This year’s meeting will feature special joint programming with the 235th National Meeting of the American Chemical Society, 10 Topical Conferences and Core Programming covering the industry’s hottest topics, including Distillation, Energy Processes, Natural Gas/Liquified Natural Gas, and more.

Highlights of the Meeting will include:
- 4th Global Congress on Process Safety
  - 23rd CCPS International Conference
  - 42nd Loss Prevention Symposium
  - 10th Process Plant Safety Symposium
- 20th Annual Ethylene Producers’ Conference
- IMRET-10 — 10th International Conference on Microreaction Technology

Plus:
- Keynote addresses by Richard Igercich, ExxonMobil Chalmette Refinery, and Takashi Kubota, Chiyoda Corporation of Japan
- A Special Joint Presidential Showcase featuring Dr. Raymond Orbach, Under Secretary for Science, DOE; Dr. Patricia M. Dehmer, Deputy Director for Science Programs, DOE Office of Science, and other invited DOE officials
- Nearly 90 joint sessions developed by AIChE and ACS
- Expanded exhibit hall and Career Fair
(1) Sunday, Apr 6, 8:00 AM
[COMP] COMPUTATIONAL PHASE EQUILIBRIA I
New Orleans Convention Center, Room 337
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Computational Molecular Science and Engineering Forum

(2) Sunday, Apr 6, 8:00 AM
[POLY] ENTREPRENEURSHIP IN POLYMERS FOR THE ENERGY AND THE ENVIRONMENT I
Hilton New Orleans Riverside, Section 18
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Materials Engineering and Sciences Division

(3) Sunday, Apr 6, 8:00 AM
[POLY] FUNCTIONAL NANOFACTORIES FROM NEW POLYMER SYNTHETIC METHODOLOGIES - RADICAL POLYMERIZATION: METHODS AND MATERIALS I
Hilton New Orleans Riverside, Section 3
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Materials Engineering and Sciences Division

(4) Sunday, Apr 6, 8:10 AM
[COMP] COMPUTATIONAL CATALYSIS - ZEOLITES AND HOMOGENEOUS
New Orleans Convention Center, Room 337
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Nanoscale Science and Engineering Forum

(5) Sunday, Apr 6, 8:30 AM
[IEC] ALTERNATIVE RESOURCES FOR THE CHEMICAL INDUSTRY I
New Orleans Convention Center, Room 223
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Research and New Technology Committee

(6) Sunday, Apr 6, 8:30 AM
[ENVR] ADVANCES IN ADSORPTION PROCESSES FOR DRINKING WATER TREATMENT AND SOURCERWATER PROTECTION I
New Orleans Convention Center, Room 236
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

(7) Sunday, Apr 6, 8:30 AM
[ENVR] NEW MEMBRANES AND RESINS FOR WASTEWATER TREATMENT I
New Orleans Convention Center, Room 237
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

(8) Sunday, Apr 6, 8:50 AM
[ENCF] ENGINEERING THE TRANSITION TO THE BIOECONOMY – INFORMATION RESOURCES
Marriott Convention Center, Blaine Kern D
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Sustainable Engineering Forum

(9) Sunday, Apr 6, 8:55 AM
[FUEL] COAL AND GAS TO LIQUIDS – COAL AND BIOMASS CONVERSION
New Orleans Convention Center, Room 239
Sponsored by: ACS Led Co-Sponsored Sessions

Co-Sponsored by: Gas, Topical 6: 8th Topical Conference on Natural Gas Utilization

(10) Sunday, Apr 6, 9:00 AM
[PHYS] STARS: SCIENCE & TECHNOLOGY AWARDS AND RECOGNITIONS – FOR PROFESSIONALS IN THE CHEMICAL SCIENCES I
Marriott Convention Center, New Levee
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Woman’s Initiative Committee

(11) Sunday, Apr 6, 1:20 PM
[PHYS] NANOSTRUCTURED MATERIALS – NANOCRYSTALS II
New Orleans Convention Center, Rooms 338-339
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Nanoscale Science and Engineering Forum

(12) Sunday, Apr 6, 1:30 PM
[ENVR] STARS: SCIENCE & TECHNOLOGY AWARDS AND RECOGNITIONS – FOR PROFESSIONALS IN THE CHEMICAL SCIENCES II
Marriott Convention Center, New Levee
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Woman’s Initiative Committee

(13) Sunday, Apr 6, 1:30 PM
[COMP] COMPUTATIONAL CATALYSIS – ZEOLITES AND HOMOGENEOUS
New Orleans Convention Center, Room 337
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Computational Molecular Science and Engineering Forum

(14) Sunday, Apr 6, 1:30 PM
[FUEL] COAL AND GAS TO LIQUIDS – KINETICS, DESIGN AND NUMERICAL MODELING OF FT CATALYSTS
New Orleans Convention Center, Room 239
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

(15) Sunday, Apr 6, 1:30 PM
[ENVR] ADVANCES IN ADSORPTION PROCESSES FOR DRINKING WATER TREATMENT AND SOURCERWATER PROTECTION II
New Orleans Convention Center, Room 236
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

(16) Sunday, Apr 6, 1:30 PM
[POLY] ENTREPRENEURSHIP IN POLYMERS FOR THE ENERGY AND THE ENVIRONMENT II
Hilton New Orleans Riverside, Section 18
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Materials Engineering and Sciences Division

(17) Sunday, Apr 6, 1:30 PM
[ENVR] NEW MEMBRANES AND RESINS FOR WASTEWATER TREATMENT II
New Orleans Convention Center, Room 237
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

(18) Sunday, Apr 6, 2:00 PM
[POLY] FUNCTIONAL NANOFACTORIES FROM NEW POLYMER SYNTHETIC METHODOLOGIES – RADICAL POLYMERIZATION: METHODS AND MATERIALS II
Hilton New Orleans Riverside, Section 3
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Materials Engineering and Sciences Division

(19) Monday, Apr 7, 8:00 AM
2008 GLOBAL CONGRESS OPENING AND KEYNOTE ADDRESS
New Orleans Convention Center, Hall E-2
Sponsored by: Topical 4: Center for Chemical Process Safety (CCPS) 23rd International Conference
Co-Sponsored by: Topical 1: 42nd Loss Prevention Symposium, Topical 3: 10th Process Plant Safety Symposium

(20) Monday, Apr 7, 8:00 AM
ADVANCES IN HYDROPROCESSING I
New Orleans Convention Center, Room 387
Sponsored by: Topical 7: 11th Topical on Refinery Processing

Mapping Hydroprocessing Reactor Operating Regimes
8:00 AM, Paper 20a

Hydroconversion of Fischer-Tropsch Waxes Over Platinum Loaded Catalyst: Assessment of Product Distribution
8:30 AM, Paper 20b

Exxonmobil MIDW™ Process – Technology and Commercial Experiences for Production of Low-Cloud Point ULSD
9:00 AM, Paper 20c

Ecofining Process Overview
9:30 AM, Paper 20d

Feed-Flexible Processing of Oil-Rich Crops to Jet Fuel
10:00 AM, Paper 20e

(21) Monday, Apr 7, 8:00 AM
ADVANCES IN SEPARATIONS PROCESSES
New Orleans Convention Center, Room 385
Sponsored by: Topical 7: 11th Topical on Refinery Processing

Novel Reverse-Selective Membrane for Refinery Applications
8:00 AM, Paper 21a

Benzene Reduction from Gasoline by Pervaporation Using Cabon-Exchanged Membrane Containing Metal Ions
8:30 AM, Paper 21b

The Synthesis of Separation Networks with Complex Column
9:00 AM, Paper 21c

Diesel Desulfurization to ULSD – Overcoming Nitrogen Inhibition
9:30 AM, Paper 21d

Deep Desulfurization of Fuels Using Ionic Liquid Based on FeOx
10:00 AM, Paper 21e

For Division Codes indicated in ACS led Co-Sponsored sessions, please refer to “Key to ACS Division Codes” on Page T40
Changing the face of chemistry. A world that includes the Human Element, along with hydrogen, oxygen and the other elements, is a very different world indeed. Suddenly, chemistry is put to work solving human problems. Bonds are formed between aspirations and commitments. And the energy released from reactions fuels a boundless spirit that will make the planet a safer, cleaner, more comfortable place for generations to come. Be part of a world that welcomes change. Visit the careers section on our website at www.dow.com/careers.
(22) Monday, Apr 7, 8:00 AM  
**CARBON SEQUESTRATION I**  
New Orleans Convention Center, Room 397

Sponsored by: Research and New Technology Committee  
Co-Sponsored by: Fuels and Petrochemicals Division

- Progress and New Developments in CO2 Capture and Storage  
  8:00 AM, Paper 22a
- Polymides and Their Derivatives for Gas Separation Applications  
  8:25 AM, Paper 22b
- Carbon Dioxide Selective Supported Ionic Liquid Membranes: The Effect of Contaminants  
  8:50 AM, Paper 22c
- Theoretical Predictions of Hydrogen Permeability in Pd-Based Membranes  
  9:15 AM, Paper 22d
- Post-Combustion Dry Phase CO2 Capture with a Charged Polymeric Membrane  
  9:40 AM, Paper 22e
- Capture of CO2 from Combustion Flue Gas Using the Carbozyme Liquid Membrane Permeator – Results of Pilot-Scale Testing  
  10:05 AM, Paper 22f
- Development of Poly(amidoamine) (PAMAM) Dendrimer Composite Membrane Module for CO2 Separation  
  10:30 AM, Paper 22g

(23) Monday, Apr 7, 8:00 AM  
**CHEMICAL PROCESSING OF NANOPARTICULATE MATERIALS I**  
New Orleans Convention Center, Room 297

Sponsored by: Nanoscale Science and Engineering Forum

- Semiconducting Polythiophene Nanotubes by Template Wetting Nanofabrication  
  8:00 AM, Paper 23a
- Growth Characteristics and Properties of Si and Si1-xGeX Nanowires  
  8:20 AM, Paper 23b
- Electrochemical Construction of Nanocrystalline Electrodes with Dendritic, Fibrous, and Wire Morphologies  
  8:40 AM, Paper 23c
- Self-Assembly and Patterning of Transferrable Ultra-Thin Films of Monolayer Nanoparticles  
  9:00 AM, Paper 23d
- Mechanical Force-Induced Nucleation and Growth of Peptide Nanofibers at Liquid/Solid Interfaces  
  9:20 AM, Paper 23e
- Self-Assembly of Virus-Templated High Surface Area Ni and Co Nano-Structures  
  9:50 AM, Paper 23f
- Controlled Nanostructure and Catalyst Approaches of Metal Oxide Semiconductors for Gas Sensing  
  10:10 AM, Paper 23g

(24) Monday, Apr 7, 8:00 AM  
**[COMP] COMPUTATIONAL PHASE EQUILIBRIA II**  
New Orleans Convention Center, Room 337

Sponsored by: ACS Led Co-Sponsored Sessions  
Co-Sponsored by: Computational Molecular Science and Engineering Forum

- New Synthetic Route to Produce TiO2-PMMA Nanocomposites for Orthopedic Applications  
  10:30 AM, Paper 23h
- Photocatalytic Decomposition of Trichloroethylene in Air by Nanostructured TiO2 Films  
  10:50 AM, Paper 23i

(25) Monday, Apr 7, 8:00 AM  
**CURRENT CHALLENGES IN PROCESS DEVELOPMENT AND DEPLOYMENT**  
New Orleans Convention Center, Room 390

Sponsored by: Pilot Plants  
Co-Sponsored by: Technology Transfer

- Rude Awakenings in Pilot Plant Operation  
  8:05 AM, Paper 25a
- Consequences of Pilot Plant Design Decisions  
  8:30 AM, Paper 25b
- Scale-Down Considerations for Pilot Plants and Bench-Scale Units  
  8:55 AM, Paper 25c
- Planning an Ethylene-Based Complex in the Middle East  
  9:20 AM, Paper 25d
- Trends in Investment in Ethylene-Based Technology in the Middle East  
  9:45 AM, Paper 25e
- Studying Water Quality by Corrosion & Scaling Index with Changing the Method of Microorganisms Control  
  10:10 AM, Paper 25f

(26) Monday, Apr 7, 8:00 AM  
**FEDERAL ROLE IN RENEWABLE LIQUID FUELS: STRATEGY AND PERSPECTIVE**  
New Orleans Convention Center, Room 288

Sponsored by: Topical B: Energy Processes

- Current and Upcoming Federal Policies Related to Biofuels and What Will Be the Impact  
  8:00 AM, Paper 26a
- Next Generation Hydrocarbon Biorefineries  
  8:30 AM, Paper 26b
- Challenges to a Successful Biofuels Industry and Department of Energy Efforts to Overcome Them  
  9:00 AM, Paper 26c
- Biomass to Biofuels, Strategies and Advances in Basic Science to Overcome Major Research Barriers  
  9:30 AM, Paper 26d

(27) Monday, Apr 7, 8:00 AM  
**GREEN CHEMISTRY & ENGINEERING - NANOTECHNOLOGY**  
New Orleans Convention Center, Room 350

Sponsored by: AIChE Led Co-Sponsored Sessions  
Co-Sponsored by: Environmental Division

- Nanotechnology and Its Applications to Antimicrobials: Scientific and Regulatory Issues and Concerns  
  8:05 AM, Paper 27a
- Synthesis and Characterization of Fe Doped TiO2 Nanomaterials in scCO2 I  
  8:30 AM, Paper 27b
- Proton - SO3- Interactions in Nafion Polymer Electrolyte Membrane Fuel Cells Gleaned from Ab Initio Molecular Dynamics Simulations of Mono-, Di-, and Tetra-Hydrate Trifluoromethanesulfonic Acids  
  8:55 AM, Paper 27c
- A One-Pot Route toward Light Selective Quantum Dot Polymer Nanofilms in scCO2  
  9:20 AM, Paper 27d
- Fabricating Colloidal Crystals with Different Structures and Nanostructures Derived from Them  
  10:00 AM, Paper 27e
- Novel Biopolymer/Rectorite Nanocomposite with Antimicrobial Activity  
  10:25 AM, Paper 27f

(28) Monday, Apr 7, 8:00 AM  
**HEAVY OIL CHEMISTRY I**  
New Orleans Convention Center, Room 386

Sponsored by: AIChE Led Co-Sponsored Sessions  
Co-Sponsored by: Fuels and Petrochemicals Division

- Depicting and Separating “Pro-Linking” Compounds to Enhance Upgrading Performance and Heavy Oils Processin  
  8:00 AM, Paper 28a
- Heavy Oil Tutorial: Polynuclear Aromatics, the Barrier to Conversion  
  8:30 AM, Paper 28b
- Ionization Reagents for Enhanced Speciation of Petroleum Compound Classes by Electrospray Ionization FT-ICR Mass Spectrometry (ESI FT-ICR MS)  
  9:00 AM, Paper 28c
- Understanding Asphaltene Conversion in Fixed Bed Conditions  
  9:30 AM, Paper 28d
- Updating Heavy Oil and Upgrading Vacuum Simulation and Design Considerations  
  10:00 AM, Paper 28e

(29) Monday, Apr 7, 8:00 AM  
**INDUSTRIAL APPLICATIONS OF MICROWAVE AND RADIO FREQUENCY PROCESSING I**  
New Orleans Convention Center, Room 290

Sponsored by: AIChE Led Co-Sponsored Sessions

- Technology and Emerging Applications Using Low Temperature Plasmas  
  8:00 AM, Paper 29a
- Elseware © (Electromagnetic Laboratory Simulation Environment Software): Development of a New Software Package to Simulate Electromagnetic Processes  
  8:40 AM, Paper 29b

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Microwave Drying of Heat Sensitive and Difficult to Dry Materials
9:20 AM, Paper 29c

Radio Frequency Applications in Industrial Processes
10:00 AM, Paper 29d

Conventional and Emerging MW/RF Processing Methods for Polymers, Plastics and Composites
10:40 AM, Paper 29e

Microwave Assist Technology for Chemical Processing
11:20 AM, Paper 29f

(30) Monday, Apr 7, 8:00 AM
LIQUEFIED NATURAL GAS (LNG) - TECHNOLOGY
New Orleans Convention Center, Room 389

