<table>
<thead>
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<th><strong>Sunday, March 31st</strong></th>
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| 6:00 PM – 7:30 PM | **2019 AIChE Spring Meeting and 15th GCPS Opening Reception**  
Grand Salon & Grand Ballroom A/B |

**Monday, April 1st**

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<th>Time</th>
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<tr>
<td>7:00 AM</td>
<td><strong>2019 AIChE Spring Meeting and 15th GCPS AGILE Keynote Continental Breakfast</strong></td>
<td>Grand Ballroom C/D</td>
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| 8:00 AM | **2019 AIChE Spring Meeting and 15th GCPS Opening Plenary Session: Kim Ogden, AIChE President and June C. Wispelwey, AIChE CEO & Executive Director**  
Grand Ballroom C/D |
| 8:15 AM | **2019 AGILE Award Keynote Address**  
*Keynote Address: “Embracing Transitions Today – Assuring a Robust Future Tomorrow”*  
Presented by Sharon Beshouri, VP Catalyst, Analytical and Refining Technology; Chief Engineer R&D Technical Function; President, Shell Global Solutions (US) Inc. | Grand Ballroom C/D        |
| 9:00 AM | Coffee and Networking Break  
Grand Salon & Grand Ballroom A/B |
| 9:30 AM | **Industry 4.0 Plenary - Impact of AI in the Industry 4.0 Era**  
Chair: Leo Chiang, The Dow Chemical Company  
Co-Chair: Scott McWhorter, Savannah River National Lab  
“Artificial Intelligence in Chemical Engineering: Quo Vadis?”  
Presented by Venkat Venkatasubramanian, Professor of Chemical Engineering, Columbia University  
“McKinsey on the Next Digital Leap to AI”  
Presented by Sam G. Samdani, Global Chemicals & Agriculture Practice, McKinsey & Company | Churchill C1                |
| 10:30 AM | **Session #13: Fuels & Petrochemicals Division and Big Data Joint Keynote Address**  
Chair: Saadet Ulas Acikgoz  
Co-Chair: Ivan Castillo  
*Keynote Address: “Application of Big Data Analytics / Artificial Intelligence / Machine Learning & Cloud Computing in Refining & Petrochemicals”*  
Presented by Paul Bonner, Vice President of Consulting & Data Analytics, Honeywell Connected Plant | Churchill C1                |
| 12:00 PM | **AIChE Spring Meeting & GCPS Luncheon with Speaker: Bruce Chinn, President, Chevron Oronite Company LLC**  
**Grand Ballroom C/D**  
“Inclusion & Diversity: An Innovation Imperative” | Grand Ballroom C/D                |
### Monday, April 1st (continued)

