

# FLASHPOINT

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March 2024



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**SPRING24+20<sup>TH</sup> GCPS**  
A Joint AIChE and CCPS Meeting

**March 24–28, 2024**  
New Orleans Hilton Riverside  
New Orleans Convention Center

## 20th GCPS Tracks

*58th Annual Loss Prevention Symposium (LPS)*

*39th Center for Chemical Process Safety (CCPS)*

*International Conference*

*26th Process Plant Safety Symposium (PPSS)*

*13th Process Safety Management Mentoring (PSMM) Symposium*

*Perspectives on Process Safety from Around the World*

## FEATURED TOPICAL CONFERENCES

- **Leadership Development- Professional Skills to Catalyze your Career**
- **Petrochemicals**
- **Process Intensification**
- **Industry 4.0 Topical Conference**
- **Global Congress on Process Safety**
- **36th Ethylene Producers' Conference**
- **24th Topical Conference on Gas Utilization**
- **27th Topical Conference on Refinery Processing**
- **3rd Topical Conference on Heat Exchangers**
- **Hydrogen Safety Topical Conference**
- **Waste Plastics Topical Conference**
- **Industrial Wastewater Management and Water Reuse Topical Conference**
- **The Energy Transition**

## Chair Corner

Hello everyone,

This is my last Chair's Corner as the F&PD Chair. It was my pleasure to lead this division and to collaborate with AIChE staff, the F&PD Executive Committee, and the Programming Committee. Dr Francesco Coletti will lead the F&PD 2024-2025 and Mr Andrew Sloley will serve as 1st Vice Chair. For further information about the new leadership team, please visit the F&PD website and the next newsletters.



The F&PD Executive Committee is actively looking for accountable volunteers for leadership opportunities available (Directors, Committee Chairs, Session Programming Chairs, etc.) which can lead to assisting the F&PD executive team and a greater career path and opportunities.

As you probably heard, President Biden hits a pause on approvals of liquified natural gas (LNG) exports in early 2024. "[The Department of Energy's] Energy Technology Lab released studies in 2014 and 2019 that showed U.S. LNG exports for European and Asian markets would significantly reduce life cycle greenhouse gas emissions when compared to coal use," the coalition wrote. "The U.S. leads the world in CO2 emissions reductions largely thanks to coal-to-natural gas fuel switching in the power sector." The message I would pass on to any member of the F&PD is GPA Midstream and GPSA join an industry letter objecting to LNG export restrictions with a coalition of 32 industry organizations to express concern with the Biden administration's decision to hinder liquefied natural gas export approvals. "Restricting U.S. LNG exports any further could exacerbate the energy crisis in Europe, threaten U.S. jobs, and force quickly developing nations to rely on coal for their growing energy needs," the industry group wrote the letter to Energy Secretary Jennifer Granholm, as well as Secretary of State Anthony Blinken.

I am confident that the F&PD will have better and stronger division programming and membership benefits every year. I want to thank the Executive Committee and AIChE staff for all their hard work over the last year. Without their support, these remarkable achievements have not been achievable, and hope to see all of you at the AIChE Spring Meeting in New Orleans, LA.

Be safe and be well.

Let's connect, share, and learn together.

Mahdi Nouri, CEng FICChemE

F&PD Chair

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## ***Invitation to F&PD Executive and Award Dinner***

Hello Colleagues,

We hope this message finds you well. As a valued member registered to attend the 2024 Spring Meeting & Global Congress on Process Safety, we are excited to extend a special invitation to you for the exclusive "Fuels & Petrochemicals Division (F&PD) Executive Committee and Awards Dinner."

### **Event Details:**

Date: Monday, March 25

Time: 7:00 PM – 10:00 PM

Location: Tujague's, 3rd Floor

### **Agenda:**

6:00 PM – 7:00 PM: Cash Bar / Reception

7:00 PM – 9:00 PM: Dinner & Presentation

This exclusive, ticketed event provides a unique opportunity for you to connect with fellow Division members, industry leaders, and celebrate the remarkable success of the Fuels & Petrochemicals Division. The evening promises an engaging atmosphere filled with networking, insights, and a celebration of achievements within our community.

