RAPID
Transforming Process Industries

RAPID MANUFACTURING INSTITUTE

SPRING MEETING TOPICALS CONFERENCE

SCHEDULE OF EVENTS • APRIL 1 - 3, 2019

WELCOME TO THE 2019 AIChE® SPRING MEETING & 15TH GLOBAL CONGRESS ON PROCESS SAFETY

The RAPID Manufacturing Institute is excited to offer dynamic and industry-focused programming here in New Orleans. We are committed to offering insight into new technologies, best practices, and trends that impact process intensification (PI) across the process industries.

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Take a look at our calendar for descriptions of RAPID conference sessions including our three-day topical conference and networking opportunities. We encourage you to connect with us for in-depth discussions about innovations you are driving and issues you may be facing.

For those of you who are new to our work, we recommend our sessions on advances in modular technology and opportunities in PI from an industrial perspective. These sessions should be of particular interest to industry attendees, who will find both very informative for their real-world applications and assessments.

We also invite those of you who are not yet RAPID members to join us for a RAPID Networking Mixer & Open House to learn how membership in RAPID can benefit your organization. If you are unable to attend this session, please stop by our booth, which is part of the AIChE exhibit and speak to members of the RAPID team to learn more.

Enjoy your time in New Orleans and we look forward to seeing you!

WILLIAM GRIECO
Chief Executive Officer, RAPID Manufacturing Institute

RAPID Manufacturing Institute Topicals Conference Schedule | April 1- 3, 2019

MONDAY, APRIL 1, 2019

10:00 AM – 12:00 PM
Hilton New Orleans Riverside, Churchill A1 & A2

RAPID Technical Advisory Board Meeting (By Invitation Only)

1:30 PM – 3:30 PM
Hilton New Orleans Riverside, Churchill A1 & A2

RAPID Governing Board Meeting (By Invitation Only)

1:30 PM – 3:30 PM
Hilton New Orleans Riverside, Prince of Wales

TC000 Initiatives in Process Intensification and Modular Chemical Processing I
CHAIR: Cristian Triana, Process Systems Enterprise
CO-CHAIR: Bryan Patel, ExxonMobil Research and Engineering

CO_2 Enabled Oxidative Dehydrogenation of Ethane to Ethylene
Jadid E. Samad, Southern Research

Influences Influence of Batchelor Flow on Agglomeration of NMC Hydroxide
Xiaotong Sun, Kyunghee University

Ammonia Manufacturing Box: A Small Ammonia Plant Design Using Micro Processing Technology and Process Intensification Technology
Richard Strait, Rice University

3:30 PM - 5:00 PM
Hilton New Orleans Riverside, Prince of Wales

TC000 Advance Process Concepts - Reactors and Reactive Separation
CHAIR: Dhaval Bhandari, ExxonMobil Research and Engineering
CO-CHAIR: Ravindra Aglave, Siemens PLM Software

A Comparison of the Decompositions of Benzene and Toluene As Tar Representatives Using Non-Thermal Plasma
Faisal Saleem, Newcastle University

Grams - A Dynamic Intensification and Optimization Platform for Modular Chemical Process Systems
Akhil Arora, Texas A&M University

Low-Temperature Fischer – Tropsch Synthesis Multiphase Product Recovery through Reactive Distillation
Cornelius Mduduzi Masuku, Carnegie Mellon University

5:30 PM - 7:00 PM
Hilton New Orleans Riverside, Churchill A1 & A2

RAPID Networking Mixer & Open House (RAPID and Invited Attendees)

TUESDAY, APRIL 2, 2019

9:30 AM - 11:30 AM
Hilton New Orleans Riverside, Churchill A1 & A2

RAPID Members Council Meeting (RAPID Members Only)

1:30 PM - 3:00 PM
Hilton New Orleans Riverside, Prince of Wales

TC000 Intensified Separation Processes I
CHAIR: Scott McWhorter, Savannah River National Lab
CO-CHAIR: Fereshteh Farzad, RAPID

