



**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

Prayer

National Anthem

Welcome Remarks

Prof. Aileen Orbecido

Chair, RSCE 2025

De La Salle University

Opening Remarks

Prof. Raymond Tan

Vice President for Research and Innovation

De La Salle University

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

9:45 AM – 10:15 AM

Plenary Lecture 3

Prof. Rigoberto Advincula

Department of Chemical and Biochemical
Engineering

University of Tennessee, United States of
America

10:15 AM – 10:45 AM

**Panel Discussion and
Q&A**

**Prof. Michael Angelo
Promentilla**

Moderator, De La Salle University

10:45 AM – 11:00 AM

Morning Break

Prof. Kathleen Aviso & Prof. Michael Angelo Promentilla

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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5:30 PM – 6:00 PM	Dinner Registration
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6:00 PM – 9:00 PM	Fellowship Night
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PROGRAMME

Day 2: October 30, 2025 (Thursday)

8:00 AM – 8:45 AM

Registration

Mayuree 1 Hall

Main Session Venue:

Mayuree 1 Hall

8:30 AM – 8:45 AM

**Prayer
National Anthem**

**Opening Remarks and
Synthesis of Day 1**

Prof. Allan Soriano

Chair, Department of Chemical Engineering
De La Salle University

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

9:45 AM – 10:15 AM

**Panel Discussion and
Q&A**

Prof. Michael Francis Benjamin

Moderator, University of Santo Tomas

10:15 AM – 10:30 AM

Morning Break

10:30 PM – 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 – 5:30 PM	Parallel Technical Sessions	Session D3 – Mayuree 1 Hall Session E3 – Molave Room Session F3 – Narra Room

Main Session Venue: *Mayuree 1 Hall*

5:30 PM – 6:00 PM	Synthesis of Day 2	Prof. Lawrence Belo Department of Chemical Engineering De La Salle University
	Awarding Ceremony for Outstanding Student Presentations	
	Closing Remarks	Prof. Arnel Beltran Co-chair, RSCE 2025 Former Chair, Department of Chemical Engineering De La Salle University



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	THR-002	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-008	3DP-005
12:00 PM - 12:15 PM	PSE-002	REC-002	3DP-006
12:15 PM – 12:30 PM	PIO-004	WWE-012	WWE-013

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		SCM-001	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	PIO-001
2:45 PM - 3:00 PM	SEP-008	REC-013	PIO-002
3:00 PM - 3:15 PM	SEP-006	BAB-004	BCE-001
3:15 PM – 3:30 PM	PSE-001	PIO-009	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	BCE-003



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-004	THR-001	REC-004
11:00 AM-11:15 AM	ECC-003	REC-011	REC-005
11:15 AM-11:30 AM	ECC-007	DMS-007	WWE-004
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	ECC-002	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	REC-001	DMS-004	WWE-001
4:15 PM-4:30 PM	REC-008	DMS-006	EAR-005
4:30 PM-4:45 PM	NNT-003	PIO-005	BCE-007
4:45 PM-5:00 PM	NNT-006	PIO-010	
5:00 PM-5:15 PM	3DP-001	BMT-003	
5:15 PM-5:30 PM	FCE-010	BMT-004	



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

Prof. Tawatchai Charinpanitkul

9:15 AM – 9:45 AM

PLEN-002

A New Spin on Separation Technology: Solving Industrial and Environmental Challenges with Miniaturized Hydrocyclones

Dr. Pablo Brito-Parada

9:45 AM – 10:15 AM

PLEN-003

AI/ML in Additive Manufacturing and Advanced Polymer Materials

Prof. Rigoberto Advincula

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

Prof. Antoine Venault

9:15 AM – 9:45 AM

PLEN-005

Open Models, Real Systems: From Off-Grid Research to National Energy Planning

Prof. Joey Ocon



TECHNICAL SESSIONS

Day 1: October 29, 2025 (Wednesday)

Session A1:

Mayuree 1 Hall

Moderators:

Prof. Wei-Song Hung & Prof. Angelo Earvin Choi

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

THR-002

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. Hussein**

11:45 AM – 12:00 PM

WWE-008

Reaction Kinetics of Ciprofloxacin Removal from Synthetic Wastewater via Electro-Photo-Fenton Treatment