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<thead>
<tr>
<th>Simulations/Control</th>
<th>Refinery Processing</th>
<th>Environment and Sustainability</th>
<th>Petrochemicals</th>
<th>Gas Utilization</th>
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| *No programming at this time.* | **Session #29: Refinery Profitability, Flexibility, and Optimization I**  
  Chair: Kirtan K. Trivedi  
  Co-Chairs: Jayce Mathews and Honglin Qu | *No programming at this time.* | **Session #16: Developments in Biopetrochemicals I**  
  Chair: Asanga B. Padmaperuma  
  Co-Chair: Gokhan Celik | **Session #19: Gas Utilization Topical Conference Keynote**  
  Chair: Jeffery Gaspard |
| 1:30 PM–3:00 PM | Robust Operational Optimization of Crude Oil Distillation Systems  
  Xiao Yang  
  Performance of Bimetallic Hydroprocessing Catalysts for LCO Upgrading in Liquid-Full Isotherming Reactors  
  Hasan Dindi  
  Optimising Chemical Cleaning of Heat Exchangers  
  Francesco Coletti | Techno-Economics of Catalytic Conversion of Ethanol to Chemical Grade n-Butanol and 1-Hexene  
  Steven D. Phillips  
  Estimating Reid Vapor Pressure for Mixtures of Oxygenates Blended in a CA-Rbob  
  Steven D. Phillips  
  Quantifying the Impact of Catalyst Architecture on Yield and Activity Lifetime through Mesoscale Modeling and Simulation  
  Peter N. Ciesielski | Exploring Options for Cryogenic NGL Recovery from Natural Gas with Emphasis on Process Optimization  
  Mahdi Nouri |
| 3:00 PM | Coffee and Networking Break  
  Grand Salon & Grand Ballroom A/B |
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<tr>
<td><em>No programming at this time.</em></td>
<td></td>
<td>Session #42: Developments in Biopetrochemicals II</td>
<td>Session #48: Simulation, Optimization and Controls for LNG Applications</td>
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<td>Chair: Kirtan K. Trivedi</td>
<td>Chair: Matthew J. Okasinski</td>
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<td>Co-Chairs: Jayce Mathews and Honglin Gu</td>
<td>Co-Chair: Vinod Rajkumar</td>
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<td>Session #52: Women in Fuels and Petrochemicals</td>
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<td>Chair: Lori McDowell</td>
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<td>Co-Chairs: Saadet Ulas Acikgoz and Cristina Thomas</td>
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<td>3:30 PM – 5:00 PM</td>
<td></td>
<td>Innovative Catalyst Solutions to Improve Refining Margins</td>
<td>Molecular Modelling of Co-Processing Biomass Pyrolysis Oil with Vacuum Gasoil in an Oil Refinery Fluid Catalytic Cracking Unit</td>
<td>Safer and Improved Process Design of LNG Plants Using Dynamic Simulation</td>
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<td>Hemendra Khakhar</td>
<td>Mohamed Al Jamri</td>
<td>Dimitrios Georgis</td>
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<td>Mass Balance and Loss Control, A Study in the Process to Identify and Quantify Losses at a Refinery and Best Practices for Managing These Losses</td>
<td>The Process Chemistry of Lipid Hydrodeoxygenation</td>
<td>Design and Operability Analysis of Multi-Tank Boil Off Gas Compressor System Using Dynamic Simulation</td>
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<td>Julie Valentine</td>
<td>Ramin Abhari</td>
<td>Subhash Patil</td>
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<td>Improve Refinery Profitability with Modus Technology</td>
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<td>Optimum Compressor Controls for Closed Loop Refrigeration</td>
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<td>R.E. (Ed) Palmer</td>
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<td>Matthew Okasinski</td>
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<td>Panelist: Sharon Beshouri, Shell Global Solutions (US) Inc.</td>
<td>Panel Discussion, Moderated by Lori McDowell, Matheson</td>
<td>Multi-Variable LNG Optimization Using Parallelized Simulator with Integrated Optimizer</td>
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<td>Panelist: Meagan Lewis, Honeywell UOP</td>
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<td>Trevor Rice</td>
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<td>Panelist: Meredith Lansdown, Chevron</td>
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<td>5:00 PM – 7:00 PM</td>
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<td>Sessions #54 – 59: AIChE Spring Meeting &amp; GCPS Poster Sessions and Networking Reception (Includes Electronic Presentations of Select Posters and Meet the Industry Candidates Poster Session)</td>
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<td>Grand Salon &amp; Grand Ballroom A/B</td>
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<td>Chair: Kirtan Trivedi</td>
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<tr>
<td>Time</td>
<td>Session 72: Plant Simulation and Design I</td>
<td>Session 73: Process Reliability and Data Analytics I</td>
<td>Session #63: Developments in Aromatics and C3-C5 Petrochemicals</td>
<td>Session #69: LNG Facility Design and Operations</td>
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| 8:00 AM – 9:30 AM | Applying Modeling/Simulation to Deliver Insight, Understanding, and Economic Value  
Stephen Tieri and Paul M. Braswell  
Tracking the Impact of Operating Condition Changes across Refinery Units  
Pedro Rojas  
An Integrated MINLP Model of Simultaneous Crude Procurement Planning and Movement Scheduling for Refineries  
Honglin Qu | Using Big Data Techniques to Tackle Refining Reliability and Optimization  
Johnny Gipson  
Transforming Abundant Data into Improved Process Reliability  
Tim Olsen  
Digital Plant: The Convergence of Process and Operational  
Tim Holtan | Controlling Deactivation of ZSM-5 Catalysts in the Methanol-to-Hydrocarbons Reaction By Co-Feeding Water  
Jose Valecillos  
Demonstrating Sandwich Packing Performance in Butadiene Extraction Units  
Gustavo A. Lozano  
Kinetic Modeling and Reaction Pathways of C2 to C7 Olefin Transformation over an H-ZSM-5 Catalyst  
Felix Warnecke | Novel Energy-Efficient Configurations of LNG Cascade Refrigeration Cycles Based on Structural Modifications  
Fernando Almeida-Trasvina  
A New, Powerful Technology: Integrated LNG to Power  
Scott Schroeder  
Maintaining Optimum Process Trains Operation Mode to Achieve Specified LNG Product Quality during Feed Gas Entrance  
Fajar Singgih Kurnia Putra  
Liquefaction Technology Selection for Mid-Scale LNG Plants  
Yoshitsugi Kikkawa |
| 9:30 AM | Coffee and Networking Break  
Grand Salon & Grand Ballroom A/B | **No programming at this time.** | | |
### Tuesday, April 2nd (continued)

