium on Chemical Engineering

PROGRAMME

Day 1: October 29, 2025 (Wednesday)

7:30 AM – 8:30 AM

Registration

Mayuree 1 Hall

Main Session Venue: *Mayuree 1 Hall*

8:30 AM – 8:45 AM

Opening Ceremonies

National Anthem

Prayer

Welcome Remarks

Prof. Aileen Orbecido

Chair, RSCE 2025

De La Salle University, Philippines

Opening Remarks

Prof. Raymond Tan

Vice President for Research and Innovation

De La Salle University, Philippines

8:45 AM – 9:15 AM

Plenary Lecture 1

Prof. Tawatchai Charinpanitkul

Department of Chemical Engineering

Chulalongkorn University, Thailand

9:15 AM – 9:45 AM

Plenary Lecture 2

Dr. Pablo Brito-Parada

Earth Science and Engineering

Imperial College London, United Kingdom

9:45 AM – 10:15 AM

Plenary Lecture 3

Prof. Rigoberto Advincula

Department of Chemical and Biochemical
Engineering

University of Tennessee Knoxville, United
States of America

10:15 AM – 10:45 AM

**Panel Discussion and
Q&A**

**Prof. Michael Angelo
Promentilla**

Moderator

De La Salle University, Philippines

10:45 AM – 11:00 AM

Morning Break

Prof. Kathleen Aviso & Prof. Ramon Christian Eusebio

Masters of Ceremonies

Building a Resilient Future:
Engineering Solutions for Global Uncertainties



PROGRAMME

Day 1: October 29, 2025 (Wednesday) – continuation

11:00 AM - 12:30 PM	Parallel Technical Sessions	Session A1 – Mayuree 1 Hall Session B1 – Molave Room Session C1 – Narra Room
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12:30 PM – 1:30 PM	Lunch Break	
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1:30 PM – 3:30 PM	Parallel Technical Sessions	Session A2 – Mayuree 1 Hall Session B2 – Molave Room Session C2 – Narra Room
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3:30 PM – 4:00 PM	Afternoon Break and Poster Session	
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4:00 PM – 5:30 PM	Parallel Technical Sessions	Session A3 – Mayuree 1 Hall Session B3 – Molave Room Session C3 – Narra Room
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Main Session Venue:	Mayuree 1 Hall
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6:00 PM – 10:00 PM	Fellowship Night
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PROGRAMME

Day 2: October 30, 2025 (Thursday)

8:00 AM – 8:30 AM **Registration** *Mayuree 1 Hall*

Main Session Venue: *Mayuree 1 Hall*

8:30 AM – 8:45 AM **National Anthem
Prayer**

**Opening Remarks and
Synthesis of Day 1**

Prof. Allan Soriano

Chair, Department of Chemical Engineering
De La Salle University, Philippines

8:45 AM – 9:15 AM **Plenary Lecture 4**

Prof. Antoine Venault

Department of Chemical Engineering
Chung Yuan Christian University, Taiwan

9:15 AM – 9:45 AM **Plenary Lecture 5**

Prof. Joey Ocon

Nascent Technologies Corporation
Department of Chemical Engineering
De La Salle University, Philippines

9:45 AM – 10:15 AM **Panel Discussion and
Q&A**

Prof. Michael Francis Benjamin

Moderator
University of Santo Tomas, Philippines

10:15 AM – 10:30 AM **Morning Break**

10:30 AM – 12:30 PM **Parallel Technical
Sessions**

Session D1 – Mayuree 1 Hall

Session E1 – Molave Room

Session F1 – Narra Room

Dr. Cynthia Madrazo & Prof. Michael Francis Benjamin
Masters of Ceremonies



PROGRAMME

Day 2: October 30, 2025 (Thursday) – continuation

12:30 PM – 1:30 PM	Lunch Break	
1:30 PM – 3:30 PM	Parallel Technical Sessions	Session D2 – Mayuree 1 Hall Session E2 – Molave Room Session F2 – Narra Room
3:30 PM – 4:00 PM	Afternoon Break and Poster Presentation	
4:00 PM – 5:00 PM	Parallel Technical Sessions	Session D3 – Mayuree 1 Hall Session E3 – Molave Room Session F3 – Narra Room

Main Session Venue: *Mayuree 1 Hall*

5:00 PM – 6:00 PM	Synthesis of Day 2	Prof. Lawrence Belo Department of Chemical Engineering De La Salle University, Philippines
	Awarding Ceremony for Outstanding Student Presentations	Dr. Joseph Ortenero Prof. Angelo Earvin Choi Department of Chemical Engineering De La Salle University, Philippines
	Closing Remarks	Prof. Arnel Beltran Co-chair, RSCE 2025 Department of Chemical Engineering De La Salle University, Philippines



PARALLEL TECHNICAL SESSIONS

Day 1 – October 29, 2025

Time	Session A1 <i>Mayuree 1 Hall</i>	Session B1 <i>Molave Room</i>	Session C1 <i>Narra Room</i>
11:00 AM - 11:15 AM	KEY-001	DMS-007	3DP-002
11:15 AM - 11:30 AM		AIE-003	3DP-003
11:30 AM – 11:45 AM	NNT-001	REC-012	3DP-004
11:45 AM – 12:00 PM	BMT-002	WWE-004	3DP-005
12:00 PM - 12:15 PM	PSE-002	REC-002	3DP-006
12:15 PM – 12:30 PM	PIO-004	WWE-012	3DP-001

Time	Session A2 <i>Mayuree 1 Hall</i>	Session B2 <i>Molave Room</i>	Session C2 <i>Narra Room</i>
1:30 PM - 1:45 PM	KEY-002	REC-007	BAB-002
1:45 PM - 2:00 PM		NNT-007	BAB-005
2:00 PM - 2:15 PM	CEE-004	BCE-002	BAB-006
2:15 PM - 2:30 PM	SEP-001	BCE-006	BAB-007
2:30 PM – 2:45 PM	SEP-003	SWM-006	SEP-009
2:45 PM - 3:00 PM	SEP-008	SCM-001	PIO-002
3:00 PM - 3:15 PM	SEP-006	BAB-004	BCE-001
3:15 PM – 3:30 PM	PSE-001	BCE-003	PIO-007

Time	Session A3 <i>Mayuree 1 Hall</i>	Session B3 <i>Molave Room</i>	Session C3 <i>Narra Room</i>
4:00 PM - 4:15 PM	TRA-001	KEY-003	WWE-007
4:15 PM - 4:30 PM	TRA-002		NNT-005
4:30 PM - 4:45 PM	TRA-003	WWE-014	REC-006
4:45 PM - 5:00 PM	TRA-006	CEE-010	SEP-002
5:00 PM - 5:15 PM		FCE-006	BCE-005
5:15 PM - 5:30 PM		CEE-008	REC-013



PARALLEL TECHNICAL SESSIONS

Day 2 – October 30, 2025

Time	Session D1 <i>Mayuree 1 Hall</i>	Session E1 <i>Molave Room</i>	Session F1 <i>Narra Room</i>
10:30 AM – 10:45 AM	ECC-001	TRA-007	REC-003
10:45 AM-11:00 AM	ECC-003	THR-001	REC-004
11:00 AM-11:15 AM	ECC-004	REC-011	REC-005
11:15 AM-11:30 AM	ECC-007	PAR-003	WWE-008
11:30 AM-11:45 AM	DMS-005	DMS-002	PIO-006
11:45 AM-12:00 PM	WWE-005	TRA-004	WWE-003
12:00 PM-12:15 PM	EAR-005	PSD-005	WWE-002
12:15 PM-12:30 PM	SWM-002	PAR-002	ECC-008