J. A. Valdez, L. J. Domingo, B. J. S. Gerona, L. Bautista-Patacsil, A. Beltran, J. Cornista, A. Orbecido, J. Ortenero, C. M. Pausta, J. Capingian, K. A. Sadol, G. M. Arada, D. Pangayao, L. Agonoy, B. G. Bueno, and M. A. Promentilla*

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

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*

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*



TECHNICAL SESSIONS

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

Session C1:**Narra Room***Moderator:**Prof. Liza Bautista-Patacsil*

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, and M. Margarito*

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. A. Aquiro, L. M. Cagujas, A. K. Collera, A. K. Dumduman*, C. A. Gagelonia, S. Gelilang, M. Lagmay, L. A. P. Manaoat, M. Margarito, Q. Tuazon, J. L. Untalasco, M. C. Que, and Z. N. Martin*

12:15 PM – 12:30 PM

WWE-013

Adsorption of Ciprofloxacin in a Packed Bed Column using 3D-Printed Sorbent made with H₃PO₄-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. Patacsil***Session A2:****Mayuree 1 Hall***Moderators;**Prof. Jenn Fang Su & Dr. 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**

2:00 PM – 2:15 PM

CEE-004

Effects of Ferric and Cobalt Ions on the Recovery of Neodymium via Ion Flotation*T. Phengsaart*, W. Kwathichak, T. Limlertchareonwanit, P. Srichonphaisarn, and C. B. Tabelin*



TECHNICAL SESSIONS

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

Session A2:

Mayuree 1 Hall

Moderators:

Prof. Jenn Fang Su & Dr. Ramon Christian Eusebio

2:15 PM - 2:30 PM

SEP-001

Application of Superhydrophobic Membranes in Gravity-Driven Emulsion Separation and Enantiopure Drug Recovery

I. V. Maggay, A. Venault, and Y. Chang*

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

J. P. Arcilla, 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

*A. Hanif, M. N. F. Roslan, M. A. Hussain, and A. Ariffin**

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

C. M. Domingo, R. C. Eusebio, 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

M. G. Alcaraz, A. A. Angeles, and J. P. Lazarte*

Session B2:

Molave Room

Moderators:

Prof. Armando Quitain & 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

*D. A. Pramudikto, R. B. Cahyono, A. T. Yuliansyah, I. Prasetyo, and T. Ariyanto**

1:45 PM - 2:00 PM

SCM-001

Biofilm Carrier Enhancement: Investigating the Impact of Irradiation Media on Biofilm Attachment

A. A. Angeles, M. G. Alcaraz, and J. P. Lazarte*



TECHNICAL SESSIONS

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

Session B2:

Molave Room

Moderators:

Prof. Armando Quitain & Prof. Lawrence Belo

2:00 PM – 2:15 PM

BCE-002

Optimization of Surfactant-Assisted Extraction of Polyphenols from Cacao Bean Shells

J. Chua, L. Belo, and C. Madrazo*

2:15 PM – 2:30 PM

BCE-006

Design Self-Organized Nano Carriers for Drug Delivery

H. Umakoshi, and N. Watanabe*

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.

J. L. Untalasco, Q. Tuazon, and M. Margarito*

2:45 PM – 3:00 PM

REC-013

One-Pot Strategy to Valorize Underutilized Biomass into Metal-Embedded Porous Carbon for Environmental Remediation

D. V. Nguyen, H. M. Nguyen, L. Q. Nguyen, and T. Tran-Thuy*

3:00 PM - 3:15 PM

BAB-004

Low-Voltage Hydrogen Production using Metal Ions Reduced by Biomass Waste

Y. Xiu, K. Suzuki, R. Ashida, and M. Kawase*

3:15 PM – 3:30 PM

PIO-009

Supercritical CO₂-Mediated Microreactor System for Biomass Valorization

A. Quitain, R. Fukuda, K. Nishimure, and M. J. Cocero*

Session C2:

Narra Room

Moderators:

Prof. Liza Bautista-Patacsil & Prof. Joseph Auresenia

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

R. Magnaye, C. F. Briones, W. R. Fillartos, M. Otsuki, and F. Rada*



TECHNICAL SESSIONS

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

Session C2:	Narra Room
Moderators:	<i>Prof. Liza Bautista-Patacsil & Prof. Joseph Auresenia</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 (Gomont) Geitler (Cyanobacteria)</i> after Protein Extraction. <i>D. G. Gabuat*, R. Carpio, M. C. Detras, and M. B. 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	PIO-001 A Power Index and P-graph Method for Criticality Analysis in Integrated Biorefineries <i>M. F. Benjamin*, K. Hong, B. S. How, V. Andiappan, and R. Tan</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>
3:00 PM – 3:15 PM	BCE-001 Optimization of Culture Conditions for Enhanced Biomass Production of an Indigenous <i>Aurantiochytrium</i> sp. Strain in Bioethanol Distillery Wastewater <i>B. Binamera*, J. Ignacio, Z. Herrera, J. Capunitan, F. Elegado, V. Migo, and C. Alfafara</i>