### **Why Attend?**

**Networking:** Connect with like-minded professionals and industry leaders in a relaxed and enjoyable setting.

**Recognition:** Witness the acknowledgment of outstanding achievements within the Fuels & Petrochemicals Division.

**Inspiration:** Gain insights from the Executive Committee's presentation and be inspired by the latest developments in our field.

**Exquisite Venue:** Tujague's restaurant, located on the 3rd floor, provides a charming and sophisticated backdrop for an evening of celebration.

### **How to Reserve Your Seat:**

To secure your spot at this memorable event, please contact Customer Service at 800.242.4363 or [customerservice@aiiche.org](mailto:customerservice@aiiche.org). Please mention the event ID code (#102) If you still need to register, please register here. You can register for the meeting as well as this ticketed event by selecting the "F&PD Executive Committee and Awards Dinner" option. Space is limited, so we encourage you to reserve your seat at your earliest convenience.

Don't miss this chance to be part of an exclusive gathering that celebrates the achievements and camaraderie within the Fuels & Petrochemicals Division. We look forward to sharing this special evening with you.

Best regards,

**Mahdi Nouri**

*Chair, Fuels & Petrochemicals Division*

# 2024 Spring Meeting

## Fuel & Petrochemical Sessions at a Glance

CDT	Monday				
	Gas Utilization (207)	Refinery Processing (202)	Heat Exchangers (205)	The Energy Transition (203-204)	Petrochemicals (206)
8:00 AM	AGILE Keynote (8:00 - 9:15)				
8:30 AM					
9:00 AM	Break				
9:30 AM	Industry 4.0/F&PD Plenary (9:30 - 11:00)				
10:00 AM					
10:30 AM					
11:00 AM	Break				
11:30 AM					
12:00 PM	Mon Luncheon Keynote (12:00-1:30)				
12:30 PM					
1:00 PM					
1:30 PM	Keynote - 22nd Topical Conference on Gas Utilization (1:30-3:00)		Keynote: Electrification of Cracking Furnaces, Robert Broekhuis, Chief Scientist - Engineering Science, SABIC [		
2:00 PM					
2:30 PM					
3:00 PM	Break				
3:30 PM	LNG & Hydrogen Safety (3:30-5:00)		Special Session in Honor of Professor Kenneth Bell	INVITED: Energy Transition Roundtable with Energy Leaders	
4:00 PM					
4:30 PM					
5:00 PM	Poster Session				
5:30 PM					
6:00 PM					
6:30 PM					
7:00 PM					

CDT	Tuesday				
	Gas Utilization (207)	Refinery Processing (202)	Heat Exchangers (205)	The Energy Transition (203-204)	Petrochemicals (206)
8:00 AM	Decarbonization of Gas Processing I Session (8:00-9:30)	Renewable Fuels	Electrical Heaters	Management of Change and Technology Implementation in Energy Transition	Process Control and Optimization Developments
8:30 AM					
9:00 AM					
9:30 AM	Break				
10:00 AM	Break				
10:30 AM	Decarbonization of Gas Processing II (10:15-11:45)	Renewable Fuels II	Modeling, Simulation, Design, and Optimization of Heat Exchangers	Management of Change and Technology Implementation in Energy Transition II	Process Control and Optimization Developments II
11:00 AM					
11:30 AM					
12:00 PM	Tues Luncheon Keynote (11:45-1:30)				
12:30 PM					
1:00 PM					
1:30 PM	Gas Utilization (Methane, Ethane, and CO2) I (1:30-3:00)	Meeting Net Zero Targets: Developments in Sustainability & Emission Reduction	Heat Exchanger Fouling Mitigation	New Technologies in Energy Transition	Developments in Petrochemicals
2:00 PM					
2:30 PM					
3:00 PM	Break				
3:30 PM	Gas Utilization (Methane, Ethane, and CO2) II (3:30-5:00)	Industrial Wastewater Management and Water Reuse	New Heat Exchangers and Heat Transfer Enhancement Technologies	New Technologies in Energy Transition II	Refinery – Petrochemical Integration
4:00 PM					
4:30 PM					