Sponsored by: Natural Gas Utilization
Co-Sponsored by: Fuels and Petrochemicals Division, Topical 6: 8th Topical Conference on Natural Gas Utilization

Concept Validation for a Very Large LNG Train
8:00 AM, Paper 30a

Comparison Study on Small-Scale LNG Plants in China
8:20 AM, Paper 30b

Cost Effective and Practical NGL Stripping Processes
8:40 AM, Paper 30c

An Innovative Control Scheme of a C3/MR LNG Plant
9:00 AM, Paper 30d

Meeting Growing Energy Demand with Liquefied Natural Gas (LNG) in a Carbon-Constrained World
9:20 AM, Paper 30e

Comparison of Present Day Peakshaving Liquefaction Technologies
9:40 AM, Paper 30f

Floating LNG Liquefaction Facilities Using the Optimized Cascade Process
10:00 AM, Paper 30g

(31) Monday, Apr 7, 8:00 AM
MANAGING ETHYLENE PLANT ABNORMAL OPERATIONS
PAPER SESSION
New Orleans Convention Center, Rooms 395-396

Sponsored by: Topical 2: The 20th Ethylene Producers’ Conference

Operating Experience and Enhanced Acetylene Reactor Performance
10:10 AM, Paper 31e

Corrosion Under Insulation
10:35 AM, Paper 31f

Steam System Process Upset Review & Validation of Response
11:00 AM, Paper 31g

(32) Monday, Apr 7, 8:00 AM
MASSIVE ELECTRICITY STORAGE: FIXING RENEWABLE POWER’S ACHILLES’ HEEL
New Orleans Convention Center, Room 289

Sponsored by: Research and New Technology Committee

Session Introduction
8:00 AM, Paper 32a

Power System Instability
8:10 AM, Paper 32b

R&D for Massive Storage Technologies for Solar Power
8:30 AM, Paper 32c

Vanadium Flow Batteries for Wind Generators
8:50 AM, Paper 32d

Sodium-Sulfur Batteries for Peak Shaving or Wind Generation
9:10 AM, Paper 32e

Massive Electricity Storage Panel Discussion
9:30 AM, Paper 32f

Question and Answer Session with Audience
10:00 AM, Paper 32g

(33) Monday, Apr 7, 8:00 AM
REACTION ENGINEERING AND CATALYSIS OF FUELS
New Orleans Convention Center, Room 349

Sponsored by: Catalysis and Reaction Engineering Division

Kinetic Modeling of N-Dodecane Dehydrogenation on Pt/Al2O3 Catalyst Based on LHHW Mechanism
8:00 AM, Paper 33a

Deep Oxidative Desulfurization of Fuels Catalyzed by Peroxosphosphomolybdate Compounds in Ionic Liquids
8:25 AM, Paper 33b

Direct Dimethylether Synthesis Using Reverse Shift Assisted Reforming
8:50 AM, Paper 33c

Ultra-Deep Desulfurization of Fuels Catalyzed by Molybdc Compound in Ionic Liquids
9:15 AM, Paper 33d

Hydrogen Conversion by Reformation of Jet Fuel in a Supercritical Water Medium – Effects of the Water-to-Fuel Feed Ratio on the Conversion
9:40 AM, Paper 33e

Understanding Sulfur Poisoning in Steam Reforming of n-Hexadecane: Catalyst Characterization Studies
10:05 AM, Paper 33f

(34) Monday, Apr 7, 8:00 AM
ROTATING EQUIPMENT PAPER SESSION
New Orleans Convention Center, Rooms 393-394

Sponsored by: Topical 2: The 20th Ethylene Producers’ Conference

Compressor Surge
8:30 AM, Paper 34a

Use of Dynamic Simulation in the Design of Ethylene Plants
8:35 AM, Paper 34b

Steam Turbine Internal Blade or Diaphragm Corrosion and Fatigue Failure
9:00 AM, Paper 34c

Noise Control in Ethylene Plants
9:50 AM, Paper 34d

Consider Piping Dynamics with Compressor Revamps
10:15 AM, Paper 34e

Olefins Plant Compressors Reliability Performance Survey
10:40 AM, Paper 34f

(35) Monday, Apr 7, 8:00 AM
SEPARATIONS: MEMBRANES
New Orleans Convention Center, Room 384

Sponsored by: Membrane-Based Separations

Eddy Diffusivity Spiegler-Kedem (EDSK) Model for Reverse Osmosis Membrane
8:00 AM, Paper 35a

Preparation of Zr(IV)-Loaded Membranes for Adsorptive Removal of As(V) from Aqueous Solutions
8:30 AM, Paper 35b

Stability and Selectivity of Supported Liquid Membranes with Ionic Liquid for Separation of Organic Liquids by Vapor Permeation
9:00 AM, Paper 35c

Membrane Contactor/Ionic Liquid for Biofuel Recovery
9:30 AM, Paper 35d

CO2 Removal from CO2/H2 Mixtures Using Immobilized Liquid Membranes Containing Amine Blends as Carrier
10:00 AM, Paper 35e

Low-Temperature Plasma Modification of Polyvinylidene Fluoride (PVDF) Membrane by Graft of Styrene in Gas
10:30 AM, Paper 35f

(36) Monday, Apr 7, 8:00 AM
THERMODYNAMICS IN CHEMICAL ENGINEERING: PROSPECTS AND PERSPECTIVES - FUNDAMENTALS OF SIMULATION AND THEORY
New Orleans Convention Center, Room 351

Sponsored by: AIChE Led Co-Sponsored Sessions
Co-Sponsored by: Thermodynamics and Transport Properties

Simulation Methods for the Thermodynamics and Kinetics of Complex Systems
8:00 AM, Paper 36a
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- Exposure to software platforms such as Hysys, Pro II, Aspen, Smart-Plant also a plus

**RESPONSIBILITIES:**
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- Develops System Design Parameters
- Develops process simulation models and process optimization for various parts or units of the total plant
- Calculates Heat & Material Balances
- Designs Process Flow Diagrams (PFD’s)
- Designs Piping & Instrumentation Diagrams (P&ID’s)
- Specifies equipment and instrumentation
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Molecular Simulation of Advanced Materials 8:35 AM, Paper 36b

Advances in Molecular Modeling of Bulk and Interfacial Phase Behavior and Microstructure in Copolymers and Associating Fluids 9:10 AM, Paper 36c

New Picture of First-Order Phase Transitions in Metastable Fluids: Homogeneous Nucleation and Growth 9:45 AM, Paper 36d

Mainstreaming Molecular Simulation in Chemical Engineering Education and Application 10:20 AM, Paper 36e

(37) Monday, Apr 7, 8:20 AM [PHYS] Nanostructured Materials – Nanocrystals III New Orleans Convention Center, Rooms 338-339

Sponsored by: ACS Led Co-Sponsored Sessions Co-Sponsored by: Nanoscale Science and Engineering Forum

(38) Monday, Apr 7, 8:25 AM [FUEL] Coal and Gas to Liquids – Novel FT Catalyst Development and Characterization New Orleans Convention Center, Room 239

Sponsored by: ACS Led Co-Sponsored Sessions Co-Sponsored by: Topical 6: 8th Topical Conference on Natural Gas Utilization

(40) Monday, Apr 7, 9:25 AM [CINF] Engineering the Transition to the Bioeconomy – Policy and Economics Marriott Convention Center, Blaine Kern D

Sponsored by: ACS Led Co-Sponsored Sessions Co-Sponsored by: Sustainable Engineering Forum

(41) Monday, Apr 7, 9:30 AM [ENVR] Advances in Adsorption Processes for Drinking Water Treatment and Sourcewater Protection III New Orleans Convention Center, Room 236

Sponsored by: ACS Led Co-Sponsored Sessions Co-Sponsored by: Environmental Division

(42) Monday, Apr 7, 9:30 AM [POLY] Functional Nanomaterials from New Polymer Synthetic Methodologies – Particular and Heterogeneous Systems Hilton New Orleans Riverside, Section 7110

Sponsored by: ACS Led Co-Sponsored Sessions Co-Sponsored by: Materials Engineering and Sciences Division

(43) Monday, Apr 7, 9:30 AM [ENVR] Membrane Technology for Water Treatment and Reuse – Hybrid Processes and Process Development

New Orleans Convention Center, Room 237

Sponsored by: ACS Led Co-Sponsored Sessions Co-Sponsored by: Environmental Division

(44) Monday, Apr 7, 9:00 AM [CHAL] Patenting and Technology Transfer in University-Industry Collaboration: Chal’s 25th Anniversary Series I New Orleans Convention Center, Room 243

Sponsored by: ACS Led Co-Sponsored Sessions Co-Sponsored by: Management Division

(45) Monday, Apr 7, 9:00 AM Catalyzed and Enzymatic Processes – Part 1: Heterogeneous Catalytic Processes New Orleans Convention Center, Room 392

Sponsored by: Topical 5: IMRET-10: 10th International Conference on Microreaction Technology

Model-Based Design of Hierarchically Structured Porous Catalysts 9:00 AM, Paper 45a

Fabrication and Reaction Properties of Mesoporous Silica Thin Films Inside Microreactors 9:25 AM, Paper 45b

Zeolitic Coatings Onto Fecralloy Microchannels: Washingout vs. In Situ Growing 9:50 AM, Paper 45c

“Sandwich Microreactor” for Heterogeneous Catalytic Processes: N2O Decomposition as a Case Study 10:15 AM, Paper 45d

Catalyzed Hydrogenation by Coated Catalysts in Microstructured Reactors 10:40 AM, Paper 45e

Development and Optimization of a Microstructured Reactor for the Partial Oxidization of Propane to Propene 11:05 AM, Paper 45f

Styrene Production Via a Highly Selective Partial Oxidation Route Enabled by Novel Catalyst Substrates in Microchannel Reactors 11:30 AM, Paper 45g

(46) Monday, Apr 7, 8:45 AM Fine Chemicals and Pharmaceuticals Synthesis and Production – Part 1 New Orleans Convention Center, Room 391

Sponsored by: Topical 5: IMRET-10: 10th International Conference on Microreaction Technology

IMRET-10 Conference Opening Remarks 8:45 AM

Microreactor Technology in the Fine Chemical and Pharmaceutical Industry: Is the Revolution Underway? 9:00 AM, Paper 46a

Investigation into the Preparation of Synthetically Useful ? - Aminonitriles Under Continuous Flow 9:25 AM, Paper 46b

Process Development for Fluorination of a Steroid with DAST and Deoxofluor 9:50 AM, Paper 46c


Poly-L-Leucine Catalysed Chalcone Epoxidation in a Microstructured PEEK Reactor 10:40 AM, Paper 46e

Multiple Purpose Micro Reaction Plants for Development and Production 11:05 AM, Paper 46f

Production of Hydrogen Peroxide Via the Direct Combination of H2 and O2 in a Pilot Microreactor 11:30 AM, Paper 46g

(47) Monday, Apr 7, 10:15 AM Applications of Safety Culture New Orleans Convention Center, Room 352

Sponsored by: Topical 3: 10th Process Plant Safety Symposium

Lessons from Safety Culture Evaluations at Process Facilities 10:15 AM, Paper 47a

Spot the Hazard! A Cultural Extension of Hazard Identification Training 10:45 AM, Paper 47b

Establishing a Personal Philosophy for Promoting Safety, Health and Environmental Excellence 11:15 AM, Paper 47c

(48) Monday, Apr 7, 10:15 AM Fire, Explosion and Reactive Hazards, Part I New Orleans Convention Center, Rooms 356-357

Sponsored by: Topical 1: 42nd Loss Prevention Symposium Co-Sponsored by: Loss Prevention & Process Safety

Estimating Flame Speeds for Use with the BST Blast Curves 10:15 AM, Paper 48a

On the Possibility of DDT in Vapor Cloud Explosions 10:45 AM, Paper 48b

Hydrocarbon Hazard and ASU Safety 11:15 AM, Paper 48c

(49) Monday, Apr 7, 10:15 AM Risk Learnings New Orleans Convention Center, Rooms 353-355

Sponsored by: Topical 4: Center for Chemical Process Safety (COPS) 23rd International Conference

Three Years on from Texas City 10:15 AM, Paper 49a

Lessons Learned While Developing and Implementing Company Process Safety Metrics 10:45 AM, Paper 49b
Structural Capital a Unique Management Tool for Achieving Higher Level in Quality and Safety  
11:15 AM, Paper 49c

(50) Monday, Apr 7, 11:15 AM  
**FUELS & PETROCHEMICALS DIVISION KEYNOTE**  
**PRESENTATION**  
New Orleans Convention Center, Hall E-2  
**Sponsored by:** Fuels and Petrochemicals Division  
*Fuels & Petrochemicals Division Keynote Presentation* 
11:15 AM, Paper 50a

(51) Monday, Apr 7, 1:00 PM  
**[FUEL] HYBRID NANOFACTORIES FOR AN ENHANCED CO₂ FIXATION - CO₂ SEPARATION TECHNOLOGIES**  
New Orleans Convention Center, Room 239  
**Sponsored by:** ACS Led Co-Sponsored Sessions  
Co-Sponsored by: Fuels and Petrochemicals Division  
*Hybrid Nanofactories for an Enhanced CO₂ Fixation - CO₂ Separation Technologies* 
1:00 PM, Paper 51c

(52) Monday, Apr 7, 1:20 PM  
**[PHYS] NANOSTRUCTURED MATERIALS - INTERFACE**  
New Orleans Convention Center, Rooms 338-339  
**Sponsored by:** ACS Led Co-Sponsored Sessions  
Co-Sponsored by: Nanoscale Science and Engineering Forum  
*Nanostructured Materials - Interface* 
1:20 PM, Paper 52c

(53) Monday, Apr 7, 2:00 PM  
**[PHYS] MULTISCALE MODELING IN BIOPHYSICS - PROTEIN FLEXIBILITY AND DYNAMICS AT MULTIPLE RESOLUTIONS II**  
New Orleans Convention Center, Rooms 340-341  
**Sponsored by:** ACS Led Co-Sponsored Sessions  
Co-Sponsored by: Thermodynamics and Transport Properties  
*Multiscale Modeling in Biophysics: Protein Flexibility and Dynamics at Multiple Resolutions II* 
2:00 PM, Paper 53b

(54) Monday, Apr 7, 2:30 PM  
**ETHYLENE PRODUCERS' CONFERENCE KEYNOTE**  
**PRESENTATION**  
New Orleans Convention Center, Rooms 393-394  
**Sponsored by:** Topical 2: The 20th Ethylene Producers’ Conference  
*Ethylene 2028 - Feedstock Scenarios* 
2:30 PM, Paper 54b

(55) Monday, Apr 7, 3:00 PM  
**HUMAN FACTORS**  
New Orleans Convention Center, Rooms 353-355  
**Sponsored by:** Topical 4: Center for Chemical Process Safety (CCPS) 22nd International Conference  
*Human Factors Programs within Contra Costa County* 
3:00 PM, Paper 55b

(56) Monday, Apr 7, 3:30 PM  
**[BMGT] ACS AWARD IN INDUSTRIAL CHEMISTRY: SYMPOSIUM IN HONOR OF T.J. WALLINGTON**  
4:00 PM, Paper 56b

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**GREENHOUSE GASES SEQUESTRATION: TECHNOLOGY AND ECONOMICS I**  
Marriott Convention Center, Julia  
**Sponsored by:** ACS Led Co-Sponsored Sessions  
Co-Sponsored by: Environmental Division  
*Greenhouse Gases Sequestration: Technology and Economics I* 
4:00 PM, Paper 57c

(57) Monday, Apr 7, 1:30 PM  
**[CHAL] PATENTING AND TECHNOLOGY TRANSFER IN UNIVERSITY-INDUSTRY COLLABORATION: CHAL'S 25TH ANNIVERSARY SERIES II**  
New Orleans Convention Center, Room 243  
**Sponsored by:** ACS Led Co-Sponsored Sessions  
Co-Sponsored by: Management Division  
*Patenting and Technology Transfer in University-Industry Collaboration: CHAL’s 25th Anniversary Series II* 
1:30 PM, Paper 57a