TECHNICAL SESSIONS

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

Session C2:

Narra Room

Moderators:

Prof. Liza Bautista-Patacsil & Prof. Joseph Auresenia

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 & Dr. Denvert Pangayao

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. 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. Clemenña, F. D. Lavilles, D. Pangayao, A. Soriano, and M. Margarito*

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**



TECHNICAL SESSIONS

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

Session B3:

Molave Room

Moderators:

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

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. B. 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. R. Virtudazo, R. Baldago, and E. Limbaga*

Session C3:

Narra Room

Moderators:

Prof. Ruey-An Doong & Dr. Cynthia Fabian-Madrado

4:00 PM - 4:15 PM

WWE-007

PBA-coated Ti_3C_2 Nanocomposite for Capacitive Deionination of Cationic Species

*N. Wang, and R. Doong**

4:15 PM – 4:30 PM

NNT-005

Hydrogen Storage by Carbon Nanohorns Enhanced by Hydrogen Spillover Effect

*N. Sano**



TECHNICAL SESSIONS

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

Session C3:

Narra Room

Moderators:

Prof. Ruey-An Doong & Dr. Cynthia Fabian-Madrado

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

M. Dimas, T. Ariyanto, I. Prasetyo, Rochmadi, and H. Pranamuda*

4:45 PM – 5:00 PM

SEP-002

Optimization of Choline-Acetate Catalyzed Glycolysis of PET in Polycotton Fabric

L. Cabatingan, and R. Agapay*

5:00 PM – 5:15 PM

BCE-005

Development of Hydrogel using Cellulose Nanofiber from *Cladophora Rupestris* and Glycogens from Lagkitan Corn (*Zea Mays* Var. *Ceratina*) or Golden Apple Snail (*Pomacea Canaliculata*) Meat

M. R. Persincula, and C. Madrazo*

5:15 PM – 5:30 PM

BCE-003

Color Stabilization of Phycocyanin using Sodium Lauryl Sulfoacetate under Varying pH and Temperature Conditions

J. R. Estrellado, A. Bonto, and C. Madrazo*



TECHNICAL SESSIONS

Day 2: October 30, 2025 (Thursday)

Session D1: Mayuree 1 Hall

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

- | | |
|---------------------|--|
| 10:30 PM – 10:45 PM | ECC-001
Selection and Evaluation of Geological Reservoirs for CO₂ Storage using Neutrosophic Data Envelopment Analysis (NDEA)
<i>J. F. Tapia*</i> |
| 10:45 AM – 11:00 AM | ECC-004
Integration and Evaluation of Carbon Budgeting and Pricing in a PyPSA-Based Philippine Energy System Model
<i>J. A. Aguilar*, R. V. Morada, K. I. Mazo, E. Esparcia, G. D. Sanglay, J. G. Tomacruz, and J. Ocon</i> |
| 11:00 AM – 11:15 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
<i>E. J. Esparcia*, G. D. Sanglay, A. J. Santos, K. L. Lobo, S. B. Lunor, C. A. Espera, G. Y. Garcia, A. Salac, and J. Ocon</i> |
| 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
<i>G. D. Sanglay, C. A. Espera*, E. J. Esparcia, and J. Ocon</i> |
| 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
<i>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</i> |
| 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
<i>A. Umehara*, R. Hamawaki, F. Wang, S. Nakai, and W. Nishijima</i> |



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 ECC-002

PyPSA-PH: A High Spatial and Temporal Resolution Open Source Model for the Philippine Power Grid

*A. Salac**

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 Quan Long & Dr. Carla Mae Pausta

10:30 PM – 10:45 PM 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 DMS-007

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 Quan 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 PM – 10:45 PM

REC-003

Homogeneous Photo-Fenton Degradation of Azithromycin in Synthetic Wastewater: 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. Patacsil, J. Cornista, and A. Beltran*