## ***Congratulations to F&PD 2024 Award Winners***

**F&PD Division award: Bill Rooney**

**Distinguished Service Award: Belma Demirel**

**Programming Service Award: Debalina Sengupta & Francesco Coletti**

## Fuel & Petrochemical Sessions at a Glance

CDT	Wednesday				
	Gas Utilization (207)	Refinery Processing (202)	Heat Exchangers (205)	The Energy Transition (203-204)	Petrochemicals (206)
8:00 AM	Modeling For Energy Transition I (8:00-9:30)	Plant Simulation and Design	Coating for Heat Transfer Applications	Design for Energy Transition	Feedstock from Recycled Materials
8:30 AM					
9:00 AM					
9:30 AM	Break				
10:00 AM	Break				
10:30 AM	Modeling For Energy Transition II (10:15-11:45)	Plant Simulation and Design II	Digital Transformation, AI and IoT Technology Applications to Heat Exchangers	Analysis for Energy Transition	Feedstock from Recycled Materials II
11:00 AM					
11:30 AM					
12:00 PM	Wed Luncheon Keynote (11:45-1:30)				
12:30 PM					
1:00 PM					
1:30 PM	Session (1:30-3:00)	Digitalization and Controls	Heat Exchanger Cleaning	Transportation Considerations in Energy Transition	Advances in Ammonia as a Fuel/Hydrogen Carrier
2:00 PM					
2:30 PM					
3:00 PM	Break				
3:30 PM	Session (3:30-5:00)	Refinery Profitability, Flexibility, and Optimization	Heat Exchanger Cleaning II	Feedstock Expansion for Energy Transition	Session
4:00 PM					
4:30 PM					

## **Topical 4: The 36th Ethylene Producers Conference**

**Monday, March 25, 2024**

**9:30 AM - 11:30 AM**

### **2 Industry 4.0 in Ethylene Production**

*Sasha Vragolic, Motiva, Birgit Braun, Chemometrics and AI, Dow, Pearland, TX and Kaytlin Henderson, Dow*

**9:30 AM - 11:30 AM**

### **51 Ethylene Producers General Topics**

*Rob Fox, Global Process Engineering, LyondellBasell, Houston, TX and Aivars Kruminis, McDermott, Houston, TX*

**1:30 PM - 2:15 PM**

### **6 EPC Keynote:**

*Mark Whitney, Linde Engineering, Houston, TX*

**2:30 PM - 5:30 PM**

### **10 Ethylene Plant Maintenance & Reliability**

*Thomas Garza, KnightHawk Engineering, TX and Lucas Baldesberger, E2G*

**2:30 PM - 5:30 PM**

### **67 Tutorial: Flare Operations in a Post E-MACT World**

*Daniel Euhus, Flare Reduction and Technology Olefins & Aromatics Technology Center, Dow, Gonzales, LA, Troy Boley, Spectrumenvsoln and Patricia Summers, Zeochem, Louisville, KY*

**Tuesday, March 26, 2024**

**8:00 AM - 11:00 AM**

### **19 Contaminants and Impurities in Ethylene Plants**

*Andre Bernard, NOVA Chemicals, Corunna, ON, Canada and Sherri Elder, Consultant, Richmond, TX*

## Tuesday, March 26, 2024

**8:00 AM - 11:00 AM**

### **28 Ethylene Plant Rotating Equipment**

*Clayton Jurica, MHI Compressor, Houston, TX and Shane Harvey, Elliott Group, Houston, TX*

**2:00 PM - 5:00 PM**

### **20 Ethylene Plant Technology Fundamentals**

*Jack Buehler, Petrogenium, Petrogenium, Shell -retired, Houston, TX and*

*Robert Krinock, Dow Chemical, – retired, Houston, TX*

**2:00 PM - 5:30 PM**

### **27 Contaminants Tutorial**

*Debby Rossana, Retired, Tomball, TX and Jessica Burgin, Nalco Water, Sugarland*

## Wednesday, March 27, 2024

**8:00 AM - 11:00 AM**

### **37 Ethylene Plant Environmental and Sustainability**

*James Kendall, Technology, ExxonMobil Chemical, Baytown, TX and Isa Mbaraka, Dow*

**8:00 AM - 11:00 AM**

### **38 Ethylene Plant Operations**

*Patricia Summers, Zeochem, Louisville, KY and Daniel Euhus, Flare Reduction and Technology Olefins & Aromatics Technology Center, Dow, Gonzales, LA*

**2:00 PM - 5:20 PM**

### **43 Ethylene Plant Safety**

*Norman Wilhelm, Olefins, Lyondellbasell, Houston, TX*

## Thursday, March 28, 2024

**8:00 AM - 11:00 AM**

### **44 Circulating Economy/Decarbonization**

*Chuck Politio, CPChem and Humera Rafique, Enerkem, San Francisco, CA*



## **3<sup>rd</sup> Topical on Heat Exchangers - AIChE Spring Meeting**

**March 24, 2024 to March 28, 2024**

New Orleans Hilton Riverside, New Orleans Convention Center

Chair: Francesco Coletti, Hexxcell Ltd.