Time	Session D2 <i>Mayuree 1 Hall</i>	Session E2 <i>Molave Room</i>	Session F2 <i>Narra Room</i>
1:30 PM-1:45 PM	SWM-003	PSD-001	SEP-004
1:45 PM-2:00 PM	SWM-004	PSD-003	PAR-001
2:00 PM-2:15 PM	SWM-005	PSD-004	EAR-004
2:15 PM-2:30 PM	SWM-008	CEE-001	CEE-002
2:30 PM-2:45 PM	APC-001	PRS-001	EAR-003
2:45 PM-3:00 PM	APC-002	CEE-003	AIE-001
3:00 PM-3:15 PM	ECC-005	JIE-001	CEE-005
3:15 PM-3:30 PM	WWE-011	TEO-001	EAR-001

Time	Session D3 <i>Mayuree 1 Hall</i>	Session E3 <i>Molave Room</i>	Session F3 <i>Narra Room</i>
4:00 PM-4:15 PM	BMT-005	PIO-001	WWE-013
4:15 PM-4:30 PM	BMT-006	ECC-009	WWE-001
4:30 PM-4:45 PM	BMT-007	PIO-003	BCE-007
4:45 PM-5:00 PM			



PLENARY SESSIONS

Day 1: October 29, 2025 (Wednesday)

Plenary	Mayuree 1 Hall
8:45 AM – 9:15 AM	PLEN-001 A Challenge to Build a Resilient Carbon-Neutral Future by Developing Quaternary Layered Double Hydroxide (LDH) Catalysts for Low-Temperature CO₂ Methanation <i>H. G. Gebreegziabher, M. Sivakumar, N. Kunthakudee, N. Sano, S. Ratchahat, and T. Charinpanitkul*</i>
9:15 AM – 9:45 AM	PLEN-002 A New Spin on Separation Technology: Solving Industrial and Environmental Challenges with Miniaturized Hydrocyclones <i>P. Brito-Parada*</i>
9:45 AM – 10:15 AM	PLEN-003 AI/ML in Additive Manufacturing and Advanced Polymer Materials <i>R. Advincula*</i>

Day 2: October 30, 2025 (Thursday)

Plenary	Mayuree 1 Hall
8:45 AM – 9:15 AM	PLEN-004 LIPS and VIPS Membranes for Advanced Water and Wastewater Treatment <i>A. Venault*, I. V. Maggay, Y. Chang</i>
9:15 AM – 9:45 AM	PLEN-005 Open Models, Real Systems: From Off-Grid Research to National Energy Planning <i>J. Ocon*</i>



TECHNICAL SESSIONS

Day 1: October 29, 2025 (Wednesday)

Session A1: Mayuree 1 Hall

Moderators: Prof. Wei-Song Hung & Dr. Vergel Bungay

- 11:00 AM - 11:30 AM KEY-001
Mechanism of Electrically Responsive Graphene-Based Membranes for Simultaneous Steam and Power Generation
*W. Hung**
- 11:30 AM – 11:45 AM NNT-001
Investigation of Graphene Oxide Functionalized with Natural Deep Eutectic Solvent for Pervaporation Desalination
G. Carballo and W. Hung*
- 11:45 AM – 12:00 PM BMT-002
Sequential Extraction Strategies for High-Purity Chitin and In Situ Chitosan Production from Black Soldier Fly Puparia
J. R. B. Witono, D. Tan, M. Fernando, H. Santoso, and A. Miryanti*
- 12:00 PM - 12:15 PM PSE-002
Fuzzy Optimization of Production of Cassava Starch-Based Biodegradable Plastic for Enhanced Tensile Strength and Cost Efficiency
*R. E. Manlulu, G. M. Silva, A. J. Go, J. A. Calero, K. Aviso, and A. E. Choi**
- 12:15 PM – 12:30 PM PIO-004
Fuzzy Optimization of Biodegradable Plastic Production: Balancing Elongation and Cost Using Cassava Starch, Chitosan, PVA, and Crude Glycerol
*A. J. Go, J. A. Calero, G. M. Silva, R. E. Manlulu, K. Aviso, and A. E. Choi**

Session B1: Molave Room

Moderator: Prof. Arnel Beltran

- 11:00 AM - 11:15 AM DMS-007
Enforced Thermodynamic Consistency for the Soave and Mathias-Copeman Alpha Functions Applied to Soave-Redlich-Kwong, Peng-Robinson, and Almajose-Dalida Equations of State
A. P. Almajose and A. Hernandez*
- 11:15 AM - 11:30 AM AIE-003
Machine Learning Prediction of Hydrogen Solubility in Pure Solvents Using Quantum Mechanics-9 (QM-9) Data and Molecular Fingerprints
Y. Nakano, R. Alampay, and A. Caparanga*



TECHNICAL SESSIONS

Day 1: October 29, 2025 (Wednesday) - continuation

Session B1:

Molave Room

Moderator:

Prof. Arnel Beltran

11:30 AM – 11:45 AM

REC-012

Kinetic Parameter Estimator for Reaction Systems: A Dynamic Regressor Extension and Mixing Procedure Approach

*T. S. Nguyen, N. H. Hoang, and M. A. B. Hussain**

11:45 AM – 12:00 PM

WWE-004

Degradation of Ciprofloxacin in Nickel-Zinc Selenide on Nickel Foam Using the Electro-Fenton Process

*V. T. Garcia, A. J. Tobias, N. De Leon, L. E. Edwards, J. Ortenero, K. A. Sadol, G. M. Arada, B. G. Bueno, J. Capingian, L. Agonoy, A. Orbecido, C. M. Pausta, M. A. Promentilla, L. Bautista-Patacsil, J. Cornista, and A. Beltran**

12:00 PM - 12:15 PM

REC-002

Kinetics of Electro-Fenton Process in Degradation of Ciprofloxacin in Nickel-Zinc Selenide on Nickel Foam

*V. T. Garcia, A. J. Tobias, N. De Leon, L. E. Edwards, J. Ortenero, K. A. Sadol, G. M. Arada, B. G. Bueno, J. Capingian, L. Agonoy, A. Orbecido, C. M. Pausta, M. A. Promentilla, L. Bautista-Patacsil, J. Cornista, and A. Beltran**

12:15 PM - 12:30 PM

WWE-012

Ciprofloxacin and Metronidazole Removal in Wastewater Using Submerged Membrane Bioreactor

L. J. Ubiña, E. M. Cabuyao, N. J. Cruz, S. D. Padon, R. J. Guia, C. L. Aquino, L. R. Somera, S. L. Arreola, R. C. Eusebio, A. Beltran, J. Cornista, and L. Bautista-Patacsil*

Session C1:

Narra Room

Moderator:

Prof. Liza Bautista-Patacsil

11:00 AM - 11:15 AM

3DP-002

Effect of Cellulose Nanocrystal Loading on the Mechanical and Morphological Properties of 3D-Printed PMMA Nanocomposites

J. L. Untalasco, Q. Tuazon, J. L. Alfeche, I. Valiente, M. Rodriguez, and M. Margarito*



TECHNICAL SESSIONS

Day 1: October 29, 2025 (Wednesday) - continuation

Session C1: Narra Room

Moderator: Prof. Liza Bautista-Patacsil

11:15 AM - 11:30 AM 3DP-003
Preliminary Investigation of the Thermally Induced Shape Memory Behavior of 3D-Printed Recycled Polyamide-6/Thermoplastic Polyurethane Blends
Q. Tuazon, J. L. Untalasco, S. A. Arañez, M. C. Que, J. J. Napay, and M. Margarito*