(58) Monday, Apr 7, 1:30 PM  
**[COMP] COMPUTATIONAL CATALYSIS - NANO**  
New Orleans Convention Center, Room 337  
**Sponsored by:** ACS Led Co-Sponsored Sessions  
Co-Sponsored by: Computational Molecular Science and Engineering Forum  
*Computational Catalysis - Nano* 
1:30 PM, Paper 58a

(59) Monday, Apr 7, 1:30 PM  
**AIChE/ACS PRESIDENTIAL EVENT - ENERGY**  
**RESEARCH: FUTURE CHALLENGES AND OPPORTUNITIES**  
New Orleans Convention Center, La Louisiana, Ballroom C  
**Sponsored by:** Liaison Functions  
*Introduction and Overview of the Basic Energy Science (BES) Program* 
1:30 PM, Paper 59a

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**FIRE, EXPLOSION AND REACTIVE HAZARDS, PART II**  
New Orleans Convention Center, Rooms 356-357  
**Sponsored by:** Topical 1: 42nd Loss Prevention and Explosion and Reactive Hazards Symposium  
*Evaluating Kinetic Parameters for Solid Substances Exhibiting Complex Self-Heating Behavior* 
1:30 PM, Paper 60a

(60) Monday, Apr 7, 1:30 PM  
**FUELS & PETROCHEMICALS DIVISION KEYNOTE**  
**PRESENTATION**  
New Orleans Convention Center, Hall E-2  
**Sponsored by:** Fuels and Petrochemicals Division  
*Fuels & Petrochemicals Division Keynote Presentation* 
11:15 AM, Paper 60a

(61) Monday, Apr 7, 1:30 PM  
**PLANT PROCESS SAFETY MANAGEMENT SYSTEMS**  
New Orleans Convention Center, Room 352  
**Sponsored by:** Topical 3: 10th Process Plant Safety Symposium  
*Retool Your PSM Program for Efficiency and to Meet Multiple Management System Requirements* 
1:30 PM, Paper 61a

(62) Monday, Apr 7, 1:30 PM  
**[ENVR] MEMBRANE TECHNOLOGY FOR WATER TREATMENT AND REUSE – BIOLOGICAL AND INORGANIC FOULING OF MEMBRANES**  
New Orleans Convention Center, Room 237  
**Sponsored by:** ACS Led Co-Sponsored Sessions  
Co-Sponsored by: Environmental Division  
*Membrane Technology for Water Treatment and Reuse – Biological and Inorganic Fouling of Membranes* 
1:30 PM, Paper 62a

(63) Monday, Apr 7, 1:30 PM  
**[FUEL] CLEAN ENERGY, FUELS AND CHEMICALS FROM BIOMASS – BIOFUELS**  
New Orleans Convention Center, Room 238  
**Sponsored by:** ACS Led Co-Sponsored Sessions  
Co-Sponsored by: Fuels and Petrochemicals Division  
*Clean Energy, Fuels and Chemicals from Biomass – Biofuels* 
1:30 PM, Paper 63a

(64) Monday, Apr 7, 2:00 PM  
**FINE CHEMICALS AND PHARMACEUTICALS SYNTHESIS AND PRODUCTION – PART 2**  
New Orleans Convention Center, Room 388  
**Sponsored by:** Topical 5: IMRET-10: 10th International Conference on Microreaction Technology  
*Development and Evaluation of Microreactor Experiments and Implementation into University Teaching* 
2:00 PM, Paper 64a

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Synthesis of Photoluminescent Diarylethenes Using a Microflow System
3:15 PM, Paper 64d

Generation and Reactions of Ortho Bromophenyllithium without Benzene Formation Using Microflow System
3:40 PM, Paper 64e

Development and Experimental Characterization of a Pilot-Scale Falling Film Microreactor and Outlook on Production Scale
4:05 PM, Paper 64f

Synthetic Study of Biofunctional Molecules by Using Microfluidic System
4:30 PM, Paper 64g

(65) Monday, Apr 7, 2:00 PM
MIXING, MASS TRANSFER AND HEAT EXCHANGE -PART 1
New Orleans Convention Center, Room 389

Sponsored by: Topical 5: IMRET-10: 10th International Conference on Microreaction Technology

Microchannel Based Integrated Desorber-Rectifier-Recoverer
2:00 PM, Paper 65a

Gas-Liquid Taylor Flow Characteristics in Straight and Meandering Rectangular Microchannels
2:25 PM, Paper 65b

Microreactor for Synthesis Via Intermediates with Assembled Units Enabling Rapid Mixing and Heat Transfer and Short Residence Time
2:50 PM, Paper 65c

Fouling and Long Term Stability in Micro Heat Exchangers
3:15 PM, Paper 65d

Continuous Synthesis of Environmentally Friendly Lubricants in Scalable Reactors
3:40 PM, Paper 65e

Development of a Cross Flow Micro Heat Exchanger: Design and Analysis
4:05 PM, Paper 65f

Experimental Investigation of the Laminar/Turbulent Transition of Liquid Flows in Rectangular Micro Channels Using µIV
4:30 PM, Paper 65g

(66) Monday, Apr 7, 2:00 PM
ADVANCES IN CATALYSIS AND BIOCATALYSIS IN REFINING
New Orleans Convention Center, Room 350

Sponsored by: AICHE Led Co-Sponsored Sessions
Co-Sponsored by: Fuels and Petrochemicals Division, Topical 7: 11th Topical on Refinery Processing

1-Butene Alkylation Reactions on PtSOxZr/TiZrOy Catalyst
2:00 PM, Paper 66a

Isomerization of Hexane on Pt-Au Nanoparticles Supported on Zeolite
2:30 PM, Paper 66b

Surface Chemistry of Carbon on Ni and Ni-Alloys: Promotion of the Long-Term Stability of Reforming Ni Catalysts by Surface Alloying
3:00 PM, Paper 66c

Biocatalytic Systems for Aromatic Oxidations
3:30 PM, Paper 66d

Simulation Process of Biodiesel Production Over Heterogeneous Catalysts
4:00 PM, Paper 66e

Whole-Cell Biocatalysis in Biphasic Media for Oxidation of Naphthalene
4:30 PM, Paper 66f

(67) Monday, Apr 7, 2:00 PM
ADVANCES IN HYDROPROCESSING II
New Orleans Convention Center, Room 387

Sponsored by: Topical 7: 11th Topical on Refinery Processing

High Quality Base Oil Production Via the Hylube Process
2:00 PM, Paper 67a

Unraveling the Detailed Characterization of Hydroprocessing Feeds and Products
2:25 PM, Paper 67b

Unlocking High Value Products from Light Cycle Oil
2:50 PM, Paper 67c

Chemical Tracers Find Elusive Leak in Hydrotreater Feed/Effluent Exchangers
3:15 PM, Paper 67d

(68) Monday, Apr 7, 2:00 PM
CARBON SEQUESTRATION II
New Orleans Convention Center, Room 397

Sponsored by: Research and New Technology Committee
Co-Sponsored by: Fuels and Petrochemicals Division

The Role of Power Generation Technology in Mitigating Global Climate Change
2:00 PM, Paper 68a

Vacuum Swing Adsorption Cycles for Carbon Dioxide Capture from Flue and Stack Gases
2:25 PM, Paper 68b

Metal Organic Frameworks for Carbon Dioxide Capture
2:50 PM, Paper 68c

Economic CO2 Capture with Solid Sorbents
3:15 PM, Paper 68d

A Generic Analysis of Energy Use and Solvent Selection for CO2 Separation from Post-Combustion Flue Gases
3:40 PM, Paper 68e

Evaluation of Ionic Liquids as Novel Post-Combustion Carbon Dioxide Capture Solvents
4:05 PM, Paper 68f

Performance Evaluation of Aqueous Ammonia Process for CO2 Capture
4:30 PM, Paper 68g

(69) Monday, Apr 7, 2:00 PM
CATALYSIS AND REACTION ENGINEERING OF FINE CHEMICALS
New Orleans Convention Center, Room 349

Sponsored by: Catalysis and Reaction Engineering Division

Formation of Glycerol Derivatives by Catalytic Condensation and Acetalization
2:00 PM, Paper 69a

“Pot-in-Pot” Reactions: Polymer Macro-Fabrication for Site-Isolation of Catalysts and Reagents for Cascade Reactions
2:20 PM, Paper 69b

Hydroformylation of Higher Olefins with Immobilized Catalysts
2:40 PM, Paper 69c

Exceptionally Active Single-Site Mesoporous Pt/Al2O3 Catalysts for Allylic Alcohol Selective Aerobic Oxidation
3:00 PM, Paper 69d

Utilisation of Heterogeneous Catalysts for the Selective Synthesis of Di- and Triglycerol
3:20 PM, Paper 69e

Aerobic Epoxidation of Alkenes with Manganese (III) Salen Complexes Immobilised onto Aminopropyl-HMS
3:40 PM, Paper 69f

Enzymatic Synthesis of Small Chiral Alcohols in One-Phase and Two-Phase Systems
4:00 PM, Paper 69g

(70) Monday, Apr 7, 2:00 PM
CHEMICAL PROCESSING OF NANOPARTICULATE MATERIALS II
New Orleans Convention Center, Room 297

Sponsored by: Nanoscale Science and Engineering Forum

Photopolymerization of Reactive Lyotropic Liquid Crystals
2:00 PM, Paper 70a

Monodisperse Ag-Au Alloy Nanoparticles with Independently Tunable Composition, Size, Internal Structure and Surface Chemistry, and Their 3-D Superlattices
2:20 PM, Paper 70b

Manipulating Silver Nano-Structure Using Supercritical Carbon Dioxide
2:40 PM, Paper 70c

Size Fractionation of Nanoparticles by Magnetophoresis Using Structured Wire Arrays
3:00 PM, Paper 70d

Feedback-Regulated Paclitaxel Delivery Based on Poly(N,N-dimethylaminoethyl methacrylate-co-2-hydroxyethyl methacrylate) Nanoparticles
3:20 PM, Paper 70e

Multivariate Population Balance Models for Nanoparticle Stabilization by Copolymer Assembly
4:00 PM, Paper 70f

Morphology and Properties of Neat SWNT Fibers from Chlorosulfonic Dope
4:20 PM, Paper 70g

Fabrication and Application of Highly Dispensable Single Wall Carbon Nanotubes-Polymer Composite
4:40 PM, Paper 70h
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Mechanically Robust Antibacterial Thin Films Composed of Single-Walled Carbon Nanotubes and Biopolymers
5:00 PM, Paper 70i

(71) Monday, Apr 7, 2:00 PM
HYDROTHERMAL PROCESSING FOR WASTEWATER TREATMENT
New Orleans Convention Center, Room 289

Sponsored by: Environmental Division

Treatment and Color Removal of Wastewaters Using Wet Air Oxidation
2:00 PM, Paper 71a

The Disposal of Neutralized Chemical Warfare Materials Using a Commercial Wet Oxidation System: A Case Study
2:25 PM, Paper 71b

Wet Oxidation as Applied to Powdered Activated Carbon Recovery in Wastewater Treatment
2:50 PM, Paper 71c

Comparison of Treatment Efficiencies of Various Advanced Oxidation Processes for Dye Removal from Wastewater
3:15 PM, Paper 71d

A Novel Static Mixer to Ensure a Minimum Processing Time for Thermophilic Sludge Digestion
3:40 PM, Paper 71e

(72) Monday, Apr 7, 2:00 PM
LIQUEFIED NATURAL GAS (LNG) - REGASIFICATION
New Orleans Convention Center, Room 385

Sponsored by: Natural Gas Utilization
Co-Sponsored by: Fuels and Petrochemicals Division, Topical 6: [POLY] Functional Nanomaterials from New Synthetic Methods and Materials

An Old Technology and a New Application in Processing Rich LNG to Meet Pipeline Gas Specification at LNG Receiving Terminals
2:00 PM, Paper 72a

Optimized Vaporization Process with Unfavorable Design Conditions
2:20 PM, Paper 72b

Considerations for Ambient Air-Based Technologies for LNG Regasification Terminals
2:40 PM, Paper 72c

LNG Pump Applications with Variable Speed Motor Controls at LNG Regasification Terminals
3:00 PM, Paper 72d

SIMAR Applications in Gas Processing: Supercritical Feed Stream
3:20 PM, Paper 72e

Utilization of Atmospheric Heat Exchangers in LNG Vaporization Processes: A Comparison of Systems and Methods
3:40 PM, Paper 72f

(73) Monday, Apr 7, 2:00 PM
PLANT TROUBLESHOOTING AND PROBLEM SOLVING: THE CHEMIST AND ENGINEER WORKING TOGETHER
New Orleans Convention Center, Room 390

Sponsored by: Manufacturing

Introductory Remarks
2:00 PM

Plant Troubleshooting: Engineers as Detectives
2:05 PM, Paper 73a

Tar Wars in a Complex Chemical Plant: A Fundamentals Approach to Problem Solving
2:30 PM, Paper 73b

Herding Cats: Forming and Leading a Plant Troubleshooting Team
2:55 PM, Paper 73c

Collaboration Leads to Successful Introduction of New Products
3:20 PM, Paper 73d

Tolling Success: Your Chemists and Our Engineers Working Together
3:45 PM, Paper 73e

Lean Six Sigma Approach in Chemical Process Troubleshooting
4:10 PM, Paper 73f

(74) Monday, Apr 7, 2:00 PM
PROJECT MANAGEMENT
New Orleans Convention Center, Room 290

Sponsored by: Management Division

Synergy in Mergers of Petrochemical Companies within a Complex Considering Purchasing and Selling Advantage with Process Integration
2:00 PM, Paper 74a

Permitting for Fun & Profit
2:30 PM, Paper 74b

Project Portfolio Capital at Risk and the Enterprise Project Delivery System
3:00 PM, Paper 74c

Managing Uncertainties in Project Management of Hydrocarbon Projects
3:30 PM, Paper 74d

Analyzing Mobile Service Provider’s Strategy in Providing Mobile Digital Content and Services in Next Generation Networks
4:00 PM, Paper 74e

(75) Monday, Apr 7, 2:00 PM
SEPARATIONS: EFFECTIVELY DESIGNING HEAT EXCHANGERS
New Orleans Convention Center, Room 384

Sponsored by: Separations Division
Condenser Design Workshop
2:00 PM, Paper 75a

(76) Monday, Apr 7, 2:00 PM
THERMODYNAMICS IN CHEMICAL ENGINEERING: PROSPECTS AND PERSPECTIVES - NANOSCALE AND BIOLOGICAL SYSTEMS
New Orleans Convention Center, Room 351

Sponsored by: AIChE Led Co-Sponsored Sessions
Co-Sponsored by: Thermodynamics and Transport Properties

Runniness and Randomness of Confined Fluids
2:00 PM, Paper 76a

Investigating the Phase Behavior of Fluids in the Vicinity of a Surface
2:35 PM, Paper 76b

Hydrophobic and Hydrophilic Hydration and Interactions Relevant to Biological Systems
3:10 PM, Paper 76c

Disentangling the Stability and Function of Natively Unfolded Proteins
3:45 PM, Paper 76d

Adsorption of Microorganisms on Single-Walled Carbon Nanotubes and Other Porous Media
4:20 PM, Paper 76e

(77) Monday, Apr 7, 2:00 PM
TUTORIAL ON MIXING APPLIED TO CHEMICAL REACTORS
New Orleans Convention Center, Room 386

Sponsored by: North American Mixing Forum

Mechanical Design of Mixing Equipment Applied to Chemical Reaction
2:00 PM, Paper 77a

Design and Scale-Up of Mixed Chemical Reactors
2:25 PM, Paper 77b

Practical Considerations in the Applications of Mixing in Chemical Reaction Systems
2:50 PM, Paper 77c

(78) Monday, Apr 7, 2:00 PM
POLY] FUNCTIONAL NANOMATERIALS FROM NEW SYNTHETIC METHODS AND MATERIALS
Hilton New Orleans Riverside, Section 7/10

Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Materials Engineering and Sciences Division