<table>
<thead>
<tr>
<th>Time</th>
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</table>
| 10:15 AM – 11:45 AM | **Session #87: F&PD Executive Panel: Embracing the Challenge: Meeting the Global Demand for More and Cleaner Energy - Panel Discussion**  
Chair: Frank L. Del Nogal  
Panelists Include:  
Laurel Harmon, Vice President, LanzaTech  
Debalina Sengupta, Associate Director, Texas A&M’s Gas and Fuels Research Center  
Doris Fuji, Carbon Management Project Lead, BP America  
Cary Garcia, Demand Forecaster, California Energy Commission’s Energy Assessments Division |
Grand Ballroom C/D  
“Innovation and Emerging Technology Perspectives in Hydrogen and Fuel cells at the U.S. Department of Energy” |
| 1:30 PM – 3:00 PM |  
**Rate-Based Column Simulation in the Complex Domain**  
Jaeide B. Jawahill  
Modelling of an Industrial Trickle Bed Reactor for Mapd Selective Hydrogenation with CFD Assistance  
Emerentino B. Quadro  
Molecular Composition Modelling of Vacuum Gas Oils Via a Molecular Reconstruction Approach  
Luis Pereira de Oliveira  
Fault Isolation Using a Multiscale PCA Reconstruction-Based Approach  
Byanne Mallahi  
Fouling Early Detection in Ethylene Plant Steam Turbines  
Maddolea Pondini  
Cary Garcia Jr.  
Effects of Elevated CO₂ Concentrations on Yields of Agricultural Crops  
Bruce Kimball  
The Development of the Detal Process  
Miguel A. Calderon  
The Origin, Development and Commercialization of the UOP Oleflex™ Process, Bipin Vora’s Vision and Leadership in Making It Happen  
James A. Johnson  
The Research, Development and Commercialization of the Methanol-to-Olefins (MTO) Process  
John Senetar  
The Development and Commercialization of the Oleflex Process Unit  
Dennis O’Brien  
The Development of the Detal Process  
Miguel A. Calderon  
The Origin, Development and Commercialization of the UOP Oleflex™ Process, Bipin Vora’s Vision and Leadership in Making It Happen  
James A. Johnson  
The Research, Development and Commercialization of the Methanol-to-Olefins (MTO) Process  
John Senetar  
The Development and Commercialization of the Oleflex Process Unit  
Dennis O’Brien |
| 3:00 PM | **Coffee and Networking Break**  
Grand Salon & Grand Ballroom A/B |
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<td>3:45 PM –</td>
<td>Unique Applications for Embedded Model Predictive Control Technology</td>
<td>Impact of Time on Asphaltene Destabilization Detection in Unconventional Fuels</td>
<td>A Practical System for Enrichment of CO₂ in Ambient Air for Commercial Agriculture</td>
<td>Session #124: Advances in Gas Processing Design, Purification, and Separation</td>
<td>Rational Screening of Adsorbents for Natural Gas Upgrading By Pressure Swing</td>
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<tr>
<td>5:15 PM</td>
<td>James Beall IV</td>
<td>Claire Vlas Boas Favero</td>
<td>George Hendrey</td>
<td>Carbon Management and Sustainability II Royal</td>
<td>Adsorption Using Dynamic Simulation of Process Performance Metrics Toehun Kim</td>
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<td>Linear Control in a Nonlinear World (A Practical Perspective)</td>
<td>Heavy Oil Reforming</td>
<td>Profit from Flue Gas to Increase Crop Yields</td>
<td>Chair: Brian Kolodji</td>
<td>Shortcut Modeling of Natural Gas Supersonic Separation Wajdi Alnoush</td>
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<td>Keith A. Lehman</td>
<td>Girish Srinivas</td>
<td>Brian Kolodji</td>
<td>Co-Chair: Debalina Sengupta</td>
<td>Natural Gas Decomposition and Separation of Solid Carbon and Hydrogen Products in High Temperature Molten Salts Eric McFarland</td>
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<td>Shifting Real Time Optimization Tasks to Plant-Wide APC Layer By Introducing Unconstrained and Constrained Optimum Concepts</td>
<td>Producing Renewable Distillate Products in Refineries Edward McCoy, Suzy Anderson and Christopher Ploetz</td>
<td>California Department of Food and Agriculture Carbon Management Leadership Aniruth Gunasekara</td>
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<td><strong>Session #153: Process Control and Optimization Developments II</strong></td>
<td><strong>Session #156: YP Session - Soft Skills</strong></td>
<td><strong>Session #148: Energy Conservation I</strong></td>
<td><strong>Session #154: Syngas Processing and Technology Development I</strong></td>
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<td>*Canal</td>
<td>*Magazine</td>
<td>*Royal</td>
<td>*Commerce</td>
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<td>*Chair: Mark Darby</td>
<td>*Chair: Diane Hayes</td>
<td>*Chair: Francesco Coletti</td>
<td>*Chair: Hebab Quazi</td>
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<td>*Co-Chair: M. Nazmul Karim</td>
<td>*Co-Chair: Roomi Kalita</td>
<td>*Co-Chair: Andrew W. Sloley</td>
<td>*Co-Chairs: Eric Peterson and Belma Demirel</td>
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<td>*Magazine</td>
<td>*Soft Skills for Young Professionals</td>
<td>*Estimation of Fouling Threshold</td>
<td>*Minimizing CO$_2$ production during Syngas Catalysis Mediated By Nano-Sized</td>
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<td>*Chair: Diane Hayes</td>
<td>*Shweta Karwa</td>
<td>*Parameters for Crude Oil Heat Exchanger</td>
<td>Iron Supported on Silica Spheres</td>
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<td>*Co-Chair: Roomi Kalita</td>
<td>*The 8 Rules for Successful Controls</td>
<td>*Networks Using Data Reconciliation and Gross</td>
<td>*Comparison of Equilibrium Constant of the Reaction Water Gas Shift (WGS)</td>
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<td>*Vagner dos Santos</td>
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<td>*A New Look at Industrial Incidents Driving</td>
<td>*Application of Plate Heat Exchangers into</td>
<td>*Process Optimization of Dmr+Cosorb</td>
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<td>*Operating Discipline in the Control</td>
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<td>*Process for Syngas Production</td>
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<td>*Kexin Xu</td>
<td>*Shaik Afzal</td>
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<td>*Tom Nolan</td>
<td>*Utilizing Smart Meter Verification for</td>
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<td>*Greenhouse Gas Emissions Reporting</td>
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<td>*Meha Jha</td>
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<td>8:00 AM –</td>
<td><strong>Open Process Automation: Unlocking Value Capture with Next Generation DCS</strong></td>
<td><strong>Soft Skills for Young Professionals</strong></td>
<td><strong>Estimation of Fouling Threshold</strong></td>
<td>**Minimizing CO$_2$ production during Syngas Catalysis Mediated By Nano-Sized</td>
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<td>*The 8 Rules for Successful Controls Implementations</td>
<td>*The Trusted Advisor: A Model for Career</td>
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<td>*A New Look at Industrial Incidents Driving Operating Discipline in the Control</td>
<td>*Networking Strategies to Propel Your Career</td>
<td>*José Loyola-Fuentes</td>
<td>*Vagner dos Santos</td>
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<td>*Joseph Hernandez</td>
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<td>*Engineering Creative Thinking</td>
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<td><strong>Coffee and Networking Break</strong></td>
<td><strong>Estimation of Fouling Threshold</strong></td>
<td>**Utilizing Smart Meter Verification for</td>
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<td>*Parameters for Crude Oil Heat Exchanger</td>
<td>*Greenhouse Gas Emissions Reporting</td>
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### Wednesday, April 3rd (continued)