Co-Chair: Nicholas Urbanski, XTO Energy, Inc.

[www.aiche.org/conferences/aiche-spring-meeting-and-global-congress-on-process-safety/2024](http://www.aiche.org/conferences/aiche-spring-meeting-and-global-congress-on-process-safety/2024)

### **Description:**

Heat exchangers remain the workhorse of the process industries, both traditional and emerging, and their proper design and operation are keys to the profitability of any plant. The Topical on Heat Exchangers, at its third edition since 2020, will provide a forum for heat transfer specialists from manufacturing, engineering, consulting, procurement, and operating companies to exchange knowledge and ideas related to heat exchanger design, monitoring and operations.

As in previous years, the Topical is expected to feature engaging discussions on the latest advancements in heat exchanger technology and provide unique opportunities to network with other professionals in the field, learning about innovative solutions to common challenges in heat exchanger design and operation.

### ***Keynote: Electrification of Cracking Furnaces***

**Robert Broekhuis, Chief Scientist - Engineering Science, SABIC**

Chair: Francesco Coletti , Co-chair: Nicholas Urbanski

### ***Special Session in Honor of Professor Kenneth Bell***

Chair: C.B. Panchal, E3Tec Service, LLC

Co-chair: Francesco Coletti, Hexxcell Ltd.

### **Description:**

Professor Kenneth J Bell (1930-2023) has had a long and illustrious career in the area of heat transfer, He was the 10th Chairman of the Heat Transfer and Energy Conversion Division of AIChE in 1967. Prof. Bell received the Kern Award in 1978, and the Max Jacob award in 2003. He cofounded the Journal of Heat Transfer Engineering in 1979 and was the Editor-in-Chief from 1979 to 1997. Based on his distinguished record as researcher, educator, and practicing engineer as well as exemplary service to the Heat Transfer and Energy Conversion and AIChE, this session is dedicated to Prof. Kenneth Bell. Papers are invited to present on Prof. Bell himself and on his pioneering work of Heat Transfer and Energy Conversion with noticeable impact on design methods. Furthermore, Prof. Bell's work provides a basis for enhanced energy efficiency in the process industry, including Process Intensification, with direct impact on decarbonization.

## ***Modeling, Simulation, Design, and Optimization of Heat Exchangers***

Chair: Andrew Sloley

Co-Chair: Naomi Jabbar, S&B Engineers and Constructors

### **Description:**

This session is dedicated to the design, simulation and optimisation of heat exchangers. Heat exchanger manufactures, engineering and procurement companies as well as operating companies will share the latest advances in heat exchanger design. The Session will also provide an opportunity to share information on the best practices and case studies related to numerical simulations of heat exchangers (e.g. CFD) and design optimisation.

## ***Heat Exchanger Fouling Mitigation***

Chair: C.B. Panchal, E3Tec Service, LLC, Co-Chair: Himanshu Joshi, Hexxcell Ltd

### **Description:**

Fouling is a ubiquitous and a long-standing problem in the process industry. Fouling related issues negatively impact production and operations, reduce energy efficiency, increase costs and greenhouse gas emissions. Papers in this Session cover various aspects of fouling including, but not limited to, modelling, characterisation and mitigating technologies such as chemicals, coatings tube inserts and other solutions that enable fouling mitigation.

## ***Heat Exchanger Cleaning***

Chair: Hans Borgt, Dow, Co-Chair: Roberto Tomotaki, Clean As New

### **Description:**

When heat exchangers are heavily fouled, they need to be taken off-line and cleaned. However, choosing the right method for cleaning (e.g. mechanical, chemical, thermal, ultrasound) is not a simple task. This Session is dedicated to cleaning technologies and improved maintenance practices and will be exploring key aspects in heat exchanger cleaning via the traditional hydro-blasting methodology and alternative to technologies that enable faster, better and cheaper cleaning.