(79) Monday, Apr 7, 3:00 PM
MANAGING ETHYLENE PLANT ABNORMAL OPERATIONS ROUNDTABLE DISCUSSION
New Orleans Convention Center, Rooms 395-396

Sponsored by: Topical 2: The 20th Ethylene Producers’ Conference

20 Year Reflection of EPC Operations
3:00 PM, Paper 79a

Abnormal Events - Operations Roundtable
3:20 PM, Paper 79b

Operations Roundtable Small Group Discussion
4:10 PM, Paper 79c

Operations Roundtable Events Discussion & Summary
4:40 PM, Paper 79d

(80) Monday, Apr 7, 3:00 PM
ROTATING EQUIPMENT TUTORIAL SESSION, “COMPRESSOR AND STEAM TURBINE BASICS”
New Orleans Convention Center, Rooms 393-394

Sponsored by: Topical 2: The 20th Ethylene Producers’ Conference

For Division Codes indicated in ACS led Co-Sponsored sessions, please refer to “Key to ACS Division Codes” on Page T40
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(81) Monday, Apr 7, 3:00 PM
[FUEL] Hybrid Nanotechnologies for an Enhanced CO₂ Fixation - CO₂ Conversion into Products of the Chemical and Energy Industry: Homogeneous Catalysis
New Orleans Convention Center, Room 239

Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Fuels and Petrochemicals Division

(82) Monday, Apr 7, 3:30 PM
LEARNING & CULTURE
New Orleans Convention Center, Rooms 353-355

Sponsored by: Topical 4: Center for Chemical Process Safety (CCPS) 23rd International Conference

Learning from the Past
3:30 PM, Paper 82a

Implementing Process Safety - Kuwait Petroleum Corp
4:00 PM, Paper 82b

Minimizing the Use and Hazard of Solvents During Process Design
4:30 PM, Paper 82c

(83) Monday, Apr 7, 5:30 PM
MICRO PROCESS ENGINEERING POSTER SESSION
New Orleans Convention Center, Rooms 391-392

Sponsored by: Topical 5: IMRET-10: 10th International Conference on Microreaction Technology

Computational Fluid Dynamics Study of Heat Transfer in a Microchannel Reactor for Fischer-Tropsch Synthesis
Paper 83a

Mass Transfer during Taylor Flow in Microchannels with and without Chemical Reaction
Paper 83b

Precipitation of Barium Sulphate in a Hollow Fibers Membrane Device – Numerical Simulation and Experimental Validation
Paper 83c

Simulation of Plasma Processing in a Microplasma
Paper 83d

Numerical Study of Droplet Formation Patterns in Flow Focusing Microfluidics
Paper 83e

Micro Reactor Application for the Beckmann Rearrangement to Epsilon-Caprolactam
Paper 83f

Development of An Active Rotary Reactor and Application to Emulsion Production
Paper 83g

Segmented Gas-Liquid-Liquid Flow and Use for Catalytic Reactions
Paper 83h

Investigation of Condition for Bubble Detachment from Microchannels
Paper 83i

Controlled Hydrogen Peroxide Decomposition for a Solid Oxide Fuel Cell (SOFC) Oxidant Source with Microreactors
Paper 83j

An Experimental Study on Nitrification of Naphthalene Using Dynamically Rotating Axis Microreactor
Paper 83k

Visualisation of Flow in Microchannel Array Water Evaporators by High-Speed Videography
Paper 83l

Effect of Surfactants on the Formation of Au/Ag Core/Shell Nanoparticles in Micro Segmented Flow Synthesis
Paper 83m

Selective Hydrogenation of Phenylacetylene to Styrene on a Pd/TiO₂ Coating in a Microreactor
Paper 83n

Micro Particle Image Velocimetry (μ-PIV) in Porous Media Using Refractive Index Matching
Paper 83o

Visualization of Packed Bed Behaviour Using 3D Confocal Microscopy and Microfluidics
Paper 83p

Micro Structured Reactors for Heterogeneously Catalyzed Gas Phase Reactions – A Concept Study
Paper 83q

Synthesis of Carbon Nanofibers on Silicon Substrates Using Sol-Gel Prepared Porous Alumina Layer
Paper 83r

μ₂ - Microwave Assisted Microreactor Processing: Synthesis of Ionic Liquids
Paper 83s

Nitration of Toluene in a Microreactor Using Mixed Acid
Paper 83t

High Temperature Reactions in Microstructured Reactors – Synthesis of Biphenyl by Pyrolysis of Benzene
Paper 83u

Reforming of J.P.-8 in Microplasmas for Compact SOFC Power: Year 1
Paper 83v

Optimizing the Deprotection of the Amine Protecting p-Methoxyphenyl (PMP) Group in an Automated Microreactor Platform
Paper 83w

A Continuous Flow Microwave-Assisted Microreactor System
Paper 83x

Sequential Integration of Br-Li Exchange Reactions Using Microflow Systems
Paper 83y

Controllable Synthesis of Peptide Polymers in Microfluidic Reactor
Paper 83z

On-Chip Parallelization of Microreactors: Up-Scaling Synthesis Microreactor Technology
Paper 83aa

Fluid Flow in Deep Microchannel Reactor (FMR) for Pilot Scale Production
Paper 83ab

Scale-Out Concepts in Chemical Micro Process Engineering Exemplified on Production Oriented Case Studies
Paper 83ac

An Effective Tool to Measure Reaction Heat with Micro-Pore Dispersion Reactor
Paper 83ad

A Thick Film Printed Electrochemical Biosensor and Its Application for Testing the Ketone 3-β-Hydroxybutyrate for Potential Diabetic Patient Management
Paper 83ae

Investigation of Different Mixers in a Micro Reactor
Paper 83af

Modular Microreaction System
Paper 83ag

Universal Micro-Reactors Made of Glass for Applications to Study the Reaction Kinetics
Paper 83ah

Anionic Polymerization in Microreactor
Paper 83ai

Microplasma Reactors with Integrated Carbon Nanofibers and Tungsten Oxide Nanowires Electrodes
Paper 83aj

(84) Tuesday, Apr 8, 8:00 AM
KEY PERFORMANCE INDICATORS, PART 1
New Orleans Convention Center, Rooms 353-355

Sponsored by: Topical 4: Center for Chemical Process Safety (CCPS) 23rd International Conference

Process Safety Management Indicators for Risk and Process Accidents Reduction
8:00 AM, Paper 84a

Consequence Based Metric for the Assessment of Inherent Safety
8:30 AM, Paper 84b

The Evolution and Current State of Psm Metrics within DuPont
9:00 AM, Paper 84c

(85) Tuesday, Apr 8, 8:00 AM
LABORATORY AND PILOT PLANT SAFETY
New Orleans Convention Center, Rooms 356-357

Sponsored by: Topical 1: 42nd Loss Prevention Symposium
Co-Sponsored by: Loss Prevention & Process Safety

The AIChE Chem-E-Car Safety Program
8:00 AM, Paper 85a

Enhancing the Undergraduate Chemical Engineering Lab with an Industrial Process Safety Approach
8:30 AM, Paper 85b

Safety Scale-Up Processes and Accommodate Recipe Changes
9:00 AM, Paper 85c

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Recent Developments and Technology Improvements in API Risk-Based Inspection Planning Technology
8:30 AM, Paper 88b

The Family Tree of Protective Requirements Specifications
9:00 AM, Paper 89b

Risk Analysis for Operation of Aluminum Heat Exchangers Contaminated by Mercury
10:15 AM, Paper 88d

Analysis of Pressure Relief Valve Proof Test Data: Findings and Implications
10:45 AM, Paper 88e

Fire Protection for Extremely Corrosive Industrial Duct Environments
11:15 AM, Paper 89f

(89) Tuesday, Apr 8, 8:00 AM
[COMP] COMPUTATIONAL PHASE EQUILIBRIA III
New Orleans Convention Center, Room 337

Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Computational Molecular Science and Engineering Forum

(90) Tuesday, Apr 8, 8:00 AM
[POLY] FUNCTIONAL NANOMATERIALS FROM NEW POLYMER SYNTHETIC METHODOLOGIES – CATALYZED POLYMERIZATIONS
Hilton New Orleans Riverside, Section 7/10

Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Materials Engineering and Sciences Division

(91) Tuesday, Apr 8, 8:00 AM
CARBON SEQUESTRATION III
New Orleans Convention Center, Room 397

Sponsored by: Research and New Technology Committee

8:00 AM, Paper 91a

Flame Stability and Emissions with Oxy-Coal Combustion
8:25 AM, Paper 91b

Oxygen Sorbents for Oxy-Fuel Combustion and IGCC Power Plants
8:50 AM, Paper 91c

Chemical Looping Combustion of Coal Derived Synthesis Gas Over Copper-Based Oxygen Carrier
9:15 AM, Paper 91d

Analyses of Hot/Warm CO2 Capture for IGCC Processes
9:40 AM, Paper 91e

Novel Integration of Gas Separation Membranes for CO2 Capture from IGCC Power Plants
10:05 AM, Paper 91f

Technical and Economic Assessment of an Advanced Solid Oxide Fuel Cell-Based Power System
10:30 AM, Paper 91g

Decarbonisation in Energy Production
10:55 AM, Paper 91h

(92) Tuesday, Apr 8, 8:30 AM
CONTROL AND OPTIMIZATION IN REFINING I
New Orleans Convention Center, Room 387

Sponsored by: Topical 7: 11th Topical on Refinery Processing

Framework for Operability Assessment of Production Facilities: An Application to a Primary Unit of a Crude Oil Refinery
8:30 AM, Paper 92a

Fidelity, Dynamics, Integrity – The Real Needs for Automation System Testing and Training
9:00 AM, Paper 92b

A Modified Extended Recursive Least-Squares Method for Identification of FIR Type Models from Closed-Loop Data
9:30 AM, Paper 92c

Experimental Test Design for MIMO Identification Subject to Integral Controllability
10:00 AM, Paper 92d

The LP as Utility Systems Design & Optimization Tool
10:30 AM, Paper 92e

(93) Tuesday, Apr 8, 8:30 AM
DISTILLATION HONORS
New Orleans Convention Center, Room 384

Sponsored by: Topical 8: Distillation Topical

What I Learned from Dr. Seibert
8:30 AM, Paper 93a

A New Model for Predicting Gas / Liquid Effective Surface Area in Packing
9:05 AM, Paper 93b

Smart Distillation Prevents Problems Before They Occur
9:40 AM, Paper 93c

Successful Industrial / Academia Collaboration
10:15 AM, Paper 93d

Standardization of Structured Packing Efficiency Measurements
10:50 AM, Paper 93e

(94) Tuesday, Apr 8, 8:30 AM
ENVIRONMENTAL REGULATORY HOT TOPICS
New Orleans Convention Center, Room 297

Sponsored by: Legislation and Regulation

New Source Review and Recent Judicial Developments
8:30 AM, Paper 94a

Clean Water Act Section 404: Jurisdictional Determinations and Nationwide Permits
9:10 AM, Paper 94b

Assessment of Vapor Intrusion into Structures on Property Involved in Real Estate Transactions: The New ASTM Standard Practice
9:50 AM, Paper 94c

Katrina: Regulatory Lessons Learned
10:30 AM, Paper 94d

For Division Codes indicated in ACS led Co-Sponsored sessions, please refer to “Key to ACS Division Codes” on Page T40
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(106) Tuesday, Apr 8, 8:30 AM
DEVELOPING ENVIRONMENTAL FORESIGHT THROUGH COMPUTATIONAL CHEMISTRY AND MODELING
New Orleans Convention Center, Room 349
Sponsored by: AIChE Led Co-Sponsored Sessions
Co-Sponsored by: Catalysis and Reaction Engineering Division

Prescreening for Environmentally-Important Properties through Computational Chemistry
8:30 AM, Paper 106a

Prediction of Global Warming Potentials through Computational Chemistry: Testing Robustness of Methodology through Experimental Comparisons
8:55 AM, Paper 106b

Predicting Ozone Formation in the Troposphere Using Mechanistic Modeling
9:20 AM, Paper 106c

Mathematical Modeling of Leaching of Heavy Metals from Biofilm Coated Cement Based Waste Forms
9:45 AM, Paper 106d

Phosphorus Fractions and Phosphate Sorption Characteristics of Sediments from the Three-Gorges Reservoir (China) in Relation to the Environmental Conditions
10:10 AM, Paper 106e

New Mathematical Method for Prediction of Pollutant in River Simulated by Gas Chromatography Measurement
10:35 AM, Paper 106f

(107) Tuesday, Apr 8, 8:30 AM
GREEN CHEMISTRY & ENGINEERING - ALTERNATIVE SOLVENTS AND BIOAPPLICATIONS
New Orleans Convention Center, Room 350

Sponsored by: AIChE Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

Green Chemistry Considerations in the Design of Ionic Liquids
8:35 AM, Paper 107a

Guanidine/Alcohol and Amidine/Alcohol Switchable Solvent Mixtures
9:00 AM, Paper 107b

Screening Ionic Liquids for Green Chemistry
9:25 AM, Paper 107c

Development and Characterization of Renewable Copolymers, Poly(glycerol-fumarate) and Poly(trimethylene-malate) from By-Products of Biorefineries
10:05 AM, Paper 107d

Environmentally-Friendly Glycerol Disposal Using Bacterial-Mediated Fermentation
10:30 AM, Paper 107e

Silica Surface Modifications for Bioapplications
10:55 AM, Paper 107f

Green Catalytic Hydrogenolysis of Glycerol to Propylene Glycol Over a Promising Silica Supported Copper Catalyst
11:20 AM, Paper 107g

(108) Tuesday, Apr 8, 8:30 AM
HEAVY OIL CHEMISTRY II
New Orleans Convention Center, Room 386
Sponsored by: AIChE Led Co-Sponsored Sessions
Co-Sponsored by: Fuels and Petrochemicals Division

Characterization of Heavy Oil Polar Components by Solubility Separations
8:30 AM, Paper 108a

Subfractionation of Asphaltene from Brazilian Vacuum Residues
9:00 AM, Paper 108b

Adsorption Studies of Heavy Molecules on Solids Sorbents
9:30 AM, Paper 108c

Correlation of Distillation and Nebulization Temperature of Bitumen by Use of Atmospheric Pressure Photoionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry
10:00 AM, Paper 108d

Hydrotreating and Catalytic Cracking of Bitumen-Derived Vacuum and Heavy Coker Gas Oils
10:30 AM, Paper 108e

Estimation of Microcarbon Residue for Heavy Oils and Fractions
11:00 AM, Paper 108f

(109) Tuesday, Apr 8, 8:30 AM
INDUSTRIAL APPLICATIONS OF MICROWAVE AND RADIO FREQUENCY PROCESSING II
New Orleans Convention Center, Room 290
Sponsored by: AIChE Led Co-Sponsored Sessions

Industrial Microwave Systems: Important Tools for Increased Productivity
8:30 AM, Paper 109a

Optimizing Performance and Minimizing Cost in Microwave Heating Systems
9:10 AM, Paper 109b

Application of Microwave Energy for Processing of a Variety of Materials: An Overview
9:50 AM, Paper 109c

Dielectric Property Measurement Over a Wide Range of Temperatures
10:30 AM, Paper 109d

Microwave Processing of Metals
11:10 AM, Paper 109e

(110) Tuesday, Apr 8, 8:30 AM
LIQUEFIED NATURAL GAS (LNG) - EQUIPMENT I
New Orleans Convention Center, Room 389
Sponsored by: AIChE Led Co-Sponsored Sessions

Natural Gas Utilization
Co-Sponsored by: Fuels and Petrochemicals Division, Topical 6: 6th Topical Conference on Natural Gas Utilization

Proposed Application of a Sterling-Cycle Energy Recovery System for LNG Boil-Off Ground Flare
8:30 AM, Paper 110a

Development of a Novel Full-String Test Facility for Two-Phase LNG Expanders
8:50 AM, Paper 110b

Recent Developments in the Prediction and Optimization of the Mixing of Different Qualities of LNG in a Storage Tank
9:10 AM, Paper 110c