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</table>
| **Session #171:** Process Control and Optimization Developments III  
Canal  
Chair: Mark Darby  
Co-Chair: M. Nazmul Karim | **Session #173:** Projects and Resource Monetization  
Magazine  
Chair: Azita Ahmadzadeh  
Co-Chair: Roomi Kalita | **Session #166:** Energy Conservation II  
Royal  
Chair: Francesco Coletti  
Co-Chair: Andrew W. Sloley | *No programming at this time.* | **Session #175:** Syngas Processing and Technology Development II  
Commerce  
Chair: Hebab Quazi  
Co-Chairs: Eric Peterson and Belma Demirel |
| **10:15 AM – 11:45 AM**  
Use of Nonlinear and Machine Learning Techniques for Improved APC Modeling  
Junho Park  
Compressor Surge Modeling and Control  
Gregory McMillan  
A Model-Centric Framework for the Smart Manufacturing of Polymers  
Santiago D. Salas | Cost Estimating Benchmarks for Brownfield Automation Capital  
Projects. Determining What Your Project Really Costs  
Laurie Ben  
The Journey Towards 2030, Are We There Yet? An Impact of 2030 Vision and 2020 Transformation Program on Energy, Infrastructure and Other Projects in the Region  
Ahmed Khogeer  
Oil-to-Chemicals Pathways Renewed By Separations and Catalysis  
Armen Abazajian | Heat Exchanger Fouling and Cleaning Analysis for Complex Network  
Yanling Wu  
Performance Evaluation of Alternative Technologies for Fouling Mitigation in Refinery Pre-Heat Trains  
Francesco Coletti  
Crude Unit Fouling: Consequences and Costs  
Andrew W. Sloley | | Dry Reforming of Methane: An Alternative Option for Carbon Capture  
Mohamed Sufiyan Challiwala  
Fischer-Tropsch Synthesis: Product Distribution, Operating Conditions, Iron Catalyst Deactivation and Catalyst Speciation  
Joshua Gorimba  
Solar Thermochemical Splitting of H₂O/CO₂ Using Sol-Gel Derived Ferrite Materials  
Rahul Bhosale |
| **11:45 AM**  
AIChE Spring Meeting & GCPS Luncheon with Speaker: Gavin Towler, Vice President and Chief Technology Officer, Performance Materials Technologies, Honeywell  
Grand Ballroom C/D  
“Integrated Safety Management - Taking Safety Performance to the Next Level” | | | | |
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<td>1:30 PM – 5:00 PM</td>
<td><strong>Session #186: Process Control Monitoring and Analytics</strong>&lt;br&gt;Chair: Mark Darby&lt;br&gt;Co-Chair: Swapnil Fegade</td>
<td><em>No programming at this time.</em></td>
<td><strong>Session #184: Environmental and Water Solutions</strong>&lt;br&gt;Chair: Swapnil Fegade&lt;br&gt;Co-Chairs: Eberhard Lucke and Diane Hayes</td>
<td><em>No programming at this time.</em></td>
<td><strong>Session #185: LNG Storage and Transportation Management Commerce</strong>&lt;br&gt;Chair: Frank L. Del Nogal&lt;br&gt;Co-Chair: Steven Vallee</td>
</tr>
</tbody>
</table>