10:45 AM – 11:00 AM

REC-004

A Study on the Kinetics of Azithromycin Removal from Synthetic Wastewater using Pt/Pt Electro Fenton

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

11:00 AM – 11:15 AM

REC-005

Degradation of Azithromycin in Synthetic Wastewater by Homogeneous Photoelectro-Fenton Treatment

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

11:15 AM – 11:30 AM

WWE-004

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

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



TECHNICAL SESSIONS

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

Session F1:**Narra Room***Moderator:**Dr. Gian Paolo Bernardo*

11:30 AM – 11:45 AM

PIO-006

Optimization of Electro-Photo-Fenton Process Parameters for Ciprofloxacin Degradation in Synthetic Wastewater*B. J. S. Gerona*, L. J. Domingo, J. A. Valdez, L. Bautista-Patacsil, A. Beltran, J. Cornista, A. Orbecido, J. Ortenero, C. M. Pausta, J. Capingian, K. A. Sadol, G. M. Arada, D. Pangayao, L. Agonoy, B. G. Bueno, and M. A. Promentilla*

11:45 AM – 12:00 PM

WWE-003

Photo-Fenton for Treatment of Ciprofloxacin in Wastewater*T. E. Custodio, J. Hamada*, J. A. Lai, J. R. Pamintuan, L. Patacsil, A. Beltran, J. Cornista, A. Orbecido, J. Ortenero, C. M. Pausta, J. Capingian, K. A. Sadol, G. M. Arada, D. Pangayao, and L. Agonoy*

12:00 AM – 12:15 PM

WWE-002

Photo-Fenton for Treatment of Metronidazole in Wastewater*T. E. Custodio, J. Hamada, J. A. Lai*, J. R. Pamintuan, L. Patacsil, A. Beltran, J. Cornista, A. Orbecido, J. Ortenero, C. M. Pausta, J. Capingian, K. A. Sadol, G. M. Arada, D. Pangayao, and L. Agonoy*

12:15 AM – 12:30 PM

ECC-008

Effect of Temperature on PdCu Catalyst for Formic Acid Electro-oxidation*J. Raymundo, Z. E. Guanaco, L. J. Gallos, D. E. Loresca, J. G. Tomacruz*, and J. A. Paraggua***Session D2:****Mayuree 1 Hall***Moderators:**Prof. Iwan Setiyawan & Dr. Vergel Bungay*

1:30 PM – 1:45 PM

SWM-003

Carbon Sequestration Potential of Phosphogypsum via Indirect Mineral Carbonation*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*



TECHNICAL SESSIONS

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

Session D2: Mayuree 1 Hall

Moderators: Prof. Iwan Setiyawan & Dr. Vergel Bungay

1:45 PM – 2:00 PM

SWM-004

Green Material Development: Phosphogypsum (PG) as Filler Material for Alkali-Activated Coal Fly Ash (CFA) Geopolymer

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*

2:00 PM – 2:15 PM

SWM-005

Leaching Process Optimization of Phosphogypsum Tailings Using Sodium Gluconate

W. F. D. Silva, N. M. Ang, R. N. S. Maria, D. J. Capadiso, M. A. Pablo, J. Pocaan, J. L. R. Paulo, P. G. Gervacio, J. F. Tapia, and A. Orbecido*

2:15 PM – 2:30 PM

SWM-008

Dual-Step NaOH-HCl Leaching of Fly Ash: Process Optimization and Coagulant Performance Evaluation

I. Setiyawan, J. Wintoko, and C. W. Purnomo*

2:30 PM – 2:45 PM

APC-001

Advancements in Ultrasound-Assisted Oxidative Desulfurization of Dibenzothiophene Using Novel Catalytic Systems

J. B. Cagas, G. P. Bernardo, A. E. Choi, and J. Ortenero*

2:45 PM – 3:00 PM

APC-002

Progress and Perspectives in Mixing-Assisted Oxidative Desulfurization for Dibenzothiophene and Benzothiophene Removal

M. P. Manalo, A. E. Choi, and C. A. Chan*

3:00 PM – 3:15 PM

ECC-005

Magnetic Solid Support Strategies: Advancing Polyoxometalate (POM)-Based Catalysts in Oxidative Desulfurization

A. C. Gelogo, A. E. Choi, N. Dugos, and M. Wan*

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*



TECHNICAL SESSIONS

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

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. Patacsil, J. Cornista, and A. Beltran*