Thermodynamics of Liquid-Vapor Two-Phase Draft Tubes for Liquefied Gas Expanders
9:30 AM, Paper 110d

Design Considerations for Propane Condenser Approach Temperature in an Air Cooled LNG Plant
9:50 AM, Paper 110e

A Study on the Improvement of Radiographic Test Method on 9% Ni Steel Welds for LNG Storage Tanks
10:10 AM, Paper 110f

Detection and Measurement of Fugitive Methane Gas Emission Using Infrared Imaging Camera
10:30 AM, Paper 110g

(111) Tuesday, Apr 8, 8:30 AM
THERMO DyNA MICS IN CHEMICAL ENGINEERING: PROSPECTS AND PERSPECTIVES - ENERGY AND THE ENVIRONMENT
New Orleans Convention Center, Room 351
Sponsored by: AIChE Led Co-Sponsored Sessions
Co-Sponsored by: Thermodynamics and Transport Properties

Development and Application of Advanced Molecular Simulation Methods for Computing the Properties of Ionic Liquids
8:30 AM, Paper 111a

Perspectives and Challenges in Adsorption Science and Nanoporous Materials
9:05 AM, Paper 111b
Using Thermodynamic Properties from First-Principles Calculations to Accelerate the Search for Metal Hydride-Based Hydrogen Storage Materials
9:40 AM, Paper 111c

Using Molecular Modeling to Understand Enzymatic Cellulose Hydrolysis
10:15 AM, Paper 111d

Nonequilibrium Dynamics and the Electrostatic Charging of Granular Systems
10:50 AM, Paper 111e

(112) Tuesday, Apr 8, 8:30 AM
[ENVR] ADVANCES IN DRINKING WATER DISINFECTION AND DISINFECTION BYPRODUCT MANAGEMENT I
New Orleans Convention Center, Room 236
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

(113) Tuesday, Apr 8, 8:30 AM
[ENVR] MEMBRANE TECHNOLOGY FOR WATER TREATMENT AND REUSE – ADVANCES IN MEMBRANE MATERIALS AND MEMBRANE SCIENCE
New Orleans Convention Center, Room 237
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

(114) Tuesday, Apr 8, 9:00 AM
[COMSCI] PARTNERING FOR INNOVATION AND COMPETITIVENESS: OPPORTUNITIES FOR THE CHEMICAL ENTERPRISE IN ENERGY AND ENVIRONMENT I
New Orleans Convention Center, Room 210

(115) Tuesday, Apr 8, 9:00 AM
[CHAS] LABORATORY SAFETY INCIDENTS AND NEAR MISSES: CASE STUDIES AND LESSONS LEARNED I
New Orleans Convention Center, Room 336
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Management Division

(116) Tuesday, Apr 8, 10:15 AM
HAZARDS OF ALTERNATIVE FUELS TECHNOLOGIES
New Orleans Convention Center, Rooms 356-357
Sponsored by: Topical 1: 42nd Loss Prevention Symposium
Co-Sponsored by: Loss Prevention & Process Safety

(117) Tuesday, Apr 8, 1:30 PM
KEY PERFORMANCE INDICATORS, PART II
New Orleans Convention Center, Rooms 353-355
Sponsored by: Topical 4: Center for Chemical Process Safety (CCPS) 23rd International Conference

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Co-Sponsored by: Management Division

The Use of the Pareto Shape Parameter as a Leading Indicator of Process Safety Performance
10:15 AM, Paper 117a

Applied Risk-Based Process Safety: A Consolidated Risk Register and Focus on Risk Communications
10:45 AM, Paper 117b

Hydrogen Pipeline Compressor Incident Changes Standard Procedures
11:15 AM, Paper 117c

(Note: The remaining sessions are not transcribed due to the page limit.)
“Yellow Lining” for Re-Commissioning and Start-up
4:00 PM, Paper 122e

Process Safety: “Walk through Review”
4:30 PM, Paper 122f

(123) Tuesday, Apr 8, 1:30 PM
[ENVR] ADVANCES IN ADBRATIC TRANSFORMATION
PROCESSES FOR MICROPOLLUTANTS IN DRINKING WATER
AND FOR SOURCERATER PROTECTION I
New Orleans Convention Center, Room 237
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

(125) Tuesday, Apr 8, 1:30 PM
[FUEL] HYBRID NANOTECHNOLOGIES FOR AN ENHANCED
CO2 FIXATION - CO2 CONVERSION INTO PRODUCTS OF
THE CHEMICAL AND ENERGY INDUSTRY: HETEROGENEOUS
CATALYSIS
New Orleans Convention Center, Rooms 240-241
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Fuels and Petrochemicals Division

(126) Tuesday, Apr 8, 1:45 PM
[FUEL] CLEAN ENERGY, FUELS AND CHEMICALS FROM
Biomass - Biomass Pyrolysis for the Production
of Fuels and Chemicals
New Orleans Convention Center, Room 239
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Fuels and Petrochemicals Division

(127) Tuesday, Apr 8, 2:00 PM
[SCHB] BEST STEPS FOR THE CHEMICAL
ENTREPRENEUR I
Hilton New Orleans Riverside, Compass
Sponsored by: ACS Led Co-Sponsored Session
Co-Sponsored by: Management Division

(128) Tuesday, Apr 8, 2:00 PM
CHARACTERIZATION AND SIMULATION – PART 2
New Orleans Convention Center, Room 388
Sponsored by: Topical 5: IMRET-10: 10th International
Conference on Micronanotechnology

Manipulating Homogeneous Chemistry in Catalytic
Microreactors: Operation Strategies and Design
Principles
2:00 PM, Paper 128a

In-Situ Cast Micro Reactor Catalyst Supports for
Methanol Reforming
2:25 PM, Paper 128b

Ignition Strategies for Catalytic Microdevices
2:50 PM, Paper 128c

Fluid Distribution and Blockage Diagnosis in Parallel
Micronchannel Configurations
3:15 PM, Paper 128d

Process Simulation of a Pilot Case: Production of
Perfume-Containing Microcapsules
3:40 PM, Paper 128e

(129) Tuesday, Apr 8, 2:00 PM
MIXING, MASS TRANSFER AND HEAT EXCHANGE –
PART 2
New Orleans Convention Center, Room 392
Sponsored by: Topical 5: IMRET-10: 10th International
Conference on Micronanotechnology

Pressure Drop in the Micro T-Junctions
2:00 PM, Paper 129a

Mixing Performance of T-Shaped and Zigzag-Shaped
Microreactors
2:25 PM, Paper 129b

Characterization of High Heat and Mass Transfer in
T-Shaped Microreactors and Its Optimal Design
2:50 PM, Paper 129c

Multiphase Mixing with Disrupted Flow for Enhanced
Interfacial Area
3:15 PM, Paper 129d

On the Scalability of Microstructured Multilamination
Mixing Devices
3:40 PM, Paper 129e

A Multi-Objective Analysis and Optimization
Methodology for the Design of Passive Micromixers
for Different Mixing Requirements
4:05 PM, Paper 129f

(130) Tuesday, Apr 8, 2:00 PM
POLYREACTIONS / FINE CHEMICALS AND
PHARMACEUTICALS SYNTHESIS AND PRODUCTION –
PART 3
New Orleans Convention Center, Room 391
Sponsored by: Topical 5: IMRET-10: 10th International
Conference on Micronanotechnology

Screening and Optimization in a Microreactor
Platform
2:00 PM, Paper 130a

Well-Defined Hyperbranched and Linear Polymers by
Anionic Polymerization in Continuous Flow
2:25 PM, Paper 130b

Improvement of Molecular Weight Distribution in
Synthesis of Liquid Polymers for Reactive Resins by
Micro Flow-through Polymerization
2:50 PM, Paper 130c

Synthesis of Ultrahigh Molecular Weight Polymer in
a Catalytic Nanotube Polymerization Reactor
3:15 PM, Paper 130d

Filled Interpenetrating Polymer Nanonetworks Based
on Polyurethane ionomer
3:40 PM, Paper 130e

SIPROCESS - A Micro Process System for Process
Development and Production
4:05 PM, Paper 130f

Modular Micro Process Technology - New Devices
and Applications
4:30 PM, Paper 130g

Compact Heat Exchange Reactor
4:55 PM, Paper 130h

For Division Codes indicated in ACS led Co-Sponsored sessions, please refer to “Key to ACS Division Codes” on Page T40
Tuesday, Apr 8, 2:00 PM
CONTROL AND OPTIMIZATION IN REFINING II
New Orleans Convention Center, Room 387
Sponsored by: Topical 7: 11th Topical on Refinery Processing
Back to the Basics - Process Control Diagnostics Improves Refinery Performance
2:00 PM, Paper 131a
Modern Loop Tuning Tutorial
3:00 PM, Paper 131b
Troubleshooting of Oscillatory Control Loops
4:00 PM, Paper 131c
PID Controller Design for Constrained Optimal Control of Inventory Loop
4:30 PM, Paper 131d

Tuesday, Apr 8, 2:00 PM
ETHYLENE PLANT SAFETY ROUNDTABLE DISCUSSION
New Orleans Convention Center, Rooms 393-394
Sponsored by: Topical 2: The 20th Ethylene Producers’ Conference
Introductory Remarks
2:00 PM
Damaging Mechanisms in Ethylene Plant
2:05 PM, Paper 132a
Break
3:05 PM
Plant Ageing
3:25 PM, Paper 132b
Damage Mechanisms and Risk in An Ethylene Plant
3:55 PM, Paper 132c
Panel Discussion
4:25 PM
Concluding Remarks
4:55 PM

Tuesday, Apr 8, 2:00 PM
FUNDAMENTALS AND TECHNOLOGY OF ETHYLENE PRODUCTION — PAPER SESSION
New Orleans Convention Center, Rooms 395-396
Sponsored by: Topical 2: The 20th Ethylene Producers’ Conference
Welcoming and Introductory Remarks
2:00 PM
Taking Optimal Advantage of Feedstock Flexibility with COILSIM1D
2:15 PM, Paper 133a
Emisshield: Application to Pyrolysis Furnaces
2:40 PM, Paper 133b
Catalyzed-Assisted Manufacture of Olefins (CAMOL): Realizing Novel Operational Benefits from Furnace Coil Surfaces
3:05 PM, Paper 133c
Break
3:30 PM
Front End CDhydro® Raw Gas Hydrogenation Achieved
3:45 PM, Paper 133d
Increasing the Propylene Yield: Converting the Butene in Mixed Butane Butene Streams (raff-2) into Propylene and Linear Internal Olefins
4:10 PM, Paper 133e
Integrating CPT with Existing OCT Units
4:35 PM, Paper 133f
Concluding Remarks
5:00 PM

Tuesday, Apr 8, 2:00 PM
GLOBAL CLIMATE CHANGE: LEGISLATION, REGULATION AND POLICY
New Orleans Convention Center, Room 297
Sponsored by: AIChE Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division
Preparing for Greenhouse Gas Regulations
2:00 PM, Paper 134a
Carbon Trading: Enhancing Business Value through Carbon Reductions
2:20 PM, Paper 134b
Monetizing Greenhouse Gas Emission Reductions: Opportunities in Carbon Trading
2:40 PM, Paper 134c
The Countdown to Greenhouse Gas Management
3:00 PM, Paper 134d

Panel Discussion
4:40 PM

(135) Tuesday, Apr 8, 2:00 PM
GREEN CHEMISTRY & ENGINEERING - CHEMISTRY AND INDUSTRIAL ECOLOGY
New Orleans Convention Center, Room 350
Sponsored by: AIChE Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

Introductory Remarks
2:00 PM

Aqueous Reaction and Processing in Suzuki-Miyaura Couplings Using Immobilized Palladium Catalysts in a Phosphate-Free System
2:05 PM, Paper 135a

Direct Epoxidation of Propene Over Gold Catalysts: Kinetics of Epoxidation and Water Formation
2:30 PM, Paper 135b

Water (Resource) Conservation Using Closed-Loop, Evaporative Cooling Systems for Process, Power, and Refining Applications
2:35 PM, Paper 135c

New Type of Organic-Clay Intercalative Materials for Gene Delivery System
3:20 PM, Paper 135d

Break
3:45 PM

High Quality Base Oil Production Via the Hylube Process
4:00 PM, Paper 135e

Efficient Degradation of Organic Pollutants Promoted by Hydrogen Peroxide Electrogenerated IN Situ
4:25 PM, Paper 135f

Removal of SO2 and NO Simultaneously from Flue Gas Based on TiO2 Photocatalytic Oxidation
4:50 PM, Paper 135g

(136) Tuesday, Apr 8, 2:00 PM
GREEN CHEMISTRY & ENGINEERING POSTER SESSION
New Orleans Convention Center, Room 351
Sponsored by: AIChE Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

Nitronyl Cyclodaddition Reactions in the Micellar System
Paper 136a

Synthesis of New Types Gemini Ionic Liquids
Paper 136b

Synthesis of Aryl Esters and \( \beta \)-Alkynyl Ketones Via Palladium on Charcoal Catalyzed Carbylation of Aryl Iodides
Paper 136c

Physical and Chemical Cellulose Surface Modification
Paper 136d

Effects of Ferrous Ions on Reduction of Nitrobenzene in Aqueous Solution by Zero-Valent Iron
Paper 136e

Coupling Multistage Distillation and Pervaporation
Paper 136f

Self-Diffusion of Monovalent Ions in Highly Concentrated Liquid and Solid Electrolytes
Paper 136g

Pervaporation - Esterification Coupling
Paper 136h

Rheological Behavior and Drug-Controlled Release Property of Chitosan/Rectorite Nanocomposites
Paper 136i

Pulp Physical Property Improvement with LMS in TGF Bleaching of Masson Pine Kraft Pulp
Paper 136j

(137) Tuesday, Apr 8, 2:00 PM
HEAVY OIL CHEMISTRY III
New Orleans Convention Center, Room 386
Sponsored by: AIChE Led Co-Sponsored Sessions
Co-Sponsored by: Fuels and Petrochemicals Division

Emulsion Characterization by Ultrahigh Resolution FT-ICR Mass Spectrometry
2:00 PM, Paper 137a

Water-Extractable Components from Heavy Crude Oil
2:30 PM, Paper 137b

Liquid-Phase Decarboxylation of Naphthenate Acids in Oil
3:00 PM, Paper 137c

Adsorption of Virgin and Thermal Cracked Asphaltenes for Gasification
3:30 PM, Paper 137d

User Controlled Kinetic Network Generation with Ingen
4:00 PM, Paper 137e

Kinetic Study of Extra Heavy Crude Oil Upgrading Using Hydrogen Donors Under Cyclic Steam Injection Conditions
4:30 PM, Paper 137f

(138) Tuesday, Apr 8, 2:00 PM
KERN AWARD LECTURE SESSION
New Orleans Convention Center, Room 289
Sponsored by: Transport and Energy Processes
Co-Sponsored by: Topical B: Energy Processes

(139) Tuesday, Apr 8, 2:00 PM
KINETICS AND TRANSPORT PROPERTIES
New Orleans Convention Center, Room 288
Sponsored by: Thermodynamics and Transport Properties

A Group Contribution Based-Model to Estimate Free Volume in Amorphous Polymers for Solvent Diffusion
2:00 PM, Paper 139a

A New Methodology for the Determination of Homogeneous Diffusion Coefficients of Biomolecules in Adsorbents Via Non-Equilibrium Modeling
2:20 PM, Paper 139b

Molecular Modeling Study of Adsorption and Diffusion of Mixed Gases in CuBTC Metal Organic Framework
2:40 PM, Paper 139c

Liquid Injection into Fluidized Beds
3:00 PM, Paper 139d

Kinetics of Noncatalytic Water Gas Shift Reaction in a Supercritical Water Medium
3:20 PM, Paper 139e

High Throughput of Non-Steady-State Catalytic Activity Characteristics Using Temporal Analysis of Products
3:40 PM, Paper 139f

Radiolysis Induced Mobility of Chloride Ions in Zeolite
4:00 PM, Paper 139g

The Kinetics of Chlorine Evolution on Dimensionally Stable Anode (DSA) Used in the Chlor-Alkali Industry
4:20 PM, Paper 139h