**1:30 PM – 5:00 PM**

Controlling Alarm Floods to Meet ISA 18.2 Metrics  
*Erin Daly*

Specifying Control Valve Performance to Achieve Desired Process Performance  
*James Beall IV*

Monitoring Process Degradation through Operating Regime Based Process Monitoring  
*M. Ziyan Sheriff and Mohamed Nounou*

“Data Scientist in a Box” for The Industrial Practitioner  
*Aswin N. Venkat*

Detection and Isolation of Abnormal Event in Nonlinear Industrial Processes By a Novel Data-Based Method  
*Chiranjivi Botre*

- Aligning Business Drivers to Create Win-Win Water Reuse Partnerships between Refineries and Municipalities  
  *Nick Johnson*
- Investigation of Hydrocarbon Utilization By Debaryomyces Hansenii (LAF-3 10 u) in Desalter Effluent  
  *Leila Azimian*
  *Gorakshnath Takalkar*
- Impact of Nutrients on Water Environment: Control Technologies and Policy  
  *Somnath Basu*
- Optimization of Alkaline Peroxide Pretreated Rice Husks Using Response Surface Methodology  
  *Zhiyuan Wang*

Jetty Bog Recovery  
*Yoshitsugi Kikkawa and David Hill*

Analysis of Process Dynamics During Transient Operations on LNG Vessel Gas Management System  
*David Hill*

A CFD Study of LNG Boil-Off Consider Both Heat Leakage and Vibration Effect  
*Xingchun Wang*

Optimal Operation for LNG Multiple Ship Tanks Commissioning and Uploading Via Rigorous Dynamic Simulations  
*Song Wang*

Operations Improvement in LNG Re-Gasification Terminal through Corrected Storage Tank Model  
*Mohd Shariq Khan*