11:30 AM – 11:45 AM 3DP-004
Recycling PET Waste into 3D Printing Filaments: A Comparative Mechanical Analysis of Pultrusion and Extrusion Methods
C. A. Gagelonia, A. K. Collera, A. A. Aquiro, J. L. Untalasco, J. Napay, I. Valiente, M. Margarito, Z. N. Martin, and S. A. Aranez*

11:45 AM – 12:00 PM 3DP-005
Dimensional Compensation of 3D-Printed Ti₆Al₄V-PA12 Lattice Structured Composites via Selective Laser Sintering During Debinding and Sintering for Biomedical Applications
*A. A. Aquiro, L. M. Cagujas, A. K. Collera, A. K. Dumduman, Z. N. Martin, M. Que, and M. Margarito**

12:00 PM – 12:15 PM 3DP-006
Impact of Printing Process Parameter Variations on the Performance of 3D Printed Samples Using Mechanically Mixed Irregular-Shaped Ti₆Al₄V and Nylon 12 Composite Powders
A. K. Dumduman, L. M. P. Cagujas, A. A. C. Aquiro, J. L. G. Untalasco, A. K. M. Collera, M. C. O. Que, S. C. Gelilang, Z. N. Z. Martin, C. A. M. Gagelonia, Q. Tuazon, M. Lagmay, and L. A. P. Manaoat, and M. Margarito*

12:15 PM – 12:30 PM 3DP-001
Optimizing Internal Curing Efficiency in Concrete Using Superabsorbent Polymers: A Comparative Study of Dry and Pre-Wetting Techniques
L. A. P. Manaoat, M. Lagmay, J. L. Untalasco, I. Valiente, and M. Margarito*

Session A2: Mayuree 1 Hall

Moderators: Prof. Jenn Fang Su & Prof. Ramon Christian Eusebio

1:30 PM – 2:00 PM KEY-002
Asymmetric PES Membranes with Perm-Selectivity for Nitrate Ions and Their Applications in Electrochemical Nitrate Reduction
*J. F. Su**



TECHNICAL SESSIONS

Day 1: October 29, 2025 (Wednesday) - continuation

Session A2:	Mayuree 1 Hall
Moderators:	<i>Prof. Jenn Fang Su & Prof. Ramon Christian Eusebio</i>
2:00 PM – 2:15 PM	CEE-004 Effects of Ferric and Cobalt Ions on the Recovery of Neodymium via Ion Flotation <i>T. Phengsaart*</i> , W. Kwathichak, T. Limlertchareonwanit, P. Srichonphaisarn, and C. Tabelin
2:15 PM - 2:30 PM	SEP-001 Application of Superhydrophobic Membranes in Gravity-Driven Emulsion Separation and Enantiopure Drug Recovery <i>I. V. Maggay, A. Venault, and Y. Chang*</i>
2:30 PM - 2:45 PM	SEP-003 Enhancement of Oil-Water Emulsion Ultrafiltration Performance and Antifouling Properties of Cellulose Acetate Tubular Membrane Incorporated with Zwitterionic Carbon Quantum Dots <i>J. P. Arcilla*</i> , R. Leron, H. Yang, H. Lin, P. Chen, H. Tsai, and K. Lee
2:45 PM - 3:00 PM	SEP-008 Enhancing Water Recovery and Salt Rejection in Brackish Water Treatment Using Ultra Low Pressure RO Membranes <i>A. Hanif, M. N. F. Roslan, M. A. B. Hussain, and A. Ariffin*</i>
3:00 PM - 3:15 PM	SEP-006 Thin-Film Composite Membrane from Cellulose Acetate–Polycaprolactone Incorporated with Banana Peel-Derived Carbon Quantum Dots for Forward Osmosis Desalination <i>C. M. Domingo*</i> , C. Losito, <i>R. C. Eusebio</i> , M. M. Magboo, B. Bataller, and M. V. Laurio
3:15 PM – 3:30 PM	PSE-001 Comparison of Gamma and Electron Beam Irradiation on Biofilm Carriers for Wastewater Treatment <i>M. G. Alcaraz*</i> , A. A. Angeles, and J. P. Lazarte



TECHNICAL SESSIONS

Day 1: October 29, 2025 (Wednesday) - continuation

Session B2:	Molave Room
Moderators:	Dr. Cynthia Madrazo & Prof. Lawrence Belo
1:30 PM – 1:45 PM	REC-007 Sulfur-Modified Palm Kernel Shell-Derived Porous Carbon for Ethyl Levulinate Synthesis from Ethanol and Levulinic Acid <i>D. A. Pramudikto, R. B. Cahyono, A. T. Yuliansyah, I. Prasetyo, and <u>I. Ariyanto</u>*</i>
1:45 PM – 2:00 PM	NNT-007 One-Pot Strategy to Valorize Underutilized Biomass into Metal-Embedded Porous Carbon for Environmental Remediation <i>D. V. Nguyen*, H. M. Nguyen, <u>L. Q. Nguyen</u>, and T. Tran-Thuy</i>
2:00 PM – 2:15 PM	BCE-002 Optimization of Surfactant-Assisted Extraction of Polyphenols from Cacao Bean Shells <i><u>J. Chua</u>*, L. Belo, and C. Madrazo</i>
2:15 PM – 2:30 PM	BCE-006 Design Self-Organized Nano Carriers for Drug Delivery <i><u>H. Umakoshi</u>*, and N. Watanabe</i>
2:30 PM – 2:45 PM	SWM-006 Effect of Hydrolysis Duration on the Dimension and Crystallinity of Pineapple Crown Leaf-Derived Cellulose Nanocrystals for Additive Manufacturing Application <i><u>J. L. Untalasco</u>*, Q. Tuazon, and M. Margarito</i>
2:45 PM – 3:00 PM	SCM-001 Biofilm Carrier Enhancement: Investigating the Impact of Irradiation Media on Biofilm Attachment <i><u>A. A. Angeles</u>*, M. G. Alcaraz, and J. P. Lazarte</i>
3:00 PM – 3:15 PM	BAB-004 Low-Voltage Hydrogen Production Using Metal Ions Reduced by Biomass Waste <i><u>Y. Xiu</u>*, K. Suzuki, R. Ashida, and M. Kawase</i>
3:15 PM – 3:30 PM	BCE-003 Color Stabilization of Phycocyanin Using Sodium Lauryl Sulfoacetate under Varying pH and Temperature Conditions <i><u>J. R. Estrellado</u>*, A. Bonto, and C. Madrazo</i>



TECHNICAL SESSIONS

Day 1: October 29, 2025 (Wednesday) - continuation

Session C2:	Narra Room
Moderators:	Prof. Liza Bautista-Patacsil & Engr. Jan Goran Tomacruz
1:30 PM – 1:45 PM	BAB-002 Synthesis of CuO/CaO from Kuhol Shells as Catalyst for the Production of Biodiesel from Selected Waste Cooking Oils <i>R. Magnaye*, C. F. Briones, W. R. Fillartos, M. Otsuki, and F. Rada</i>
1:45 PM – 2:00 PM	BAB-005 Effect of Reaction Temperature and Time on the Oil Yield and Properties of Bio-Oil from Hydrothermal Liquefaction of <i>Spirulina (Arthrospira) platensis</i> (Gomont) Geitler (Cyanobacteria) after Protein Extraction <i>D. G. Gabuat*, R. Carpio, M. C. Detras, and M. Bambase Jr.</i>
2:00 PM – 2:15 PM	BAB-006 Evaluating the Effect of Calcination Temperature on the Performance of Sulfated Tin (IV) Oxide Catalyst for Fatty Ester Isomerization <i>Y. S. Pradana*, A. K. Alam, A. Indarto, I. G. B. N. Makertihartha, T. Prakoso, and T. H. Soerawidjaja</i>
2:15 PM – 2:30 PM	BAB-007 A Conceptual Mathematical Model of a Simultaneous Extraction and Transesterification Reaction on the Production of Fatty Acid Ethyl Esters from Wet Mahogany (<i>Swietenia macrophylla</i>) Seed <i>J. Cartel*, and J. Auresenia</i>
2:30 PM – 2:45 PM	SEP-009 Influence of Solvent Concentration on Liquid-Liquid Extraction of Carotenoids from Crude Palm Oil <i>A. K. Wardani*, D. Pramudita, J. Rizkiana, J. M. Wibawa, and M. Izzan</i>
2:45 PM – 3:00 PM	PIO-002 Multi-Objective Optimization of Cetane Number and Cost of Biodiesel Blends Using ϵ-Constraint Method <i>F. A. H. Foronda*, K. C. P. Capule, J. M. P. Mosquito, J. M. C. Fortun, K. B. Aviso, and L. F. Razon</i>