## ***New Heat Exchangers and Heat Transfer Enhancement Technologies***

Chair: Marco Fazzini, SABIC, Co-Chair: Robin Steininger, Tranter

### **Description:**

Papers in this Session will discuss new and innovative technologies related to heat transfer equipment being developed or recently deployed in the field. These include new/unconventional heat exchangers types, manufacturing technologies (e.g. additive manufacturing, 3D printing), applications and design methods. Enhanced heat transfer technologies, particularly where case studies are available, are of specific interest for this session.

## ***Digital Transformation, AI and IoT Technology Applications to Heat Exchangers***

Chair: Jose Loyola-Fuentes, Hexxcell Ltd.

### **Description:**

How can heat exchangers benefit from the application of digital and IoT technologies? This Session explores the latest development in the field of digitalisation for improving the design, operation and maintenance of heat exchangers. In particular, the Session will focus on how to gather process data and leverage on them through digital technologies such as distributed systems, edge computing, artificial Intelligence, and digital-twins, and what are the main challenges associated. Submission of case-studies and practical applications are particularly welcome.

## ***Coating for Heat Transfer Applications***

Chair: Simone Mancin, University of Padova

Co-Chair: Krishnan Chunangad, ExxonMobil

### **Description:**

This Session will focus on the development of new coatings for heat transfer applications including anti-fouling and corrosion protection as well as performance enhancement focused ones for boiling and condensation.

## ***Electrical Heaters***

Chair: Richard Jibb, Lummus Technology

Co-Chair: John Savage

### **Description:**

Electrical heaters have become increasingly popular due to the push towards decarbonisation. During this Session, we will hear from experts in the field who will be sharing their knowledge and experience on topics such as the design and optimization of electrical heaters, the use of advanced materials in their construction, and applications to the process industry, including refining and petrochemicals. We will also discuss the challenges associated with electrical heaters, such as temperature control and safety during operation, and explore innovative solutions to these challenges.

## ***Topical 6: 24<sup>th</sup> Topical Conference on Gas Utilization highlights industry and academia collaboration***

The 24<sup>th</sup> Topical Conference on Gas Utilization of the 2024<sup>th</sup> AIChE Spring meeting is sponsored by Qatar Shell Research & Technology Center (QSRTC), where Shell will present their joint R&D activities in their center in Qatar by Dr. Lina Rueda, the Director of QSRTC, delivering the keynote of the conference titled “CO<sub>2</sub> Collaboration Technologies to Support Decarbonization Journey”. This paper highlights QSTRC collaboration with academia and their efforts to advance the technology. Nimir Elbashir, Texas A&M University Gas & Fuels Research Center Director and the conference chair will follow this talk by sharing the path to scale up decarbonization technology from lab scale to bench scale and how the industry could speed up this process. The conference also organizes the LNG & Hydrogen Safety, which will be chaired by Zhe Cui (Shell Houston), where the first talk will focus on the evaluation of control for vapor evaluation models, and the second talk on defining trench fire modeling with FDS to be delivered by Drs. F. Gavelli and T. Butts from the Blue Engineering and Consulting, respectively. The third talk in this session will be on the risk assessment of hydrogen for use in hazardous processes by Dr. Naveen Kumar and **Abhineet Raj** from Tata Steel Ltd, India.

The conference is hosting two sessions titled “Decarbonization of Gas Processing.” The first morning session of March 26<sup>th</sup> has three talks: the first one is titled “Inclusion of Green Hydrogen in Power Production from Natural Gas – a Decarbonization Study” by Dr. Fadwa Eljack and H. MKacher from Qatar University. The second talk will focus on the design of DMC catalysts and dehydrogenation agents by Dr. Gasim Ibrahim at Texas A&M University from Dr. Elbashir’s research team (currently MIT-Energy Initiative). The third paper will highlight a novel technique for accounting for carbon fixation of CO<sub>2</sub> utilization technologies, titled “Application of Greenhouse Gas Abatement, Sustainability, and Economic Framework (GASEF) Tool for the Combined Evaluation of Economic and CO<sub>2</sub> Fixation Potential of CCU Reactions” to be delivered as well by Gasim Ibrahim. The second session on Decarbonization hosted three papers: the first one is focused on the decarbonization of the ammonia plants by Nada Mahmoud from Texas A&M University at Qatar, and the second one is titled “A Data-Driven Approach to Optimize the Pre-Combustion CO<sub>2</sub> Capture Process Using Novel Ionic Liquids for Blue H<sub>2</sub> Production” from Qatar University to be delivered by S. Mohammed. The last paper, titled “Affordable “Green-ish” Production of Hydrogen from Methane” by Eric McFarland from the University of California, Santa Barbara, highlights the potential of green hydrogen.