1:45 PM – 2:00 PM

PSD-003

Decentralized Wastewater Management Systems in the Philippines: Current Trends, Challenges, and Opportunities

T. Carrera, R. Damalerio, R. Tanhueco, A. Orbecido, M. Promentilla, C. Pausta, A. Torneo, K. Aviso, 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. Mukharro, H. Susilo, and H. Hermansyah*

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



TECHNICAL SESSIONS

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

Session E2:

Molave Room

Moderators:

Engr. John Raymond Barajas & Mr. Henry Susilo

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. B. Tabelin, and T. Phegsaart*

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*

2:00 PM – 2:15 PM

EAR-004

Assessment on Limestone-Based Passive Treatment System for Acid Mine Drainage (AMD) Impacted Waters in Legacy Mine in Sto. Niño, Tublay, Benguet, Philippines

H. A. Fenix, A. Cai, A. S. M. Sy, and J. Pocaan*

2:15 PM – 2:30 PM

CEE-002

Fabrication of Chitosan-Coated Slag for Acid Mine Drainage: Adsorption in Passive Treatment Systems

C. O. Turingan, T. Arima, N. Hiroyoshi, and T. Sato*



TECHNICAL SESSIONS

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

Session F2:

Narra Room

Moderators:

Prof. Carlito Tabelin & Engr. Joshua Pocaan

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

J. Cardinales, J. D. Rosario, J. J. Jerota, A. Llido, D. Pangayao, and P. J. Gildo*

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

J. A. Oracion, B. A. Reyes, M. J. Rapisura, and B. Belmonte*

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

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*

3:15 PM – 3:30 PM

EAR-001

Evaluation of Pre-Processing Methods for Improved Microplastic Detection using Nile Red Staining Method

L. A. P. Manaoat, M. Lagmay, and M. Margarito*

Session D3:

Mayuree 1 Hall

Moderator:

Prof. Arnel Beltran

4:00 PM – 4:15 PM

REC-001

Synthesis of Fischer-Tropsch Catalysts for Efficient Production of Sustainable Aviation Fuel

T. Jarunglumlert, H. Sukkathanyawat, and A. Bampenrat*

4:15 PM – 4:30 PM

REC-008

Harnessing Light and Catalysts for Sustainable Fuel from Fatty Acid Waste

W. H. Saputera, A. N. A. Hanifah, S. Mutiara, S. Rahmania, A. N. Istyami, C. B. Rasrendra, and D. Sasongko*



TECHNICAL SESSIONS

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

Session D3:

Mayuree 1 Hall

Moderator:

Prof. Arnel Beltran

4:30 PM – 4:45 PM

NNT-003

Efficient and Selective Phosphorus Adsorption in Eutrophic Waters via Cerium Modified MIL-101-NH₂/Diatomite Composites

G. A. M. King*, L. Chen, W. Heremurti, K. G. N. Quiton, F. D. Vera, and T. Lin

4:45 PM – 5:00 PM

NNT-006

Preformulation of a Self-repairing Hybrid Hydrogel Transdermal Patch infused with Green-synthesized Ag-ZnO bNPs using Saba banana (*Musa acuminata* x *balbisiana*) Peel Extracts

A. A. Gomez*, J. C. Hernandez, H. J. Jimenez, N. I. Aguinaldo, A. M. Lapuz, and J. Fundano

5:00 PM – 5:15 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

5:15 PM – 5:30 PM

FCE-010

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

Session E3:

Molave Room

Moderator:

Prof. John Frederick Tapia

4:00 PM – 4:15 PM

DMS-004

Microwave-Assisted Synthesis of Nano-Clay Hybrids for Carbon-Neutral Construction Materials: A Review of Rapid Processing and Applications in Thermal Regulation and CO₂ Capture

R. B. Segampong*, R. J. Tubiera, A. Jubilo, and J. Bellen

4:15 PM – 4:30 PM

DMS-006

Strategic Recovery of Rare Earth Elements from Phosphogypsum: Process Optimization and Resource Potential in the Philippines

B. Palattao*, G. B. Bulaong, D. Agub, J. Ramirez, A. Bautista, A. D. Perez, L. G. Sabaria, E. Tabora, S. Intoy, A. Orbecido, A. Beltran, M. A. Promentilla, M. Madlangbayan, C. Tabelin, and V. J. Resabal



TECHNICAL SESSIONS

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

Session E3:

Molave Room

Moderator:

Prof. John Frederick Tapia

4:30 PM – 4:45 PM

PIO-005

Fuzzy Optimization Model for Planning Flexible CO₂ Capture Retrofit in Multi-Region Energy Systems

R. T. Marquez, and J. F. Tapia*

4:45 PM – 5:00 PM

PIO-010

Optimization of the Supercritical CO₂-EtOH Extraction Conditions of Quercetin from *Blumea balsamifera* (Sambong) Leaves

M. L. D. Cruz, R. V. Halili, and F. A. Reyes*

5:00 PM - 5:15 PM

BMT-003

Parametric Study on the Effect of Substrate Ratios on Polyhydroxyalkanoate Bioplastic Production by *Cupriavidus necator* KCTC 2649 in Fermentation Media Utilizing Coconut Water

J. Tulipan, J. Ventura, G. M. Punzalan, J. R. Unlayao, C. M. Bravo, A. S. D. Leon, A. I. Caluya, and K. C. Cello*

5:15 PM - 5:30 PM

BMT-004

Valorization of *Kappaphycus alvarezii* Hydrolysate as a Potential Substrate for Polyhydroxyalkanoate (PHA) Bioplastic Fermentation

J. Tulipan, J. Ventura, J. R. Unlayao, K. C. Cello, A. S. D. Leon, A. I. Caluya, and C. M. Bravo*

Session F3:

Narra Room

Moderator:

Dr. Carla Mae Pausta

4:00 PM – 4:15 PM

WWE-001

Enhanced degradation of diclofenac via heterogeneous activation of persulfate using nano CuFe₂O₄-loaded waste chicken feather biochar composite

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

4:15 PM – 4:30 PM

EAR-005

Water Quality Assessment of Mananga River Using Principal Component Analysis

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



RSCE 2025

29th Regional Symposium on Chemical Engineering

TECHNICAL SESSIONS

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

Session F3:

Narra Room

Moderator:

Dr. Carla Mae Pausta

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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

Poster Session: Mayuree 1 Hall

- Poster 1 NNT-002
Molecular Dynamics Simulation of Effect of Temperature on Interfacial Structure and Interaction between Alkylphosphonic Acid-Modified TiO₂ and Organic Solvent
Ronald, H. Sawauchi, Y. Sato, T. Saito, S. Yamashita, Y. Okada, E. Shoji, and M. Kubo*
- Poster 2 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 3 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 4 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 5 AIE-002
Streamlining AI for Low-Carbon Concrete: Ablation and Sensitivity-Based Feature Selection
M. C. Jaucian, and M. A. Promentilla*
- Poster 6 SEP-005
Utilization of Supercritical Carbon Dioxide Extraction for Contaminant Removal from Semiconductor Manufacturing Equipment Components and Modeling of Extraction Behavior
T. Matsuoka, M. Sasaki, and Y. Kiba*



POSTER SESSIONS

Poster Session: Mayuree 1 Hall

- Poster 7 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 8 REC-009
Photocatalytic Reactive Ceramic Membrane for Removing Trance Organic Chemicals in Wastewater
*H. Takeuchi**
- Poster 9 TRA-005
Multiphysics Modeling of Sodium-ion Batteries with 3D Interdigitated Electrodes
R. J. Garcia, M. Castro, J. G. Tomacruz, and J. Ocon*
- Poster 10 SCM-002
Energetics Analysis of Electrocatalytic Formic Acid Oxidation over Pd₇Cu Catalysts: A DFT Study
B. D. Feliciano, J. G. T. Tomacruz, A. A. B. Padama, and J. D. Ocon*
- Poster 11 AIE-004
Predicting Fuel Pump Price Volatility in the Philippines: A Machine Learning Approach Integrating Geopolitical and Pandemic Effects Post COVID-19 Outbreak
C. A. C. Bersabal, S. B. R. Lunor, J. G. T. Tomacruz, and J. D. Ocon*
- Poster 12 REC-010
In-situ and Operando Analysis of Methanol Electrooxidation With Nickel Foam as Electrocatalyst
L. Agasino, M. J. Young, G. M. Segui, G. F. Mejica, A. R. Asuncion, H. J. Drapisa, J. G. Tomacruz, and J. Ocon*



POSTER SESSIONS

Poster Session: Mayuree 1 Hall

- Poster 13 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. D. Reyes, and J. R. S. Agueda*
- Poster 14 FCE-005
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