TECHNICAL SESSIONS

Day 1: October 29, 2025 (Wednesday) - continuation

Session C2:

Narra Room

Moderators:

Prof. Liza Bautista-Patacsil & Engr. Jan Goran Tomacruz

3:00 PM - 3:15 PM

BCE-001

Optimization of Culture Conditions for Enhanced Biomass Production of an Indigenous *Aurantiochytrium* sp. Strain in Bioethanol Distillery Wastewater

B. Binamera, J. Ignacio, Z. Herrera, J. Capunitan, F. Elegado, V. Migo, and C. Alfafara*

3:15 PM – 3:30 PM

PIO-007

A Fuzzy-Based Optimization Approach to Electrocoagulation for Sustainable Color Reduction in POME Treatment

V. Z. Cabrera, M. B. Sorilla, S. Tercenio, A. E. Choi, and J. Ortenero*

Session A3:

Mayuree 1 Hall

Moderators:

Prof. Allan Soriano & Prof. Irish Valerie Maggay

4:00 PM - 4:15 PM

TRA-001

Evaluation of Infinite Dilution Diffusion Coefficients in Water of Different Brands of Analgesics containing Naproxen as Active Ingredient Using Conductance Method

A. Soriano, G. Bundalian, and G. N. Yu*

4:15 PM - 4:30 PM

TRA-002

Determination of Effective Moisture Diffusivity Model from Thin Layer Drying of Philippine Medicinal Leaves

*M. A. Pablo, R. A. Ching, J. Nibre, J. F. Tapia, K. Aviso, and A. Soriano**

4:30 PM - 4:45 PM

TRA-003

Drying Kinetics Study of *Morus rubra* var. Australian and Illinois Everbearing

J. I. Samson, A. Soriano, M. T. Necio, T. L. Po, and M. A. Santos*

4:45 PM – 5:00 PM

TRA-006

Evaluation and Mathematical Modeling of Drying Kinetics of Microwave-Pretreated, White-Fleshed Taro (*Colocasia esculenta*) Slices with Varying Drying Parameters

A. K. Dumduman, D. J. Martinez, A. G. Ramos, K. M. Tuazon, R. V. Rubi, J. Clemeña, F. D. Lavilles, D. Pangayao, A. Soriano, and M. Margarito*



TECHNICAL SESSIONS

Day 1: October 29, 2025 (Wednesday) - continuation

Session B3:

Molave Room

Moderators:

Prof. Wei-Fan Kuan & Prof. Vannie Joy Resabal

4:00 PM - 4:30 PM

KEY-003

Advanced Materials Design and Closed-Loop Recovery Strategies Toward Sustainable Lithium Batteries

*W. Kuan**

4:30 PM – 4:45 PM

WWE-014

Study on the Effect of pH on the Simultaneous Recovery of Lead and Zinc from Simulated Lead Acid Battery Industry Wastewater by Fluidized Bed Homogeneous Granulation Process

R. Mamuad, A. E. Choi, and M. C. Lu*

4:45 PM – 5:00 PM

CEE-010

The Role of Semiconductive Property on the Selective Cementation Mechanism of Iron Oxides to Gold in Galvanic Interaction with Zero-Valent Aluminum from Gold-Copper Ammoniacal Thiosulfate Solutions

J. Zoleta, C. Tabelin, and V. J. Resabal*

5:00 PM – 5:15 PM

FCE-006

Sonochemical Synthesis of Copper-Based Metal–Organic Framework for Modification of Screen-Printed Carbon Electrode toward Ciprofloxacin Detection

V. P. P. Laguardia, C. R. Tumambing, G. R. Panghulan, F. R. C. Bueta, I. L. E. Gonzaga, L. Bautista-Patacsil, and R. L. Reaño*

5:15 PM – 5:30 PM

CEE-008

Repurposing of Coal Fly Ash into Secondary Raw Material of Rare Earth Elements and Ceramic Materials Applications

*V. J. Resabal, C. Tabelin, J. Zoleta, M. L. Pacaña-Pongcol, A. Mugot, V. B. Sullaga, L. Lumasag, F. J. Echavez, J. Gadapan, M. Cabatingan, R. V. Rivera Virtudazo, R. Baldago, and E. Limbaga**

Session C3:

Narra Room

Moderators:

Prof. Ruey-An Doong & Dr. Cynthia Madrazo

4:00 PM - 4:15 PM

WWE-007

PBA-coated Ti₃C₂ Nanocomposite for Capacitive Deionination of Cationic Species

*N. Wang, and R. Doong**



TECHNICAL SESSIONS

Day 1: October 29, 2025 (Wednesday) - continuation

Session C3:	Narra Room
Moderators:	Prof. Ruey-An Doong & Dr. Cynthia Madrazo
4:15 PM – 4:30 PM	NNT-005 Hydrogen Storage by Carbon Nanohorns Enhanced by Hydrogen Spillover Effect <i>N. Sano*</i>
4:30 PM – 4:45 PM	REC-006 Impact of Ethanol Impurities on Catalytic Performance and Stability of Modified HZSM-5 in Ethanol Dehydration to Ethylene <i>M. Dimas*, T. Ariyanto, I. Prasetyo, Rochmadi, and H. Pranamuda</i>
4:45 PM – 5:00 PM	SEP-002 Optimization of Choline-Acetate Catalyzed Glycolysis of PET in Polycotton Fabric <i>L. Cabatingan* and R. Agapay</i>
5:00 PM – 5:15 PM	BCE-005 Development of Hydrogel Using Cellulose Nanofiber from <i>Cladophora rupestris</i> and Glycogens from Lagkitan Corn (<i>Zea mays</i> var. Ceratina) or Golden Apple Snail (<i>Pomacea canaliculata</i>) Meat <i>M. R. Persincula* and C. Madrazo</i>
5:15 PM – 5:30 PM	REC-013 Translating Science into Impact: University-Industry Co-Creation of the PKTB-Z10SZ Desulfurizer <i>C. B. Rasrendra*, M. Laniwati, G. T. M. Kadja, I. Makertihartha, S. Subagjo, A. Muntaqin, A. Rois, Mustanginah, Chairunissa, and I. Meida</i>



TECHNICAL SESSIONS

Day 2: October 30, 2025 (Thursday)

Session D1: Mayuree 1 Hall

Moderators: Prof. John Frederick Tapia & Engr. Eugene Esparcia Jr.