(140) Tuesday, Apr 8, 2:00 PM
LIQUEFIED NATURAL GAS (LNG) - EQUIPMENT II
New Orleans Convention Center, Room 389
Sponsored by: AIChE Led Co-Sponsored Sessions,
Natural Gas Utilization
Co-Sponsored by: Fuels and Petrochemicals Division,
Topical 6: 8th Topical Conference on Natural Gas Utilization

Affinity Law Deviations in High Pressure LNG Pump Performance
2:00 PM, Paper 140a

Practical Configuration of Large Scale Refrigerant Compressors
2:20 PM, Paper 140b

Cost and Drivers for LNG Plant/Terminal Site Preparation and Foundations
2:40 PM, Paper 140c

Modeling of an Industrial Gas Processing Unit Considering Environmental and Economic Impacts
3:00 PM, Paper 140d

Reliable Thermodynamic Data for Improving LNG Scrub Column Design
3:20 PM, Paper 140e

Marine Boil-off Gas Recovery Improvement by Performing Slow Loading at Bontang LNG Terminal
3:40 PM, Paper 140f

Power Recovery in LNG Regasification Plants
4:00 PM, Paper 140g

(141) Tuesday, Apr 8, 2:00 PM
MULTI-COMPONENT CONTROL IN POWER GENERATION
New Orleans Convention Center, Room 397
Sponsored by: Research and New Technology Committee

Mercury Control Strategy in Power Generation
2:00 PM, Paper 141a

Adsorbents for Reduction of Multiple Toxic Metals in Coal-Based Power Generation
2:30 PM, Paper 141b

Palладium Sorbents for High Temperature Capture of Mercury, Arsenic, and Selenium from Fuel Gas
3:00 PM, Paper 141c

* For Division Codes indicated in ACS led Co-Sponsored sessions, please refer to “Key to ACS Division Codes” on Page T40
(142) Tuesday, Apr 8, 2:00 PM
NEW TRENDS AND BEST PRACTICES IN PROCESS DEVELOPMENT
New Orleans Convention Center, Room 390
Sponsored by: AIChE Led Co-Sponsored Sessions
Co-Sponsored by: Pilot Plants

Introductory Remarks
2:00 PM

2:05 PM, Paper 142a

Pilot Plant Scaling: Engineering and Chemistry Considerations
2:30 PM, Paper 142b

Chemistry and Catalysis in Process Development
2:55 PM, Paper 142c

Scale up of the Epoxidation of H2O2-C3H8-C3H6 Mixtures in Jet-Loop Reactor System
3:20 PM, Paper 142d

Enhanced Production of Laccase from Flammulina Velutipes and Its Application in Biobleaching of Kraft Bamboo Pulp
3:45 PM, Paper 142e

(143) Tuesday, Apr 8, 2:00 PM
PETROCHEMICALS AND DERIVATIVES II
New Orleans Convention Center, Room 385
Sponsored by: Petrochemicals & Derivatives

Introductory Remarks
2:00 PM

1-Octene from Butadiene – New Technology Based on Heterogeneous Catalysts
2:05 PM, Paper 143a

Thermodynamic Prediction of the Olefin Product Distribution in the Fischer-Tropsch Synthesis
2:30 PM, Paper 143b

Intermittent Feeding of Synthesis Gas into Series FT Reactors
2:55 PM, Paper 143c

Microalgae Cultivation in Bioreactors for CO2 Mitigation from Power Plants Flue Gas and Fuel Production by Supercritical CO2 Extraction
3:20 PM, Paper 143d

High Temperature Co-Electrolysis of Steam and Carbon Dioxide to Produce Synthesis Gas for Fischer Tropsch Synthetic Fuels
3:45 PM, Paper 143e

Kinetics of Heterogeneously Catalyzed Triglyceride Transesterification: A New Simulation Framework for Biodiesel Production
4:10 PM, Paper 143f

Development of Petrol-Alcohol-Water Microemulsion Fuel as a Substitute for Petrol and Ethanol-Blended Petrol
4:35 PM, Paper 143g

Indalin+: A New Process for Production of Auto LPG and High Quality Gasoline
5:00 PM, Paper 143h

(144) Tuesday, Apr 8, 2:00 PM
REACTION ENGINEERING AND CATALYSIS: GENERAL
New Orleans Convention Center, Room 349
Sponsored by: Catalysis and Reaction Engineering Division

Dramatic Micellar Catalysis on the Characteristics of B-Z Oscillatory Reaction with Citric Acid
2:00 PM, Paper 144a

Oxidative Coupling of Methane on BaTiO3 Perovskites Partially Substituted with Germanium
2:25 PM, Paper 144b

Activated Carbon Supported Catalysts and Adsorbents for WGS Reaction
2:50 PM, Paper 144c

Needle in a Haystack Catalysis - An Experimental Study Using Temporal Analysis of Products (TAP)
3:15 PM, Paper 144d

Rapid Lauroylation of Wheat Straw Hemicelluloses Under Microwave Heating
3:40 PM, Paper 144e
Photocatalytic Oxidation of Isoproturon, Simazine and Propazine in a Solar Fountain Photoreactor Network
4:05 PM, Paper 144f

Thermodynamics & Kinetics of the Erbium-Hydrogen System
4:30 PM, Paper 144g

Sponsored by: Topical 1: 42nd Loss Prevention

(146) Thursday, Apr 10, 8:30 AM

SEPARATIONS: THERMOSIPHONS
New Orleans Convention Center, Room 384

Sponsored by: Separations Division

Thermosiphon Reboilers
8:30 AM, Paper 145a

(146) Tuesday, Apr 8, 2:00 PM

SITE MANAGEMENT: PREPARING FOR NATURAL DISASTERS AND LESSONS LEARNED
New Orleans Convention Center, Room 290

Sponsored by: Management Division

Introductory Remarks
2:00 PM

Hurricane Timeline Tools for Objectively Triggering Action Items in Hurricane Response Plans
2:10 PM, Paper 146a

Performance of and Mitigation Options for Vulnerable Plant Components
2:45 PM, Paper 146b

Improving Checklisting with Predictive Failure Analysis
3:20 PM, Paper 146c

(147) Tuesday, Apr 8, 3:30 PM

INHERENT SAFETY
New Orleans Convention Center, Rooms 353-355

Sponsored by: Topical 4: Center for Chemical Process Safety (CCPS) 23rd International Conference

Improvements in the Safety Screening of Resin Manufacturing Processes
3:30 PM, Paper 147a

Inherent Risk Assessment
4:00 PM, Paper 147b

Application of an Emergency Egress Risk Index System and Layer of Protection Analysis for Determining Life Safety Requirements for Open Structure Industrial Occupancies
4:30 PM, Paper 147c

(148) Tuesday, Apr 8, 8:00 PM

GLOBAL CONGRESS ON PROCESS SAFETY - JOINT POSTER SESSION AND RECEPTION
New Orleans Convention Center, Hall E-2

Sponsored by: Topical 1: 42nd Loss Prevention Symposium

Prediction of the Source Location and Rate of a Chemical Release for Emergency Response: Backtrajectory Approach
Paper 148a

Passive Device Technology: The Trend Away from Reliance upon Valving Systems to Address Line Failure
Paper 148b

Solvant Processes – Hazards and Recent Incidents’ Analyses
Paper 148c

Risk Based Method to Establish Inspection Intervals for PRDs
Paper 148d

Chemical Safety Database - Application for Explosion Limits of Biogases
Paper 148e

Development of a Methodology for Toxic and Flammable Gases Sensors Positioning in Oil Platforms
Paper 148f

A Graphical Approach for Representing Hazard Scenarios
Paper 148g

Paper 148h

How to Apply Process Safety Management to Capital Projects
Paper 148i

An Explosion in Skid Mounted Hydrogen Compressor Panel
Paper 148j

Electrical Flash and Fire in Sub-Station
Paper 148k

Case Study of a Hydrogen Explosion in An Electrical Panel
Paper 148l

Chemically Unstable Gases – Flammability of Ethylene Oxide Mixtures in Sterilization Processes
Paper 148m

Effects of Polyethylene Size on Ignition of Electrostatics Discharge
Paper 148n

GE Gas Turbine Design in O&G Applications According to IEC62061 Requirements vs CE Marking
Paper 148o

Domino Effects Research in the Safety Assessment of Petrochemical Enterprises
Paper 148p

Robust and Reliable Modeling for a Distillation Column
Paper 148q

Specialized Working Procedure
Paper 148r

Obstacle Effects on Vented Gas Explosion Pressures
Paper 148s

(149) Tuesday, Apr 8, 6:00 PM

[POLY] FUNCTIONAL NANOMATERIALS FROM NEW POLYMER SYNTHETIC METHODOLOGIES – POSTER SESSION
New Orleans Convention Center, Hall A

Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Materials Engineering and Sciences Division

(150) Wednesday, Apr 9, 8:00 AM

PROCESS SAFETY MANAGEMENT
New Orleans Convention Center, Rooms 353-355

Sponsored by: Topical 4: Center for Chemical Process Safety (CCPS) 23rd International Conference

The Benefits of Comparing Similar Hazards across ‘Sister’ Plants
8:00 AM, Paper 150a

Management of Organizational Change
8:30 AM, Paper 150b

Recent Developments in the Analysis of Fires, Explosions and Production Disruption Incidents in Chemical Plants and Oil Refineries
9:00 AM, Paper 150c

(151) Wednesday, Apr 9, 9:00 AM

ETHYLENE PLANT PROCESS CONTROL — PAPER SESSION
New Orleans Convention Center, Rooms 393-394

Sponsored by: Topical 2: The 20th Ethylene Producers’ Conference
Co-Sponsored by: Systems and Process Control

Welcoming Remarks
8:00 AM

20 Year Reflections
8:10 AM

An Optimization Program in Lyondell
8:20 AM, Paper 151a

Implementation of Unit-Wide Advanced Process Control in an Ethylene Plant
8:45 AM, Paper 151b

Overcoming Numerical Ill-Conditioning in a DMCplus® Composite Controller at the Baton Rouge Chemical Plant
9:10 AM, Paper 151c

Break
9:35 AM

Dynamic Instabilities of Two Parallel Integral Superheaters to Vaporize NGL Feed to Olefins Cracking Furnaces
9:55 AM, Paper 151d

Securing the Control System Against Improper Change after Alarm Rationalization
10:20 AM, Paper 151e

Process Control Systems Lifecycle Management
10:45 AM, Paper 151f

Concluding Remarks
11:00 AM

(152) Wednesday, Apr 9, 9:00 AM

INCIDENT ANALYSIS AND MANAGEMENT SYSTEMS
New Orleans Convention Center, Rooms 356-35

Sponsored by: Topical 1: 42nd Loss Prevention Symposium
Co-Sponsored by: Loss Prevention & Process Safety
Experimental Study of Effective Water Spray Curtain Application in Dispersing LNG Vapor Clouds
9:30 AM, Paper 162d

A Study on Quantitative Risk Assessment Model for LNG Storage Tank
9:50 AM, Paper 162e

High Expansion Foam 3-D Temperature Profile During Application on LNG: Experimental Results
10:10 AM, Paper 162f

Sponsored by: Topical 8: Distillation Topical

Robust and Reliable Modeling for a Distillation Column
8:30 AM, Paper 163a

A New Model for Distillation Simulation
9:00 AM, Paper 163b

Simplified Modeling of Crude Oil Distillation Columns Meeting Refining Product Specifications
9:30 AM, Paper 163c

Study of Dynamic Open Loop Responses of a Dividing Wall Column for Various Feed Conditions
10:00 AM, Paper 163d

CFD Study for Liquid Distributor in Crude Fractionators
10:30 AM, Paper 163e

Temperature Collocation Method for Design of Complex Distillation Column
11:00 AM, Paper 163f

Sponsored by: Management Division

Potential Process Plant Impacts from Regulating CO₂ as a Pollutant
8:30 AM, Paper 164a

Economics of Plant Energy Saving Projects in a Changing Market
8:55 AM, Paper 164b

9:20 AM, Paper 164c

Effect of Availability on Multi-Period Planning of Oil and Gas Production Systems
9:45 AM, Paper 164d

Chevron Phillips Cuts Energy Use with KBC’s Strategic Review
10:30 AM, Paper 164e

Panel Discussion
10:30 AM

Sponsored by: Topical 7: 11th Topical on Refinery Processing

Revamp of Heat-Integrated Crude Oil Distillation Systems for Energy Reduction and New Product Demands
8:30 AM, Paper 165a

Heat Integration in a Crude Distillation Unit Using Pinch Analysis Concepts
8:55 AM, Paper 165b

Reducing Energy Consumption by New Distillation Configuration
9:20 AM, Paper 165c

Exploiting the Use of Compact Heat Exchangers on Preheating Trains
9:45 AM, Paper 165d

Modeling Asphaltene Precipitation in Crude Oil Systems
10:10 AM, Paper 165e

Automated Heat Exchanger Network Design for Process Streams with Temperature-Dependent Thermal Properties
10:35 AM, Paper 165f

Sponsored by: AIChE Led Co-Sponsored Sessions

Isokinetic Phenomena in Crude Oil Fouling
8:30 AM, Paper 166a

Design Approach for Mitigating Fouling of Reboilers and F/E Exchangers
9:30 AM, Paper 166b

Heat Exchanger Performance Enhancement through the Use of Tube Inserts
10:00 AM, Paper 166c

Investigation of Fouling of Crudes with Low Asphaltenes
10:30 AM, Paper 166d

Thermodynamic Model of Sediment Deposition in the LC-FINING Process
11:00 AM, Paper 166e

Sponsored by: Information Technology

Using Process Historians to Detect Incidents
8:30 AM, Paper 167a

Developing a Reporting System for Environmental Health, Safety and Environmental Reporting
8:50 AM, Paper 167b

Avoiding Unstable Startup and Incidents Using Dynamic Simulation
9:10 AM, Paper 167c
The Chemical Engineer’s Role in Assessing Compliance Programs of the Chemical Process Industry
9:30 AM, Paper 167d

(168) Wednesday, Apr 9, 8:30 AM
Hydrogen Production I
New Orleans Convention Center, Room 350

Sponsored by: AIChE Led Co-Sponsored Sessions, Natural Gas Utilization
Co-Sponsored by: Fuels and Petrochemicals Division, Topical 6: 6th Topical Conference on Natural Gas Utilization

Hydrogen Generation Process
8:30 AM, Paper 168a

Low-Cost High-Efficiency Distributed Hydrogen Production
8:55 AM, Paper 168b

A Study of Steam Reforming of Ethanol for Hydrogen Production: Technical and Experimental Analysis Utilizing NiCu/Al2O3
9:20 AM, Paper 168c

A Preliminary Physical-Chemical Analysis of Steam Reforming of Biogas from a Small Wastewater Treatment System of a University Campus
9:45 AM, Paper 168d

Biomass to Biofuels: Catalytic Conversion of Biomass-Derived Synthesis Gas to Oxygenates
10:10 AM, Paper 168e

(169) Wednesday, Apr 9, 8:30 AM
Light Hydrocarbon Processing
New Orleans Convention Center, Room 385

Sponsored by: Topical 7: 11th Topical on Refinery Processing

Light Naphtha Isomerization
8:30 AM, Paper 169a

Options for Gasoline Pool Benzene Management
9:30 AM, Paper 169b

Options for Increased Alkylate Production and Lower HF Acid Inventory in HF Alkylation Units
10:00 AM, Paper 169c

Benzene Regulations and the Refinery H2 Balance
10:30 AM, Paper 169d

(170) Wednesday, Apr 9, 10:00 AM
Microfluidics and Microreactor Applications to Energy Generation
New Orleans Convention Center, Room 289

Sponsored by: Topical B: Energy Processes

Investigation of Gas-Liquid Slug Formation in a Microchannel T-Junction
10:00 AM, Paper 170a

Miniaturization Aspects of Thermodynamic Cycle Processes for Mobile Energy Generation
10:20 AM, Paper 170b

Enhanced Gas Turbine Process with Microstructured Devices
10:45 AM, Paper 170c

Experimental and Analytical Study of the Motion of a Liquid Slug and Ferrofluid in a Microchannel
11:10 AM, Paper 170d