The conference is also hosting two sessions on Gas Utilization on March 26<sup>th</sup>: in the first section Eloy Flores III from the Southwest Research Institute in San Antonio will deliver a talk titled “Enhanced Gas Utilization at Pilot Scales”. The second talk, titled “Catalytic Conversion of CO<sub>2</sub> to Syngas through Methane Dry Reforming and Reverse Water Gas Shift Reactions,” will be delivered by Parisa Ebrahimi from Qatar University. Noor Yusuf from Hamad bin Khalifa University in collaboration with QatarEnergy-LNG will talk titled “Data-Driven Decision-Making for Flexible Natural Gas Allocation Under Uncertainties”. The last paper in that session will be on catalytic bubble column reactors, C-H bond activation, C-O activation, and solid carbon production and separation by Chester Upham, Chemical and Biological Engineering, University of British Columbia.

In the second session of the Gas Utilization will be titled “Engineering Experimental Approach to Study Methane Dehydroaromatization Stability to CO<sub>2</sub> in the Feed Stream” by Maria Hakki from Texas A&M University at Qatar. This talk is followed by a talk from Yokohama, Japan, by Yoshitsugi Kikkawa titled “Green Hydrogen from Green LNG.” The final talk in this session is by Clinton Duewall from the Artie McFerrin Chemical Engineering Department of Texas A&M University titled “Multi-Objective Bayesian Optimization of NGL Fractionators Using Process Simulation”.

Selected papers from the Topical 6: 24th Topical Conference on Gas Utilization will be published in 2024 in a Special Issue of the *Gas Science and Engineering* journal of Elsevier. Also, the best paper/presentation of the conference will receive a \$500 dollars award from Qatar Shell Research & Technology Center.

## **Topical 6: 24th Topical Conference on Gas Utilization**

### **Monday, March 25, 2024**

**1:30 PM - 3:00 PM**

#### **65 Keynote - 22nd Topical Conference on Gas Utilization**

*Nimir Elbashir, TEES Gas & Fuels Research Center, Texas A&M University at Qatar, Doha, Qatar and Fadwa Eljack, Department of Chemical Engineering, Qatar University, Doha, Qatar*

**3:30 PM - 5:00 PM**

#### **79 LNG & Hydrogen Safety**

*Zhe Cui, Shell Global Solutions and Babak Rafi, AMACS Process Tower Internals, Houston, TX*

### **Tuesday, March 26, 2024**

**8:00 AM - 9:30 AM**

#### **98 Decarbonization of Gas Processing**

*Saadet Ulas Acikgoz, Honeywell and Debalina Sengupta, NA, TX*

**10:15 AM - 11:45 AM**

#### **113 Decarbonization of Gas Processing II**

*Zhe Cui, Shell Global Solutions and Nimir Elbashir, TEES Gas & Fuels Research Center, Texas A&M University at Qatar, Doha, Qatar*

**1:30 PM - 3:00 PM**

#### **130 Gas Utilization (Methane, Ethane, and CO<sub>2</sub>)**

*Mamoun Al-Rawashdeh, Texas A&M University at Qatar, Doha, Qatar and Lina Rueda, Qatar Shell Research and Technology Center, Shell, Doha, Qatar*

**3:30 PM - 5:00 PM**

#### **146 Gas Utilization (Methane, Ethane, and CO<sub>2</sub>) II**

*Debalina Sengupta, NA, TX and Anand Kumar, Department of Chemical Engineering, Qatar University, Doha, No State, Qatar*

## **Topical 7: 27h Topical Conference on Refinery Processing**

**Tuesday, March 26, 2024**

**8:00 AM - 9:30 AM**

### **96 Process Control and Optimization Developments**

*Mark Darby, CMiD Solutions, Tomball, TX and John Hedengren, Chemical Engineering, Brigham Young University, Provo, UT*