- 10:30 AM – 10:45 AM ECC-001
Selection and Evaluation of Geological Reservoirs for CO₂ Storage Using Neutrosophic Data Envelopment Analysis (NDEA)
J. F. Tapia*
- 10:45 AM – 11:00 AM ECC-003
PyPSA-Pilipinas: A 28-Node Spatial and 8760-h Temporal Resolution of Electricity-Only Open-Source Philippine Power Grid Model for Scenario Analysis
E. Esparcia Jr., G. D. Sanglay, A. J. Santos, K. L. Lobo, S. B. Lunor, C. A. Espera, G. Y. Garcia, A. Salac, and J. Ocon*
- 11:00 AM – 11:15 AM ECC-004
Integration and Evaluation of Carbon Budgeting and Pricing in a PyPSA-Based Philippine Energy System Model
J. A. Aguilar, R. V. Morada, K. I. Mazo, E. Esparcia Jr., G. D. Sanglay, J. G. Tomacruz, and J. Ocon*
- 11:15 AM – 11:30 AM ECC-007
Sizing and Siting of the Short- and Long- Duration Energy Storage Requirements in the Philippine Clean Energy Future Scenarios
G. D. Sanglay, C. A. Espera, E. Esparcia Jr., and J. Ocon*
- 11:30 AM – 11:45 AM DMS-005
Planning and Management of Power Supply Augmentation in Metro Manila through Biogas Production from Anaerobic Digestion of Sewage Sludge via an Integrated P-graph and Analytic Hierarchy Process Framework
C. A. Gagelonia*, D. R. Acosta, K. C. Billen, I. C. Brito, V. H. Alano, J. R. Clemena, R. V. Rubi, F. D. Lavilles, P. J. Gildo, and M. Margarito
- 11:45 AM – 12:00 PM WWE-005
Water Quality Monitoring Method with High Spatial Resolution in Coastal Area for Seasonal Operation of Sewage Treatment Plants
A. Umehara, R. Hamawaki, F. Wang, S. Nakai, and W. Nishijima*



TECHNICAL SESSIONS

Day 2: October 30, 2025 (Thursday) - continuation

Session D1: Mayuree 1 Hall

Moderators: Prof. John Frederick Tapia & Engr. Eugene Esparcia Jr.

12:00 PM – 12:15 PM EAR-005

Water Quality Assessment of Mananga River Using Principal Component Analysis

M. J. Mercado, W. Cai, C. C. Futralan, M. Ligaray, and A. E. Choi*

12:15 PM – 12:30 PM SWM-002

Immobilization of Dredged Material from Tullahan-Tinajeros River System as a Partial Substitute for the Production of Concrete

D. Pangayao*, M. C. Latosa, and B. J. Gutierrez

Session E1: Molave Room

Moderators: Prof. Nguyen Quang Long & Dr. Carla Mae Pausta

10:30 AM – 10:45 AM TRA-007

Stability Improvement of Atmospheric-Pressure Reactive Microwave Plasma

W. Fukumoto, S. Kodama, and H. Sekiguchi*

10:45 AM – 11:00 AM THR-001

Numerical Simulation for Heat Generation Process in a Rice Husk Ash-Synthesized Zeolite-Water Adsorption Heat Pump

M. P. Oliva* and M. N. Roxas-Dimaano

11:00 AM – 11:15 AM REC-011

Ammonia Synthesis Using Dielectric Barrier Discharge under Cryogenic Conditions

R. Serizawa, S. Kodama, and H. Sekiguchi*

11:15 AM – 11:30 AM PAR-003

Mathematical Modeling of Particle Solidification in a Urea Prilling Tower

T. Nguyen*, V. H. Dang, and Q. L. Nguyen

11:30 AM – 11:45 AM DMS-002

Development of an Industrial-Scale Operator Training Simulator for Phosphoric Acid Plants

M. G. Nugraha, I. Setiyawan, J. Farisi, R. Azwar*, and M. Hidayat

11:45 AM – 12:00 PM TRA-004

Development and Characterization of Geopolymerized Perlite as Potential Packing Material in Packed-Columns

L. D. Pestaño, P. M. Gomez, M. A. Mendoza, and R. Ohira*



TECHNICAL SESSIONS

Day 2: October 30, 2025 (Thursday) - continuation**Session E1:****Molave Room***Moderators:**Prof. Nguyen Quang Long & Dr. Carla Mae Pausta*

12:00 PM – 12:15 PM

PSD-005

Reduction of Oil and Grease Concentration in Domestic Wastewater through Physical Remediation Methods in a Dry Manufacturing Process*I. Alintanahin, K. Matedios, M. A. Derramas, and S. M. Lamaroza**

12:15 PM – 12:30 PM

PAR-002

Development of Microwave Plasma-Driven Powder Particle Spouted Bed for Fine Particle Treatment*K. Nishimura, S. Kodama, and H. Sekiguchi****Session F1:****Narra Room***Moderator:**Dr. Gian Paolo Bernardo*

10:30 AM – 10:45 AM

REC-003

Homogeneous Photo-Fenton Degradation of Multiple Antibiotics in Aqueous Solution: Kinetics Study and Parameter Optimization*G. M. Arada, B. G. Bueno, K. A. Sadol, L. Agonoy, J. Capingian, A. Orbecido, J. Ortenero, C. M. Pausta, M. A. Promentilla, L. Bautista-Patacsil, J. Cornista, and A. Beltran**

10:45 AM – 11:00 AM

REC-004

Simultaneous Degradation of Multiple Antibiotics by Pt-Pt Electro Fenton in an Aqueous Pharmaceutical Mixture*K. A. Sadol, B. G. Bueno, L. Agonoy, G. M. Arada, J. Capingian, A. Orbecido, J. Ortenero, C. M. Pausta, M. A. Promentilla, L. Bautista-Patacsil, J. Cornista, and A. Beltran**

11:00 AM – 11:15 AM

REC-005

Degradation and Kinetic Behavior of Multiple Antibiotics in Synthetic Wastewater by Homogeneous Photoelectro-Fenton Process*L. Agonoy, K. A. Sadol, B. G. Bueno, G. M. Arada, J. Capingian, A. Orbecido, J. Ortenero, C. M. Pausta, L. Bautista-Patacsil, J. Cornista, M. A. Promentilla, and A. Beltran**



TECHNICAL SESSIONS

Day 2: October 30, 2025 (Thursday) - continuation

Session F1:	Narra Room
Moderator:	Dr. Gian Paolo Bernardo
11:15 AM – 11:30 AM	WWE-008 Reaction Kinetics of Ciprofloxacin Removal from Synthetic Wastewater via Electro-Photo-Fenton Treatment <i>J. A. Valdez, L. J. Domingo, B. J. S. Gerona, L. Agonoy, K. A. Sadol, B. G. Bueno, G. M. Arada, J. Capingian, D. Pangayao, A. Orbecido, J. Ortenero, C. M. Pausta, L. Bautista-Patacsil, J. Cornista, M. A. Promentilla, and A. Beltran*</i>
11:30 AM – 11:45 AM	PIO-006 Optimization of Electro-Photo-Fenton Process Parameters for Ciprofloxacin Degradation in Synthetic Wastewater <i>B. J. S. Gerona, L. J. Domingo, J. A. Valdez, L. Agonoy, K. A. Sadol, B. G. Bueno, G. M. Arada, J. Capingian, D. Pangayao, A. Orbecido, J. Ortenero, C. M. Pausta, L. Bautista-Patacsil, J. Cornista, M. A. Promentilla, and A. Beltran*</i>
11:45 AM – 12:00 PM	WWE-003 Photo-Fenton for Treatment of Ciprofloxacin in Wastewater <i>T. E. Custodio, J. Hamada, J. A. Lai, J. R. Pamintuan, G. M. Arada, K. A. Sadol, L. Agonoy, J. Capingian, D. Pangayao, A. Orbecido, J. Ortenero, C. M. Pausta, M. A. Promentilla, L. Bautista-Patacsil, J. Cornista, and A. Beltran*</i>
12:00 PM – 12:15 PM	WWE-002 Photo-Fenton for Treatment of Metronidazole in Wastewater <i>T. E. Custodio, J. Hamada, J. A. Lai, J. R. Pamintuan, G. M. Arada, K. A. Sadol, L. Agonoy, J. Capingian, D. Pangayao, A. Orbecido, J. Ortenero, C. M. Pausta, M. A. Promentilla, L. Bautista-Patacsil, J. Cornista, and A. Beltran*</i>
12:15 PM – 12:30 PM	ECC-008 Effect of Temperature on PdCu Catalyst for Formic Acid Electro-oxidation <i>J. Raymundo, Z. E. Guancho, L. J. Gallos, D. E. Loresca, J. G. Tomacruz, and J. A. Paraggua*</i>