(171) Wednesday, Apr 9, 8:30 AM
Process Innovations for Alternative Energy
New Orleans Convention Center, Room 390

Sponsored by: Process Research and Innovation

Introductory Remarks
8:30 AM

Performance of An Intensified Downdraft Gasifier at 50kWe and 1 Mw e Scales
8:35 AM, Paper 171a

Microchannel Process Technology Unlocking Offshore GTL Opportunities
9:00 AM, Paper 171b

Experiences in Thermochemical Biomass Conversion
9:25 AM, Paper 171c

Effects of Pressure Above and Below the Pure Water Critical Pressure on Coke Compositions in Jet-A Reformation to Hydrogen
9:50 AM, Paper 171d

Quest Consultants Inc.
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  - HAZOP - PreHA / HAZID
  - What-if? - Safety Integrity Level (SIL)
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  - Multicomponent Pool Vaporization
- Building Siting Studies
  - API RP-752 / 753
- Facility Siting & Layout
  - 49 CFR 193 / NFPA 59A / EN 1473 (LNG)
  - IP-9 (LPG)
- Quantitative Risk Analysis (QRA)
  - Application to International Standards
  - Cost / Benefit Analysis
  - Risk Acceptability
  - Risk Ranking and Assessment
- Hazardous Materials Research & Testing

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- Pool Fire Radiation
- Torch Fire/Flare Radiation
- BLEVE Fireball Radiation
- Explosion Overpressure

Source Term Models:
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- Aerosol Formation / Rainout
- Multi-phase, Time Varying Releases
- Liquid Pool Spreading & Vaporization

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Distributed Reforming of Bio-Oil for Hydrogen Production
10:15 AM, Paper 171e

Base-Catalyzed Transesterification of Canola Oil in the Presence of Electric Fields
10:40 AM, Paper 171f

Hydrogen Production by Autothermal Reforming of Propane Over Co Promoted Perovskite Catalysts
11:05 AM, Paper 171g

(172) Wednesday, Apr 9, 8:30 AM
REACTION ENGINEERING: ANALYSIS, DESIGN AND MODELING
New Orleans Convention Center, Room 349
Sponsored by: Catalysis and Reaction Engineering Division

Simulation of Heterogeneously Co-Doped Heteropolyacid Catalyzed Transesterification for Biodiesel Production
8:30 AM, Paper 172a

In-Situ, Fiber-Optic Measurement Techniques in Carbon Dioxide Expanded Liquid (CXL) Multiphase Reactors
8:50 AM, Paper 172b

Flow Distribution in a High Pressure Trickle Bed Reactor
9:10 AM, Paper 172c

Design Implications of the Nonlinear Dynamics of the Monolithic Loop Reactor for Fischer-Tropsch Synthesis
9:30 AM, Paper 172d

Performance Comparison of a Bubble Reactor and a Loop Reactor for Preparing a CS Hydrofluorocarbon, HFC-449mec-f, in the Gas-Liquid Biphasic Reaction
9:50 AM, Paper 172e

Kinetic Model of Complex Reaction Network: Methanol Steam Reforming
10:10 AM, Paper 172f

Mathematical Modeling of Catalyst Deactivation by the Presence of Coke Formation in Catalyst Particles
10:30 AM, Paper 172g

Process Intensification for Methyl Oleate Epoxidation by Means of Reaction Calorimetry
10:50 AM, Paper 172h

(173) Wednesday, Apr 9, 8:30 AM
RECENT ADVANCES IN ALCOHOLS PRODUCTION AND THEIR ENERGY USAGE INCLUDING FUEL CELLS I
New Orleans Convention Center, Room 288
Sponsored by: Topical B: Energy Processes

Bioethanol Production by Fermentation of Starch Particles Using a Novel, Inexpensive Media
8:30 AM, Paper 173a

Simulation of Simultaneous Saccharification and Fermentation of Ethanol Production from Cellulose by An Operable Model
8:55 AM, Paper 173b

Synthesis of Liquid Fuel from Woody Biomass by A Bench-Scale BTL Plant
9:20 AM, Paper 173c

Effect of the Anion of Ionic Liquid for Dissolution of Cellulose
9:45 AM, Paper 173d

Study of Energy Efficiency in the DMFC Stack
10:10 AM, Paper 173e

Effective Dispersion of Noble Metal Nanocatalysts for DMFC by a Modified Electrostatic Spray Deposition
10:35 AM, Paper 173f

Application of Ferric Sulfate as Catalyst for Conversion of Free Fatty Content of Acid Oil to Biodiesel
11:00 AM, Paper 173g

(174) Wednesday, Apr 9, 8:30 AM
THERMODYNAMICS AND PHASE EQUILIBRIA I
New Orleans Convention Center, Room 351
Sponsored by: Thermodynamics and Transport Properties

Aqueous Partial Molar Volumes from Simulation and Individual Group Contributions
8:30 AM, Paper 174a

Hydrophobic Mismatch Can Induce Specific and Selective Membrane Protein Interactions
8:49 AM, Paper 174b

Multiscale Simulations of Polymer Permeation
9:08 AM, Paper 174c

Implicit Water Model of Ionic Surfactant Micelles
9:27 AM, Paper 174d

Molecular Thermodynamics of Branched Block Copolymer Micelles
9:46 AM, Paper 174e

A Performance Comparison of Equations of State
10:05 AM, Paper 174f

Cavity Thermodynamics in Organic Solvents
10:24 AM, Paper 174g

Prediction and Modeling of Solubility Phenomena in Subcritical Fluids Using an Extended Solubility Parameter Approach
10:42 AM, Paper 174h

(175) Wednesday, Apr 9, 8:30 AM
[ENVR] ADVANCES IN ABRIC TRANSFORMATION PROCESSES FOR MICROPOLLUTANTS IN DRINKING WATER AND FOR SOURCEWATER PROTECTION II
New Orleans Convention Center, Room 237
Sponsored by: ACS Led Co-Sponsored Sessions Co-Sponsored by: Environmental Division

(176) Wednesday, Apr 9, 8:30 AM
[ENVR] ADVANCES IN DRINKING WATER DISINFECTION AND DISINFECTION BYPRODUCT MANAGEMENT III
New Orleans Convention Center, Room 236
Sponsored by: ACS Led Co-Sponsored Sessions Co-Sponsored by: Environmental Division

(177) Wednesday, Apr 9, 8:30 AM
[ENVR] SENSORS FOR DETECTION AND QUANTIFICATION OF CONTAMINANTS IN DRINKING WATER AND THE ENVIRONMENT I
New Orleans Convention Center, Room 235

Sponsored by: ACS Led Co-Sponsored Sessions Co-Sponsored by: Fuels and Petrochemicals Division

(178) Wednesday, Apr 9, 8:50 AM
[FUEL] HYBRID NANOTECHNOLOGIES FOR AN ENHANCED CO2 FIXATION - BIOLOGICAL CONVERSION OF CO2 INTO USABLE CHEMICALS
New Orleans Convention Center, Rooms 240-241
Sponsored by: ACS Led Co-Sponsored Sessions Co-Sponsored by: Fuels and Petrochemicals Division

(179) Wednesday, Apr 9, 9:00 AM
[FUEL] CLEAN ENERGY, FUELS AND CHEMICALS FROM BIOMASS - BIOMASS PRETREATMENT AND BIOLOGICAL PROCESSES
New Orleans Convention Center, Room 242
Sponsored by: ACS Led Co-Sponsored Sessions Co-Sponsored by: Fuels and Petrochemicals Division

(180) Wednesday, Apr 9, 10:15 AM
PROCESS SAFETY AS APPLIED TO CAPITAL PROJECTS
New Orleans Convention Center, Rooms 353-355
Sponsored by: Topical 4: Center for Chemical Process Safety (CCPS) 23rd International Conference

Controlling Risk During Major Projects
10:15 AM, Paper 180a

Case Study of a Facility Siting Analysis Carried Out for a FSRU (Floating Storage Recovery Unit)
10:45 AM, Paper 180b

Process Plant, Pre-Commissioning, Commissioning and Start-Up Digest
11:15 AM, Paper 180c

(181) Wednesday, Apr 9, 10:15 AM
ENERGY GENERATION AND FUEL PROCESSING
New Orleans Convention Center, Room 388
Sponsored by: Topical 5: IMRET-10: 10th International Conference on Microreaction Technology

Heat Recuperation Strategies for Microreactors: Thermal Management in Gas-Phase and Catalytic Propane/air Oxidation
10:15 AM, Paper 181a

Design Principles of Multifunctional Microdevices for Hydrogen Production Via Short Contact Time Steam Reforming
10:40 AM, Paper 181b

Experimental Study of Methanol Synthesis in a Microchannel Reactor-Heat Exchanger
11:05 AM, Paper 181c

Studies for a Catalytically Heated Hexadecane Steam Reformer
11:30 AM, Paper 181d

Alkane Activation at Ambient Temperature – Unusual Selectivities, C-C, C-H Bond Scission Vs C-C Bond Coupling
12:10 PM, Paper 181e

(182) Wednesday, Apr 9, 11:30 AM
EEPC/EPC
New Orleans Convention Center, Room 399
Sponsored by: Topical 2: The 20th Ethylene Producers’ Conference
Wednesday, Apr 9, 1:00 PM
PETR ENERGY SCIENCE AND ENGINEERING: METHODS, OUTCOME AND FUTURE NEEDS I
New Orleans Convention Center, Room 209
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Fuels and Petrochemicals Division

Wednesday, Apr 9, 1:20 PM
PHYS MULTISCALE MODELING IN BIOPHYSICS - BIOMOLECULAR COMPLEXES: DYNAMICS, ASSEMBLY, AND FUNCTION II
New Orleans Convention Center, Room 346
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Thermodynamics and Transport Properties

Wednesday, Apr 9, 1:20 PM
PHYS NANOSTRUCTURED MATERIALS - NANOWIRE/NANOTUBE I
New Orleans Convention Center, Rooms 338-339
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Nanoscale Science and Engineering Forum

Wednesday, Apr 9, 1:25 PM
ANYL DIRECTED ASSEMBLIES USING SURFACE TEMPLATES II
New Orleans Convention Center, Room 335
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Materials Engineering and Sciences Division

Wednesday, Apr 9, 1:30 PM
ENVR ADVANCES IN ABIOTIC TRANSFORMATION PROCESSES FOR MICROPOLLUTANTS IN DRINKING WATER AND FOR SOURCENWATER PROTECTION III
New Orleans Convention Center, Room 237
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

Wednesday, Apr 9, 1:30 PM
FUEL CLEAN ENERGY, FUELS AND CHEMICALS FROM BIOMASS - BIOMASS GASIFICATION
New Orleans Convention Center, Room 242
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Fuels and Petrochemicals Division

Wednesday, Apr 9, 1:30 PM
FUEL HYBRID NANOTECHNOLOGIES FOR AN ENHANCED CO2 FIXATION - BIOTECHNOLOGICAL CONVERSION OF CO2
New Orleans Convention Center, Rooms 240-241
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Fuels and Petrochemicals Division

Wednesday, Apr 9, 1:30 PM
ENVR UNDERSTANDING THE WATER FOOTPRINT OF ENERGY PRODUCTION FROM CONVENTIONAL AND ALTERNATIVE SOURCES I
New Orleans Convention Center, Room 236
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

Wednesday, Apr 9, 1:30 PM
COMP COMPUTATIONAL CATALYSIS - ELECTROCATALYSIS AND THE IMPACT OF ENVIRONMENT
New Orleans Convention Center, Room 337
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Computational Molecular Science and Engineering Forum

Wednesday, Apr 9, 1:30 PM
ETHYLENE PLANT PROCESS CONTROL TECHNOLOGY REVIEW
New Orleans Convention Center, Rooms 393-394
Sponsored by: Topical 2: The 20th Ethylene Producers’ Conference
Co-Sponsored by: Systems and Process Control

Wednesday, Apr 9, 1:30 PM
Model Predictive Control
1:35 PM, Paper 192a

Wednesday, Apr 9, 1:30 PM
Controller Performance Monitoring
2:35 PM, Paper 192b

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We Look Forward to Seeing You in April! Our booth location is 901 & 903. For immediate information visit:
http://www.honeywell.com/careers/jobsearch.html
**GLOBAL CONGRESS - CASE HISTORIES AND LESSONS LEARNED**

New Orleans Convention Center, Hall E-2

Sponsored by: Topical 1: 42nd Loss Prevention Symposium

Fire and Explosion in an Explosives Conditioning Bunker
1:30 PM, Paper 193a

A Series of Small Changes
2:00 PM, Paper 193b

Combustible Dust Explosion Case History
2:30 PM, Paper 193c

Break
3:00 PM

Case Study: The Importance of Reliable Inertisation and Earthing of Ignition Sensitive Powder Handling Systems
3:30 PM, Paper 193d

HCl Tank Explosion
4:00 PM, Paper 193e

Syntron Runaway Reaction and Vapor Cloud Explosion
4:30 PM, Paper 193f

**NOVEL PROCESS WINDOWS — UNUSUAL WAYS OF PROCESSING**

New Orleans Convention Center, Room 392

Sponsored by: Topical 5: IMRET-10: 10th International Conference on Micoreaction Technology

Micro-Reaction Technology (MRT) for the Safe Industrial Application of Diazaoalkane-Chemistry: New Chances for Process Intensification
2:30 PM, Paper 198a

Synthesis of 5-Hydroxymethylfurfural from Renewable Resources Using Micoreaction Technology
2:25 PM, Paper 198b

Continuous Microreactor Processing, Reactive Ionic Liquids and Microwave Heating — Approaches towards Intensified Kolbe-Schmitt Synthesis
2:50 PM, Paper 198c

Effect of Surface-to-Volume Ratio in Microplasma Reactors
3:15 PM, Paper 198d

Advantages of on-Site Microreactors from Safety Viewpoint
3:40 PM, Paper 198e

Reaction Engineering Investigations of the Uncatalyzed Cyclohexane Oxidation in a Microstructured Reactor
4:05 PM, Paper 198f

Novel Routes to Fluidized Bed Process Intensification Using a Centrifugal Field
4:30 PM, Paper 198g

**BIOLOGICAL AND CHEMICAL CONVERSION OF BIOMASS TO LIQUEFIED NATURAL GAS (LNG) — SAFETY II**

New Orleans Convention Center, Room 389

Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Fuels and Petrochemicals Division, Topical 6: 8th Topical Conference on Natural Gas Producers’ Conference

**LIQUEFIED NATURAL GAS (LNG) - SAFETY II**

New Orleans Convention Center, Room 239

Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Fuels and Petrochemicals Division

**ECONOMICS, ENERGY, AND ENVIRONMENT II**

New Orleans Convention Center, Rooms 395-396

**NOVEL PROCESS WINDOWS — UNUSUAL WAYS OF PROCESSING II**

New Orleans Convention Center, Room 207

Sponsored by: Topical 8: Distillation Topical
Co-Sponsored by: Environmental Division

**DISTILLATION: PROCESSES AND MODELING II**

New Orleans Convention Center, Room 105

Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Fuels and Petrochemicals Division, Topical 1: 42nd Loss Prevention Symposium, AIChE Led Co-Sponsored Sessions, Loss Prevention & Process Safety

Acoustic Analysis of Explosive LNG Rapid Phase Transition on Water
2:00 PM, Paper 197a

LNG Computational Fluid Dynamics Consequence Modeling Comparison with the Brayton Fire School Tests
2:20 PM, Paper 197b

Energy Based Risk Methodology for Collision Protection of LNG Carriers
2:40 PM, Paper 197c

Modeling Underwater Penetration of LNG Carrier
3:00 PM, Paper 197d

The Development of Bayesian-LOPA Methodology for Risk Assessment of an LNG Importation Terminal
3:20 PM, Paper 197e