**8:00 AM - 9:30 AM**

### **99 Renewable Fuels**

*Robert Sigal<sup>1</sup>, Xiaolin Chen<sup>2</sup> and Calvin Mukarakate<sup>2</sup>, (1)BP(2)Catalytic Carbon Transformation & Scaleup Center, National Renewable Energy Laboratory (NREL), Golden, CO*

**10:15 AM - 11:45 AM**

### **111 Process Control and Optimization Developments II**

*Mark Darby, CMiD Solutions, Tomball, TX and John Hedengren, Chemical Engineering, Brigham Young University, Provo, UT*

**10:15 AM - 11:45 AM**

### **114 Renewable Fuels II**

*Robert Sigal<sup>1</sup>, Xiaolin Chen<sup>2</sup> and Calvin Mukarakate<sup>2</sup>, (1)BP Biosciences Center, San Diego, CA(2)Catalytic Carbon Transformation & Scaleup Center, National Renewable Energy Laboratory (NREL), Golden, CO*

**1:30 PM - 3:00 PM**

### **131 Meeting Net Zero Targets: Developments in Sustainability & Emission Reduction**

*Jayce Mathews, SABIC, Houston, TX, Achim Wechsung, Exponent, Inc., Natick, MA and Sanjiv Ratan, ZoneFlow Reactor Technologies LLC, Windsor, CT*

**3:30 PM - 5:00 PM**

***144 Refinery - Petrochemical Integration***

*Phuong Do, Honeywell UOP, Des Plaines, IL and Julia Jimenez Romero, Advanced Process Integration Limited, Manchester, United Kingdom*

**3:30 PM - 5:00 PM**

***147 Industrial Wastewater Management and Water Reuse***

*Swapnil Fegade, Fusion Automation Inc., Grand Forks, ND and Junho Park, Dow Chemical Company, Houston, TX*

**Wednesday, March 27, 2024**

**8:00 AM - 9:30 AM**

***158 Plant Simulation and Design***

*Robert Sigal, BP and Azita Ahmadzadeh, Honeywell UOP, Des Plaines, IL*

**10:15 AM - 11:45 AM**

***158 Plant Simulation and Design***

*Robert Sigal, BP and Azita Ahmadzadeh, Honeywell UOP, Des Plaines, IL*

**1:30 PM - 3:00 PM**

***182 Digitization and Controls***

*Swapnil Fegade, Fusion Automation Inc., Grand Forks, ND and Junho Park, Dow Chemical Company, Houston, TX*

**3:30 PM - 5:00 PM**

***190 Refinery Profitability, Flexibility, and Optimization***

*Phuong Do, Honeywell UOP, Des Plaines, IL and Sankhadeep Sarkar, Chemical Engineering, Texas A&M Univeristy, Houston, TX*



## **Topical 15: Topical Conference in Energy Transition**

The Fuels and Petrochemicals Division started the Topical conference in Energy Transition (Topical 15) at the AIChE Spring Meeting 2023 in Houston, TX with 6 initial session offerings and a roundtable panel style discussion with Energy Leaders. In its second year, the Topical has already garnered significant attention, growing in size to 11 sessions and the roundtable discussion. This year, the panel discussions will kickoff the Topical on Monday evening at 3:30 PM at 203-204 (New Orleans Ernest N. Morial Convention Center -2024). For more information on sessions and location, see the full program below.

### **Monday, March 25, 2024**

**3:30 PM - 5:00 PM**

#### ***19 INVITED: Energy Transition Roundtable with Energy Leaders***

**Debalina Sengupta**, Texas Sea Grant, Texas A&M University, College Station, TX,

**Saadet Ulas Acikgoz**, Optimization, Honeywell UOP, Des Plaines, IL,

**Shyamal Bej**, Shell, Houston, TX, **Iftekar Karimi**, Department of Chemical and Biomolecular Engineering, National University of Singapore, Singapore and **Felicia Lucci**, Department of Energy

203-204 (New Orleans Ernest N. Morial Convention Center -2024)

### **Tuesday, March 26, 2024**

**8:00 AM - 9:30 AM**

#### ***Management of Change and Technology Implementation in Energy Transition***

**Kirtan Trivedi**, Global Projects Company, Exxonmobil, Conroe, TX and **Debalina Sengupta**, Texas Sea Grant, Texas A&M University, College Station, TX