TECHNICAL SESSIONS

Day 2: October 30, 2025 (Thursday) - continuation

Session D2:	Mayuree 1 Hall
Moderators:	Dr. Joseph Ortenero & Prof. Angelo Earvin Choi
1:30 PM – 1:45 PM	SWM-003 Carbon Sequestration Potential of Phosphogypsum via Indirect Mineral Carbonation <i>M. A. Pablo, J. Pocaan, J. L. R. Paulo, A. Beltran, C. M. Pausta, J. F. Tapia, M. A. Promentilla, M. Madlangbayan, B. Palattao, J. Ramirez, C. Tabelin, V. J. Resabal, and A. Orbecido*</i>
1:45 PM – 2:00 PM	SWM-004 Green Material Development: Phosphogypsum (PG) as Filler Material for Alkali-Activated Coal Fly Ash (CFA) Geopolymer <i>C. Gabonada, P. J. Visto, J. Pocaan, M. A. Pablo, J. L. R. Paulo, M. A. Promentilla, A. Beltran, C. M. Pausta, J. F. Tapia, C. Tabelin, V. J. Resabal*, J. Ramirez, B. Palattao, M. Madlangbayan, and A. Orbecido</i>
2:00 PM – 2:15 PM	SWM-005 Leaching Process Optimization of Phosphogypsum Tailings Using Sodium Gluconate <i>W. F. De Silva, N. M. Ang, R. N. Sta Maria, D. J. Capadiso, M. A. Pablo, J. Pocaan, J. L. R. Paulo, P. G. Gervacio, J. F. Tapia, and A. Orbecido*</i>
2:15 PM – 2:30 PM	SWM-008 Dual-Step NaOH-HCl Leaching of Fly Ash: Process Optimization and Coagulant Performance Evaluation <i>I. Setiyawan, J. Wintoko, and C. W. Purnomo*</i>
2:30 PM – 2:45 PM	APC-001 Advancements in Ultrasound-Assisted Oxidative Desulfurization of Dibenzothiophene Using Novel Catalytic Systems <i>J. B. Cagas, G. P. Bernardo, A. E. Choi*, and J. Ortenero</i>
2:45 PM – 3:00 PM	APC-002 Progress and Perspectives in Mixing-Assisted Oxidative Desulfurization for Dibenzothiophene and Benzothiophene Removal <i>M. P. Manalo, A. E. Choi*, and C. A. Chan</i>
3:00 PM – 3:15 PM	ECC-005 Magnetic Solid Support Strategies: Advancing Polyoxometalate (POM)-Based Catalysts in Oxidative Desulfurization <i>A. C. Gelogo, A. E. Choi*, N. Dugos, and M. Wan</i>



TECHNICAL SESSIONS

Day 2: October 30, 2025 (Thursday) - continuation

Session D2: Mayuree 1 Hall

Moderators: Dr. Joseph Ortenero & Prof. Angelo Earvin Choi

3:15 PM – 3:30 PM

WWE-011

Electrocoagulation for Sustainable Palm Oil Mill Management: A Comprehensive Review of Recent Advances

V. Z. Cabrera, M. B. Sorilla, S. Tercenio, A. E. Choi, and J. Ortenero*

Session E2: Molave Room

Moderators: Engr. John Raymond Barajas & Mr. Henry Susilo

1:30 PM – 1:45 PM

PSD-001

Policy Framework for Managing Antibiotic Pollution and Antimicrobial Resistance (AMR) in the Philippine Water Environment in the Lens of One Health Approach

J. Capingian, C. M. Pausta, M. A. Salazar, K. A. Sadol, G. M. Arada, L. Agonoy, A. Orbecido, J. Ortenero, M. A. Promentilla, L. Bautista-Patacsil, J. Cornista, and A. Beltran*

1:45 PM – 2:00 PM

PSD-003

A Review of Sustainability Assessments for Wastewater Management Systems in Developing Countries: Towards a Contextualized Framework for the Philippines

T. Carrera, R. Damalerio, C. M. Pausta, M. A. Promentilla, A. Orbecido, R. Tanhueco, K. Aviso, A. Torneo, and A. Beltran*

2:00 PM – 2:15 PM

PSD-004

Go Green: Implementing the Zero Waste to Landfill Approach in Sustainable FPC Manufacturing

I. Alintanahin and K. Matedios*

2:15 PM – 2:30 PM

CEE-001

Driving Plastic Waste Management (PWM) towards Circular Economy in the Philippines: A Hybrid Approach Using Weighted DEMATEL and TOPSIS/VIKOR

K. B. Tuaño and M. A. Promentilla*

2:30 PM – 2:45 PM

PRS-001

The Longstanding Application of Quantitative Risk Assessment in Process Industries: A State-of-the-Art Review on Its Quality

D. A. Mukharor, H. Susilo, and H. Hermansyah*



TECHNICAL SESSIONS

Day 2: October 30, 2025 (Thursday) - continuation

Session E2:

Molave Room

Moderators:

Engr. John Raymond Barajas & Mr. Henry Susilo

2:45 PM – 3:00 PM

CEE-003

Beyond the Lab: Embedding Social Sciences in Engineering and Environmental Interventions for Sustainable Mine Rehabilitation

*D. Alonzo, M. Villacorte-Tabelin, A. Orbecido, A. Beltran, M. A. Promentilla, R. Herrington, R. Armstrong, A. Jungblut, A. Santos, P. Schofield, P. Brito-Parada, Y. Plancherel, M. Suelto, V. J. Resabal, C. Tabelin, and I. M. Dalona**

3:00 PM – 3:15 PM

JIE-001

The Post-Pandemic Rise of AI Use and Curricular Transition Lag: A Gap Analysis of Philippine State Universities and Colleges (SUC) Offering Chemical Engineering Programs

J. R. Barajas and C. H. Chong*

3:15 PM – 3:30 PM

TEO-001

Reforming the Philippine Chemical Engineering Curriculum: A Benchmarking with Course 10 of the Massachusetts Institute of Technology

J. Adante and J. Bellen*

Session F2:

Narra Room

Moderators:

Prof. Carlito Tabelin & Engr. Joshua Pocaan

1:30 PM – 1:45 PM

SEP-004

Preliminary Study of Microplastic Removal from Artificially River Sand Using Agglomeration-Micro-Flotation

P. Srichonphaisarn, C. Tabelin, and T. Phengsaart*

1:45 PM – 2:00 PM

PAR-001

Sorption Interactions between Oxidized Microplastics and Pharmaceutical and Personal Care Products (PPCPs): A Comprehensive Review of Oxidation Processes, Mechanisms, and Influencing Factors