Dynamic Intensification of the Operation of Chemical Processes
Michael Baldea, University of Texas

On Demand Treatment of Wastewater Using 3D Printed Membranes
Lei Li, University of Pittsburgh

Energy Efficient Separations of Olefins and Paraffins Through A Membrane
Hanah Murnen, Compact Membrane Systems

Adsorptive Nitrogen Rejection from Natural Gas
Yang Luo, Praxair

RAPID Manufacturing Institute Topicals Conference Schedule | April 1- 3, 2019

1:30 PM - 3:30 PM
Hilton New Orleans Riverside, Churchill A1 & A2

RAPID Education and Workforce Development Committee Meeting (Committee Members Only)

3:45 PM - 5:15 PM
Hilton New Orleans Riverside, Prince of Wales

TC000 Intensified Separation Processes II
CHAIR: Shyamel Bej, Shell
CO-CHAIR: Joe Scott, Clemson University

Modular Mechanical Vapor Compression Membrane Distillation (Mvc-Md) For Treatment of High TDS Produced Water
Mahdi Malmali, Texas Tech University

Multiphase Microchannel Separator
Goran Jovanovic, Oregon State University

Deploying Intensified, Automated, Mobile, Operable, and Novel Designs "DIAMOND" for Treating Shale Gas Wastewater
Debalina Sengupta, Texas A&M University

Use Of Power Ultrasound For Nonthermal, Nonequilibrium Separation Of Ethanol/Water Solutions
Hao Feng, University of Illinois

WEDNESDAY, APRIL 3, 2019

8:00 AM - 9:30 AM
Hilton New Orleans Riverside, Prince of Wales

TC000 Advances in Modular Technology
CHAIR: Yang Luo, Praxair
CO-CHAIR: Ignasi Palou-Rivera, RAPID

Manufacturing Supply Chain Development for the STARS Technology Modular Solar-Thermochemical Conversion Platform
Brian Paul, Oregon State University

Development and Demonstration of Novel Thermal Technologies for Enhanced Air-Side and Two-Phase Performance of CPI-Relevant Heat Exchangers
Matthew Realff, Georgia Tech

Modular Catalytic Desulfurization Units for Sour Gas Sweetening
Paul Dimick, IntraMicron

Challenges in Process Intensification of Thermochemical Sugar Production
Robert Brown, Iowa State University

8:00 AM - 9:30 AM
Hilton New Orleans Riverside, Eglinton Winton

12E00 Advances in Process Intensification
CHAIR: Shawn D. Feist, The Dow Chemical Company
CO-CHAIR: Joe Scott, Clemson University

Towards the Incorporation of Operability and Safety in the Synthesis of Intensified Reactive and Extractive Separation Systems
Yuhe Tian, Texas A&M University

Building Block Based Design and Intensification of Chemical Processes
Salih E. Demirel, Texas A&M University

Semi-Continuous Processing to Improve Safety and Quality
Kelly Krzysik, The Dow Chemical Company

WEDNESDAY, APRIL 3, 2019 (CONTINUED)

10:15 AM - 11:45 AM
Hilton New Orleans Riverside, Eglinton Winton

12E00 Advances in Process Intensification
CHAIR: Shawn D. Feist, The Dow Chemical Company
CO-CHAIR: Ha Dinh, Honeywell

Synthesis of Reactive Separation Systems Via Building Blocks
Salih E. Demirel, Texas A&M University

A Comparative Study of Residence Time Distribution and Cooling Crystallization in a Continuous Dynamic/Oscillatory Baffle Crystallizer Versus a Stirred Tank
Claire Yiqing Liu, Purdue University

Design of Vapor Recompressed Dividing-Wall Columns Processing a Light Component Dominant Mixture
Lijing Zhang, Beijing University of Chemical Technology

10:15 AM - 11:45 AM
Hilton New Orleans Riverside, Prince of Wales

TC000 Intensified Reaction Processes
CHAIR: Chair: Ian Boys, AVEVA
CO-CHAIR: Ignasi Palou-Rivera, RAPID