203-204 (New Orleans Ernest N. Morial Convention Center -2024)

## Wednesday, March 27, 2024

**8:00 AM - 9:30 AM**

### *120 Design for Energy Transition*

**Debalina Sengupta**, Texas Sea Grant, Texas A&M University, College Station, TX and **Fadhil Al-Aboosi**, RAPID Manufacturing Institute, AIChE, New York, NY

203-204 (New Orleans Ernest N. Morial Convention Center -2024)

**8:00 AM - 9:30 AM**

### *135 Modeling for Energy Transition*

**Ivan Castillo**, Chemometrics, AI and Statistics, The Dow Chemical Company, **Lake Jackson**, TX and **Saadet Ulas Acikgoz**, Optimization, Honeywell UOP, Des Plaines, IL

207 (New Orleans Ernest N. Morial Convention Center -2024)

**10:15 AM - 11:45 AM**

### *Modeling for Energy Transition II*

**Ivan Castillo**, Chemometrics, AI and Statistics, The Dow Chemical Company, **Lake Jackson**, TX and **Saadet Ulas Acikgoz**, Optimization, Honeywell UOP, Des Plaines, IL

207 (New Orleans Ernest N. Morial Convention Center -2024)

**10:15 AM - 11:45 AM**

### *142 Analysis for Energy Transition*

**Eric Tan**, Catalytic Carbon Transformation & Scaleup Center, National Renewable Energy Laboratory (NREL), Golden, CO and **Ignasi Palou Rivera**, RAPID/AIChE, New York, NY

203-204 (New Orleans Ernest N. Morial Convention Center -2024)

**1:30 PM - 3:00 PM**

### *151 Transportation Considerations in Energy Transition*

**Tekin Kunt**, PSRG Inc., Houston, TX and **Birol Dindoruk**, Petroleum Engineering, University of Houston, Houston, TX

203-204 (New Orleans Ernest N. Morial Convention Center-2024)

**3:30 PM - 5:00 PM**

### *90 Feedstock Expansion for Energy Transition*

**Shyamal Bej**, Shell, Houston, TX and **David Mannel**, LyondellBasell, TX

## **Topical 16: Petrochemicals**

**Monday, March 25, 2024**

**5:00 PM - 7:00 PM**

**87 Poster Session: Fuels and Petrochemicals Division**

**Tuesday, March 26, 2024**

**8:00 AM - 9:30 AM**

**96 Process Control and Optimization Developments**

*Mark Darby, CMiD Solutions, Tomball, TX and John Hedengren, Chemical Engineering, Brigham Young University, Provo, UT*

**10:15 AM - 11:45 AM**

**111 Process Control and Optimization Developments II**

*Mark Darby, CMiD Solutions, Tomball, TX and John Hedengren, Chemical Engineering, Brigham Young University, Provo, UT*

**1:30 PM - 3:00 PM**

**128 Developments in Petrochemicals**

*Christopher Buehler, Exponent, Inc., New York, NY and Mamoun Al-Rawashdeh, Texas A&M University at Qatar, Doha, Qatar*

**3:30 PM - 5:00 PM**

**144 Refinery - Petrochemical Integration**

*Phuong Do, Honeywell UOP, Des Plaines, IL and Julia Jimenez Romero, Advanced Process Integration Limited, Manchester, United Kingdom*

## Wednesday, March 27, 2024

**8:00 AM - 9:30 AM**

### ***156 Feedstocks from Recycled Materials***

**Brian Ott**, Thermal Practice, Exponent, Los Angeles, CA and **Calvin Mukarakate**, Catalytic Carbon Transformation & Scaleup Center, National Renewable Energy Laboratory (NREL), Golden, CO

**10:15 AM - 11:45 AM**

### ***169 Feedstocks from Recycled Materials II***

**Brian Ott**, Thermal Practice, Exponent, Los Angeles, CA and **Calvin Mukarakate**, Catalytic Carbon Transformation & Scaleup Center, National Renewable Energy Laboratory (NREL), Golden, CO

**1:30 PM - 3:00 PM**

### ***181 Advances in Ammonia as a Fuel/Hydrogen Carrier***

**Christopher Buehler**, Exponent, Inc., New York, NY and **Sahand Faraji**, Thermal Sciences, Exponent Inc, Irvine, CA

## ***F&PD Officers Contact Information***

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