*D. J. Gamorot and A. E. Choi**



TECHNICAL SESSIONS

Day 2: October 30, 2025 (Thursday) - continuation

Session F2:	Narra Room
Moderators:	Prof. Carlito Tabelin & Engr. Joshua Pocaan
2:00 PM – 2:15 PM	EAR-004 Assessment on Limestone-Based Passive Treatment System for Acid Mine Drainage (AMD) Impacted Waters in the Philippines <i>H. A. Fenix, A. Cai, A. S. M. Sy, J. Pocaan, B.G. Bueno, J. M. Pagaduan, J. Capingian, M. A. Pablo, J. L. R. Paulo, A. Beltran, A. Orbecido, R. M. Tanhueco, M. A. Promentilla*</i>
2:15 PM – 2:30 PM	CEE-002 Fabrication of Chitosan-coated Slag for Acid Mine Drainage: Adsorption in Passive Treatment Systems <i>C. O. Turingan*, T. Arima, N. Hiroyoshi, and T. Sato</i>
2:30 PM – 2:45 PM	EAR-003 Leaching of Chromium and Lead in Surface Sediments from Meycauayan River Using Oxalic Acid and N,N-bis(carboxymethyl)-L-Glutamic Acid Tetrasodium Salt <i>J. Cardinales, J. Del Rosario, J. J. Jerota, A. Llido, D. Pangayao*, and P. J. Gildo</i>
2:45 PM – 3:00 PM	AIE-001 A Rough Set-Based Model for Predicting Adsorption Efficiency of Biochar for the Removal of Heavy Metals in Wastewater <i>J. A. Oracion, B. A. Reyes, M. Rapisura Jr., and B. Belmonte*</i>
3:00 PM – 3:15 PM	CEE-005 Indirect Mineral Carbonation of Calcium Extracted from Acid Leaching: A Life Cycle Approach on the Management of Philippine Phosphogypsum <i>J. L. R. Paulo, M. A. Pablo, J. Pocaan, M. A. Promentilla, A. Beltran, M. Madlangbayan, B. Palattao, J. Ramirez, C. Tabelin, V. J. Resabal, A. Orbecido, J. F. Tapia, and C. M. Pausta*</i>
3:15 PM – 3:30 PM	EAR-001 Evaluation of Pre-Processing Methods for Improved Microplastic Detection Using Nile Red Staining Method <i>L. A. P. Manaoat, M. Lagmay*, and M. Margarito</i>



TECHNICAL SESSIONS

Day 2: October 30, 2025 (Thursday) – continuation

Session D3: Mayuree 1 Hall

Moderator: Prof. Arnel Beltran

4:00 PM – 4:15 PM

BMT-005

Development and Optimization of Chicken Feather Keratin Extraction and 3D Bioprinting of Composite Scaffolds

B. A. Bustamante, A. L. Nidoy, N. Dugos, V. Bungay, and R. Ong*

4:15 PM – 4:30 PM

BMT-006

Optimization of Sonication–Perfusion Parameters for Rapid Decellularization of Porcine Urinary Bladder Scaffolds

J. J. Berizo, R. A. Magno, A. L. Nidoy, K. V. Espiritu, N. Dugos, V. Bungay, and R. Ong*

4:30 PM – 4:45 PM

BMT-007

Development of an Antibiotic–Antimycotic-Based Sterilization Protocol for Decellularized Urinary Tract Scaffolds

*A. L. Nidoy, K. V. Espiritu, J. J. Cruz, and N. Dugos**

Session E3: Molave Room

Moderator: Prof. John Frederick Tapia

4:00 PM – 4:15 PM

PIO-001

A Power Index and P-graph Method for Criticality Analysis in Integrated Biorefineries

M. F. Benjamin, K. Hong, B. S. How, V. Andiappan, and R. Tan*

4:15 PM – 4:30 PM

ECC-009

Feasibility Analysis of Commercial PV-Battery Microgrids in the Philippines with SAM-Based Financial Modeling

M. C. J. Manalo, M. H. Bautista, and M. N. Dimaano*

4:30 PM – 4:45 PM

PIO-003

Optimization of Biomass Production of an Indigenous Thraustochytrid Isolate in Distillery Wastewater Using Response Surface Methodology

N. Arogante, J. Ignacio, Z. K. Herrera, J. Alcantara, M. M. Magboo, F. Elegado, and J. Capunitan*



TECHNICAL SESSIONS

Day 2: October 30, 2025 (Thursday) - continuation

Session F3:

Narra Room

Moderator:

Dr. Carla Mae Pausta

4:00 PM – 4:15 PM

WWE-013

Adsorption of Ciprofloxacin in a Packed Bed Column Using 3D-Printed Sorbent made with H_3PO_4 -Activated Biochar derived from Sugarcane Bagasse

*R. J. Guia**, *L. J. Ubiña*, *E. P. Marasigan*, *C. L. Aquino*, *L. R. Somera*, *M. D. Balela*, *A. Beltran*, *J. Cornista*, and *L. Bautista-Patacsil*

4:15 PM – 4:30 PM

WWE-001

Enhanced Degradation of Diclofenac via Heterogeneous Activation of Persulfate Using Nano $CuFe_2O_4$ -Loaded Waste Chicken Feather Biochar Composite

*L. Borromeo**, *F. Suni*, *J. A. Mercado*, *G. O. Wagayen*, and *W. Buenaventura*

4:30 PM – 4:45 PM

BCE-007

ARABITECT: Microwave-Assisted Green Synthesis of Graphene Oxide Quantum Dots from *Coffea arabica* L. as Fluorescent Probe with Cytotoxic Effects for Selective and Sensitive Detection of HCT166 Human Colon Adenocarcinoma

G. A. Tribunalo, *M. A. Dejucos*, *M. A. Gulayan*, *J. C. Parasdas*, and *R. C. Dizon**



POSTER SESSIONS

Day 1: October 29, 2025 (Wednesday)

Poster Session: Mayuree 1 Hall

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| Poster 1 | NNT-002
Molecular Dynamics Simulation of Effect of Temperature on Interfacial Structure and Interaction between Alkylphosphonic Acid-Modified TiO₂ and Organic Solvent
<i>Ronald, H. Sawauchi, Y. Sato, T. Saito, S. Yamashita, Y. Okada, E. Shoji, and M. Kubo*</i> |
| Poster 2 | SEP-005
Utilization of Supercritical Carbon Dioxide Extraction for Contaminant Removal from Semiconductor Manufacturing Equipment Components and Modeling of Extraction Behavior
<i>T. Matsuoka, M. Sasaki, and Y. Kiba*</i> |
| Poster 3 | TRA-005
Multiphysics Modeling of Sodium-Ion Batteries with 3D Interdigitated Electrodes
<i>R. J. Garcia, M. Castro, J. G. Tomacruz, and J. Ocon*</i> |
| Poster 4 | SCM-002
Energetics Analysis of Electrocatalytic Formic Acid Oxidation over Pd₇Cu Catalysts: A DFT Study
<i>B. D. Feliciano, J. G. Tomacruz, A. A. B. Padama, and J. Ocon*</i> |
| Poster 5 | AIE-004
Predicting Fuel Pump Price Volatility in the Philippines: A Machine Learning Approach Integrating Geopolitical and Pandemic Effects Post COVID-19 Outbreak
<i>C. A. C. Bersabal, S. B. R. Lunor, J. G. Tomacruz, and J. Ocon*</i> |
| Poster 6 | REC-010
In-situ and Operando Analysis of Methanol Electrooxidation with Nickel Foam as Electrocatalyst
<i>L. Agasino, M. J. Young, G. M. Segui, G. F. Mejica, A. R. Asuncion, H. J. Drapisa, J. G. Tomacruz, and J. Ocon*</i> |