Efficient Chemicals Production Via Chemical Looping
Bingjun Xu, University of Delaware

Microwave Catalysis for Process Intensified Modular Production of Value-Added Chemicals from Natural Gas
Dushyant Shekhawat, National Energy Technology Lab

Process Intensified Modular Chemical Production Opportunities Enabled by Structured Catalyst Materials Providing Enhanced Heat and Mass Transfer Capacities
Bruce Tatarchuk, Auburn University

Sugars-to-Bioproducts Scalable Platform Technology
Basudeb Saha, University of Delaware

1:30 PM - 3:30 PM
Hilton New Orleans Riverside, Prince of Wales

TC000 Initiatives in Process Intensification and Modular Chemical Processing
CHAIR: Chair: Chau-Chyun Chen, Texas Tech University
CO-CHAIR: Fereshteh Farzad, RAPID

A Modular Design Framework That Reduces the Capital Intensity of Small-Scale Chemical Processes
Akhil Arora, Texas A&M University

Modeling and Metrics Development for Biomass Pyrolysis Intensification Via Autothermal Operation
Benjamin Caudle, Texas Tech University

Towards the Identification of Intensified Reaction Conditions Using Response Surface Methodology: A Case Study on 3-Methylpyridine N-Oxide Synthesis
Jingyao Wang, Texas A&M University

3:00 PM - 5:00 PM
Hilton New Orleans Riverside, Prince of Wales

TC000 Opportunities in Process Intensification - Industrial Perspective
CHAIR: Ignasi Palou-Rivera, RAPID
CO-CHAIR: Fereshteh Farzad, RAPID

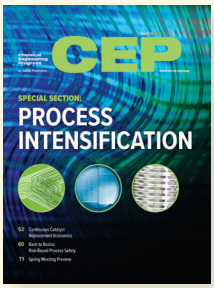
Separation of Dmc/Methanol Azeotrope By Heat Integrated Distillation Equipped with Pervap Membrane
C. B. Panchal, E3Tec Service

High-Throughput and High-Efficiency Liquid-Liquid Extraction Column WINTRAY -Review of the Commercial Experiences and Recent Development
Keiichi Nishida, JGC Corporation

Material Selection for Packed Columns in the Chlorine Drying Stage of the Chlor-Alkali Process
Anima Narania, RVT Process Equipment

Using Ethanol in Continuous Biodiesel Production with Trace Catalyst and CO_2 Co-Solvent
ASO Hassan, Missouri University of Science and Technology

RAPID Notes



Don't forget to pick up your copy of CEP Magazine's March issue, which features a special section on process intensification (PI). This year's edition focuses on how PI is making a difference. The three articles while diverse capture the convergence of mindsets, tools and technologies that are making PI more attractive to manufacturers. The first article looks at leveraging digitization in modeling and simulation, the second, on how to use a "building blocks" approach to identify intensification opportunities in early design stages for optimum results, and, finally, lessons learned from dividing-wall column technology in the naphtha-upgrading unit of India's largest refinery.

DID YOU KNOW?

RAPID recently reached a major milestone— celebrating its 75th new member!

RAPID is a community comprised of members from academia, industry, national labs and nonprofits to advance process intensification (PI) within the process industries—Chemicals, Oil and Gas and Pulp and Paper.

RAPID has funded over 30 R&D projects to-date designed to create breakthroughs in PI and modular chemical processing intensification (MCPI) technologies.

RAPID's Education and Workforce Development Program has trained over 600 people (industry executives, chemical engineers, and students) nationwide through informative webinars and an e-Learning course on PI.

RAPID continues to grow and thrive and we welcome inquiries for membership. Learn more about us as at www.aiche.org/rapid

Join RAPID at our Networking Mixer & Open House, 5:30-7pm, Hilton Riverside, Churchill Rms A1 & A2, RSVP with roseb@aiche.org

To Learn more about RAPID, visit us at the AIChE Booth near registration.

RAPID Transforming Process Industries

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