POSTER SESSIONS

Day 1: October 29, 2025 (Wednesday) – continuation

Poster Session: Mayuree 1 Hall

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| Poster 7 | FCE-005
In-situ and Operando Mechanistic Study of Ni Foam Catalyzed Electrooxidation of Isopropyl Alcohol
<i>M. J. Young, G. M. Segui, L. Agasino, H. J. Drapisa, A. R. Asuncion, G. F. Mejica, J. G. Tomacruz, and J. Ocon*</i> |
| Poster 8 | DMS-001
Modelling and Experimental Study for an Interfacial Solar Vapour Generation System for Seawater Purification
<i>A. A. Awi, M. U. M. Junaidi, and M. A. B. Hussain*</i> |
| Poster 9 | FCE-004
In-situ and Operando Studies on Glycerol Electrooxidation Using a Nickel Foam Electrocatalyst
<i>G. M. Segui, L. Agasino, M. J. Young, A. R. Asuncion, R. M. Lazaro, G. F. Mejica, J. G. Tomacruz, and J. Ocon*</i> |
| Poster 10 | SWM-001
Production of Polyunsaturated Fatty Acids by Culturing a Thraustochytrid on Hydrolysate of a Brown Alga
<i>M. Hatanaka, S. Nakai*, N. A. Tran, T. Suenaga, T. Gotoh, W. Nishijima, and H. Suzuki</i> |
| Poster 11 | FCE-003
Statistical Approach on Determining the Effects of Membrane Resistance for Fuel Cell Using Electrochemical Impedance Spectrometer (EIS)
<i>A. V. Austria, R. Parreño Jr., R. G. Marchan, J. Rama, J. M. Opeña, K. Y. Garganta, C. A. Chua, and J. C. Layug*</i> |
| Poster 12 | FCE-002
Evaluation of the Improvised MEA Former as a Cost-Effective and Sustainable Alternative to Hot Pressing for Fuel Cell Assembly
<i>K. Y. Garganta, R. Parreño Jr., R. G. Marchan, J. Rama, J. M. Opeña, A. V. Austria, C. A. Chua, and J. C. Layug*</i> |



POSTER SESSIONS

Day 1: October 29, 2025 (Wednesday) – continuation

Poster Session: Mayuree 1 Hall

- Poster 13 FCE-001
Modified Synthesis of Cotton Cellulose for Nano-sized Cellulose Whisker for Hybrid Membrane as Sustainable Membrane Filler
J. M. Opeña and R. Parreño Jr.*
- Poster 14 REC-009
Photocatalytic Reactive Ceramic Membrane for Removing Trace Organic Chemicals in Wastewater
*H. Takeuchi**
- Poster 15 CEE-009
Essential-Oil and Polyphenol Extraction from Hydrous and Immature Japanese Bitter-Orange Peels Using Supercritical Carbon Dioxide
Y. Fukagusa, A. Kudoh, M. Sasaki, C. Issasi, and H. Mizukami*
- Poster 16 WWE-006
Development of Efficient Decomposition Conditions for Dibutyl Phosphate Using Interfacial Pulsed Arc Discharge
*M. Tanaka, K. Anzai, T. Tsukada, and M. Sasaki**
- Poster 17 BCE-004
Biuret Protein Quantification and Turbidity Kinetics Evaluation of Digested Total and Soluble Decellularized Porcine Skin Extracellular Matrix
*J. R. Estrellado, C. D. Batin, S. M. Garcia, C. A. Sy, T. M. Manalastas, M. Delos Reyes, and J. R. Sta. Agueda**

Day 2: October 30, 2025 (Thursday)

Poster Session: Mayuree 1 Hall

- Poster 18 EAR-006
Antimicrobial Resistance Control in a Tertiary-Level Hospital Wastewater Treatment System in Laguna through Insights from Whole-Genome Sequence Analyses of Multidrug-Resistant Bacteria
*S. D. Padon, E. M. Cabuyao, N. J. Cruz, K. N. Rodriguez, L. M. Dalmacio, and J. Cornista**



POSTER SESSIONS

Day 2: October 30, 2025 (Thursday) - continuation

Poster Session: Mayuree 1 Hall

- Poster 19 EAR-002
Audit of Heavy Metal Pollution and Rhizosphere Bacterial Communities from *Saccharum spontaneum* L. in a Rehabilitated Nickel-Laterite Mine in the Philippines
*S. Mainit, C. Tabelin, F. Paglinawan, J. Guihawan, A. J. Mondejar, V. J. Resabal, M. R. S. Madamba, D. Alonzo, A. Orbecido, M. A. Promentilla, J. Zoleta, D. T. Daño, I. Park, M. Ito, T. Arima, T. Phengsaart, and M. Villacorte-Tabelin**
- Poster 20 AIE-002
Streamlining AI for Low-Carbon Concrete: Ablation and Sensitivity-Based Feature Selection
*M. C. Jaucian and M. A. Promentilla**
- Poster 21 SWM-007
Synthesis of Aluminum-Iron Bimetallic Materials from Aluminum Scrap Using a Two-Stage Mechanical-Chemical Method
C. Tabelin, V. J. Resabal, I. Park, M. G. Villanueva, M. Villacorte-Tabelin, A. Orbecido, R. Alorro, S. Jeon, M. Ito, and N. Hiroyoshi*
- Poster 22 NNT-004
Selective Silane-Based Polyketone/Nylon-6 Adsorptive Filtration Membrane for Heavy Metal Removal
J. J. Ruiz, J. Thomas, R. Leron, and R. T. C. Chang*
- Poster 23 FCE-007
Optimization of a Sodium-Ion Battery Architecture Combining Multi-Phase $\text{Na}_{0.84}\text{Ni}_{0.3}\text{Fe}_{0.1}\text{Mn}_{0.5}\text{Mg}_{0.1}\text{O}_2$ Cathode and Coal-Derived Hard Carbon Anode
*J. C. Quillope, M. Palaganas, M. Divinagracia-Luzadas, and J. Ocon**
- Poster 24 FCE-008
Enhancing NaCrO_2 Cathodes for High-Performance, Thermally Stable Sodium-Ion Full Cells
*A. K. Dalabajan, M. Divinagracia-Luzadas, and J. Ocon**



POSTER SESSIONS

Day 2: October 30, 2025 (Thursday) - continuation

Poster Session: Mayuree 1 Hall

- | | |
|-----------|--|
| Poster 25 | FCE-009
High-Performance Hard Carbon Anodes for Sodium-Ion Batteries Derived from Locally Sourced Coal: Effects of Pyrolysis Conditions and Pre-Treatment Protocols
<i>J. Santiago Jr., M. Palaganas, M. Divinagracia-Luzadas, and J. Ocon*</i> |
| Poster 26 | SEP-007
Sustainable Fabrication of Modified PVDF Membrane Using Green Solvent Incorporated with Dolomite for Water Separation
<i>M. Khotimah, M. A. B. Hussain, M. U. M. Junaidi, and Y. Wibisono*</i> |
| Poster 27 | WWE-009
Electrocoagulation Process for Post-Treatment of Fats, Oils, and Grease (FOG) in Wastewater Using Recycled Aluminum Electrodes
<i>E. Rodica, F. Alivoso, and A. Oblena*</i> |
| Poster 28 | PSD-002
Evaluating Corporate ESG Performance of ASEAN-5 Companies Using Data Envelopment Analysis (DEA) and Entropy-TOPSIS: A Case of the Extractives Industry
<i>C. Belaro and M. A. Promentilla*</i> |
| Poster 29 | CEE-007
Enhancing the Sulfur Filtration Process: Transitioning from Diatomaceous Earth to Silica Waste Derived from Aluminium Fluoride Production as Filter Aid in Molten Sulfur Filtration
<i>A. A. Nasution, D. S. Ismoro, J. Farisi, I. Setiyawan, A. Z. Fanani, G. Yudhaprawira, F. Alianto, B. Ariwibowo, H. T. M. B. Petrus, A. Kurniawan, and T. Ariyanto*</i> |

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