LNG Pool Fire Models: Similarities and Differences
3:40 PM, Paper 197f

**ENERGY AND ENVIRONMENT MANAGEMENT PROGRAMS II**

New Orleans Convention Center, Room 297

Sponsored by: Management Division

The Louisiana Petrochemical Megasite Project
2:00 PM, Paper 201a

Smart Plants and Smart Management Prevent Plant Problems
2:30 PM, Paper 201b

Managing the Environment with Smart Plant Innovations
3:00 PM, Paper 201c

Cloud Computing in Manufacturing Environment
3:30 PM, Paper 201d

Panel Discussion
4:00 PM

**ENERGY II**

New Orleans Convention Center, Room 387

Sponsored by: Topical 7: 11th Topical on Refinery Processing

2:00 PM, Paper 202a

Deliver the Challenges - Design and Operate Refining Plants More Efficiently to Minimize CO2 Footprint
2:25 PM, Paper 202b

**DISTILLATION: PROCESSES AND MODELING II**

New Orleans Convention Center, Room 384

Sponsored by: Topical 8: Distillation Topical

Implementation and Validation of a Model-Centric Support System within a Pilot Plant Scale Packed Distillation Column
2:00 PM, Paper 200a

Feasibility Studies on Dehydration of Ethanol by Distillation Using Salt Effect (on VLE)
2:30 PM, Paper 200b

Singularity in Non-Equilibrium Reactive Flash Processes
3:00 PM, Paper 200c

Interdisciplinary Learning for Chemical Engineering Students from Organic Chemistry
3:30 PM, Paper 200d

**FOR DIVISION CODES INDICATED IN ACS LED CO-SUPPORTED SESSIONS, PLEASE REFER TO “KEY TO ACS DIVISION CODES” ON PAGE T40**
Optimising Heat Exchanger Design to Reduce Size, Cost and Energy Consumption for Plant Expansion and New Projects
2:50 PM, Paper 202c

Using Automation to Save Energy
3:15 PM, Paper 202d

Efficient Process Operations through Entropy Generation Optimization in Gas Fractionation Plants
3:40 PM, Paper 202e

Optimisation of Heat-Integrated Distillation Schemes Based on Shortcut Analysis, Pinch Analysis and Rigorous Simulation
4:05 PM, Paper 202f

(203) Wednesday, Apr 9, 2:00 PM
FOULING MITIGATION II
New Orleans Convention Center, Room 386

Sponsored by: AIChE Led Co-Sponsored Sessions Co-Sponsored by: Fuels and Petrochemicals Division

Tutorial on Refinery Fouling Mitigation
2:00 PM, Paper 203a

Solvent Ranking for Asphaltenes Stability in Pipeline Transportation
2:35 PM, Paper 203b

Electrospray Ionization FT-ICR Mass Spectrometry of “ARN” Naphthenic Acids in Sodium and Calcium Naphthenate Deposits, and Crudes: Extraction and Quantification
3:10 PM, Paper 203c

Distillate Hydrotreater Fouling
3:45 PM, Paper 203d

Inhibition of Carbon Deposition from Jet Fuel by Surface Coating
4:20 PM, Paper 203e

(204) Wednesday, Apr 9, 2:00 PM
HYDROGEN PRODUCTION II
New Orleans Convention Center, Room 350

Sponsored by: AIChE Led Co-Sponsored Session, Natural Gas Utilization Co-Sponsored by: Fuels and Petrochemicals Division, Topical 6: 8th Topical Conference on Natural Gas Utilization

Development of Dense Membranes for Hydrogen Separation from Coal Gasification Streams
2:00 PM, Paper 204a

Developing New Wide Band Gap Semiconductors for Water Photolysis
2:25 PM, Paper 204b

Steam Reforming of Methane in a Novel Microreactor
2:50 PM, Paper 204c

Autothermal Reforming of Propane Over Alkali-Doping on the Hydrotalcite Catalysts
3:15 PM, Paper 204d

(205) Wednesday, Apr 9, 2:00 PM
NOVEL CATALYSTS: SYNTHESIS AND CHARACTERIZATION
New Orleans Convention Center, Room 349

Sponsored by: Catalysis and Reaction Engineering Division

Synthesis of Improved Fuel Cell Catalysts Using Electroless Deposition Methods
2:00 PM, Paper 205a

Growth of Fe Based Nanocatalysts on Reconstructed Au(111) Surfaces
2:20 PM, Paper 205b

Synthesis and Characterization of Au-Pt/SiO2 Catalysts Prepared by Electroless Deposition Methods
2:40 PM, Paper 205c

Comparison between Formic Acid Decomposition and CO Oxidation with Au Catalysts
3:00 PM, Paper 205d

Development of Nanoscale Ceria-Based Sulfur-Tolerant Catalyst Formulations
3:40 PM, Paper 205e

Highly Stable Pt-BHA Nanocomposite Catalysts for Low-Temperature CO Oxidation
4:00 PM, Paper 205g

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(206) Wednesday, Apr 9, 2:00 PM
PROCESS HEAT AND STEAM TRAPS
New Orleans Convention Center, Room 390
Sponsored by: Manufacturing

Introductory Remarks
2:00 PM

Overview of Steam Trap Types and Their Operation
2:05 PM, Paper 206a

Process Improvements Via Steam Traps Design and Configuration
2:30 PM, Paper 206b

Practically Managing Your Steam Traps Including the Common Pit Falls and Mistakes
2:55 PM, Paper 206c

Strategies in Optimizing Condensate Return
3:20 PM, Paper 206d

Steam Traps: The Hidden Gold in Chemical Plants
3:45 PM, Paper 206e

(207) Wednesday, Apr 9, 2:00 PM
RECENT ADVANCES IN ALCOHOLS PRODUCTION AND THEIR ENERGY USAGE INCLUDING FUEL CELLS II
New Orleans Convention Center, Room 288
Sponsored by: Topical B: Energy Processes

Electro-Oxidation of Ethanol Using Pt-Ru/C and Pt-Pt/C on Ballard Gas Diffusion Layers in PEM Fuel Cells
2:00 PM, Paper 207a

Mathematical Formulation for the Design/Performance Analysis of a Lithium-Ion Insertion Cell
2:20 PM, Paper 207b

Modeling High Rate Lithium-Ion Batteries Using Fundamental and Empirical Methods
2:40 PM, Paper 207c

Preparation and Characterization of Pt-Ru/C Catalysts
3:00 PM, Paper 207d

Preparation of Thin YSZ Electrolyte by Electrostatic Spray Deposition for Solid Oxide Fuel Cells
3:20 PM, Paper 207e

Cellulose Triacetate : A New Material for Polymer Gel Electrolyte
3:40 PM, Paper 207f

Functionalized Ionic Liquids and Zwitterionic Compounds as Electrolyte Additives for Lithium Batteries
4:00 PM, Paper 207g

(208) Wednesday, Apr 9, 2:00 PM
REFINERY OPERATIONS TROUBLESHOOTING AND PLANT PROBLEM SOLVING
New Orleans Convention Center, Room 385
Sponsored by: Topical 7: 11th Topical on Refinery Processing

Innovative Approach to Solve CCR Regenerator Pinning Problem
2:00 PM, Paper 208a

Detailed Process Knowledge about Refinery Process Operations Using Radiolotope Technologies
2:25 PM, Paper 208b

Use Integrated Knowledge to Get the Most of Your DCS
2:50 PM, Paper 208c

Refinery Furnace Fouling
3:15 PM, Paper 208d

Impact of Hydrotreater’s Ammonium Chloride Salt Deposition on Refinery Operations
3:40 PM, Paper 208e

Opportunities to Minimize Flaring
4:05 PM, Paper 208f

(209) Wednesday, Apr 9, 2:00 PM
SENSING AND PROCESS ANALYTICS
New Orleans Convention Center, Room 391
Sponsored by: Topical 5: IMRET-10: 10th International Conference on Microreaction Technology

Welcoming Remarks
2:00 PM

Flow Reactors for Chemical Synthesis: An Opportunity for Process Control
2:05 PM, Paper 209a

In-Flow Reaction Monitoring by NMR on Nanoliter Samples in a µ-Fluidic Chip
2:30 PM, Paper 209b

Integration of Microfluidic and Planar Waveguide for Spectroscopic Monitoring of Chemical Reactions
2:50 PM, Paper 209c

Microanalytical Methods for the Characterization of Microreactor Operations
3:10 PM, Paper 209d

Break
3:30 PM

Microreactors with Integrated Porous Silicon Layer for Reaction Studies by Matrix-Free Mass Spectrometry
3:40 PM, Paper 209e

A Microfluidic Calorimeter for Reaction Enthalpy and Kinetics Measurements
4:00 PM, Paper 209f

New Micro Viscosity Sensor for Measuring Molecular Weight of Molecules During Polymerization in a Micro Reaction Plant
4:20 PM, Paper 209g

Thermal Mass Flow Sensors for Monitoring Est/enification Reactions in Residence Time Micro Reactors
4:40 PM, Paper 209h

(210) Wednesday, Apr 9, 2:00 PM
SUSTAINABLE FEEDSTOCKS
New Orleans Convention Center, Room 290
Sponsored by: Topical 9: Sustainability: Lessons, Actions and Outlook

Current Trends and Future of Biofuels and Biomass-Derived Chemicals
2:00 PM, Paper 210a

Microchannel Fischer-Tropsch for Waste-to-Liquids
2:45 PM, Paper 210b

Identification of Optimal Poultry Litter Biorefinery Location in Alabama through Minimization of Feedstock Transportation Cost
3:15 PM, Paper 210c

Alternative Fuels and Engineering for Sustainable Development
3:45 PM, Paper 210d

(211) Wednesday, Apr 9, 2:00 PM
THERMODYNAMICS AND PHASE EQUILIBRIA II
New Orleans Convention Center, Room 351
Sponsored by: Thermodynamics and Transport Properties

Thermodynamic Testing Methods in Energetic Material Evaluation
2:00 PM, Paper 211a

Models for Infinite Dilution Activity Coefficients in Ternary Liquid Systems
2:19 PM, Paper 211b

Modeling the Dynamic Viscosity of Ionic Liquids
2:38 PM, Paper 211c

Predicting Phase Equilibrium Near the Critical Point Using the Soave-Redlich-Kwong Equation of State
2:57 PM, Paper 211d

A Relative Volatility Scale for Ionic Liquids
3:16 PM, Paper 211e

Estimation of the Isothermal Compressibility and the Thermal Expansion Coefficient Using Density Implicit Empirical Equations
3:35 PM, Paper 211f

Correlation of Liquid Thermophysical Properties Via Virial-Based Mixing Rules
3:54 PM, Paper 211g

A New Method for Calculating Gas Minimum Miscibility Pressure
4:12 PM, Paper 211h

(212) Wednesday, Apr 9, 2:00 PM
IEC INCENTIVES AND BARRIERS TO THE ADOPTION OF SUSTAINABLE CHEMISTRY I
New Orleans Convention Center, Room 231
Sponsored by: ACS Led Co-Sponsored Sessions

Co-Sponsored by: Sustainable Engineering Forum

(213) Wednesday, Apr 9, 2:00 PM
ENVR ADVANCES IN ADSORPTION PROCESSES FOR MICROPOLLUTANTS IN DRINKING WATER AND FOR SOURCEWATER PROTECTION - POSTER SESSION
New Orleans Convention Center, Hall A
Sponsored by: ACS Led Co-Sponsored Sessions

Co-Sponsored by: Environmental Division

(214) Wednesday, Apr 9, 2:00 PM
ENVR ADVANCES IN ADSORPTION PROCESSES FOR DRINKING WATER TREATMENT AND SOURCEWATER PROTECTION - POSTER SESSION
New Orleans Convention Center, Hall A
Sponsored by: ACS Led Co-Sponsored Sessions

Co-Sponsored by: Environmental Division
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Myths and Mysteries in the Manufacture of Ethylene
10:15 AM, Paper 220d

Concluding Remarks
10:45 AM

(221) Thursday, Apr 10, 8:00 AM
[COMP] COMPUTATIONAL EVALUATION OF RATE CONSTANTS II
New Orleans Convention Center, Room 337
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Computational Molecular Science and Engineering Forum

(222) Thursday, Apr 10, 8:20 AM
[PHYS] NANOSTRUCTURED MATERIALS - NANOWIRE/NANOTUBE II
New Orleans Convention Center, Rooms 338-339
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Nanoscale Science and Engineering Forum

(223) Thursday, Apr 10, 8:20 AM
[PHYS] MULTISCALE MODELING IN BIOPHYSICS - PROTEIN FOLDING AND MISFOLDING: COARSE-GRAINING AND MULTISCALE APPROACHES
New Orleans Convention Center, Rooms 340-341
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Thermodynamics and Transport Properties

(224) Thursday, Apr 10, 8:30 AM
ANALYSES OF TRANSPORT PHENOMENA IN ENERGY AND ENVIRONMENTAL SYSTEMS
New Orleans Convention Center, Room 297
Sponsored by: Topical 8: Distillation Topical

(225) Thursday, Apr 10, 8:30 AM
CASE STUDIES IN DESIGN FOR SUSTAINABILITY
New Orleans Convention Center, Room 290
Sponsored by: Topical 9: Sustainability: Lessons, Actions and Outlook

Estimation of Synthetic Diesel Fuel Production from California's Carbonaceous Waste Streams Using the CE-CERT Process
8:30 AM, Paper 225a

Integration of Fermentation and Transesterification Industrial Scale Processes in the Lower Mississippi River Corridor
8:55 AM, Paper 225b

Development of An Economically Viable Process for Dehydration of Biobased Glycerol
9:20 AM, Paper 225c

Modeling of Integrated Gasification Combined Cycle (IGCC) Systems with Environmental Concerns
9:45 AM, Paper 225d

Life Cycle Inventory Analysis of Recycling Post-Consumer Nylon Carpets
10:10 AM, Paper 225e

Nanocarrier Loaded with Drug Molecules
11:50 AM, Paper 226i

Computer Simulation of Single Dendrimer Spatial Grid Method
2:50 PM, Paper 229c

Factors Affecting Overall Tray Efficiency
2:50 PM, Paper 229a

Distillation Tower Operation Experience
11:10 AM, Paper 228d

Molecular Modeling of the Adsorption Behavior of Alkanes Using Atomistic Molecular Simulation
9:45 AM, Paper 228d

Monte Carlo Simulations for the Adsorption of Precursors Inside Zeolite Pores during the Synthesis of Metal Nanowires
11:00 AM, Paper 226g

Probing Orientations of Adsorbed Protein on a Solid Surface with the Hybrid Genetic Algorithm and Spatial Grid Method
11:25 AM, Paper 226h

Computer Simulation of Single Dendrimer Nanocarrier Loaded with Drug Molecules
11:50 AM, Paper 226i

(227) Thursday, Apr 10, 8:30 AM
CORROSION CONTROL IN REFINERY OPERATIONS
New Orleans Convention Center, Room 386
Sponsored by: Topical 7: 11th Topical on Refinery Processing

Guidelines for Using Overhead Simulation Models to Assess Overhead Corrosion Potential
8:30 AM, Paper 227a

Case Study: Salt Corrosion Controlled by Discontinuing Water Wash
9:50 AM, Paper 227c

Caustic Injection Relocation Project
10:30 AM, Paper 227d

(228) Thursday, Apr 10, 8:30 AM
CO2 AND SULFUR ISSUES IN REFINERIES
New Orleans Convention Center, Room 387
Sponsored by: Topical 7: 11th Topical on Refinery Processing

Tutorial: Sulfur Management in Refineries
8:30 AM, Paper 228a

Simulation of Claus Sulfur Plants
9:30 AM, Paper 228b

Development of New Generation of Agile Desulfurizers
9:55 AM, Paper 228c

A Novel FCC Regeneration Process for Reduced CO2 Emission
10:20 AM, Paper 228d

Decarbonisation in Process Sites
10:45 AM, Paper 228e

In Situ Synthesis and Characterization of Bimetallic Mesoporous Silica and its Applications
11:10 AM, Paper 228f

Ca Based High Temperature CO2 Absorbents for Sorption Enhanced Reforming Process
11:35 AM, Paper 228g

(229) Tuesday Apr 10, 2:00 PM
DISTILLATION: EQUIPMENT AND APPLICATIONS
New Orleans Convention Center, Room 384
Sponsored by: Topical 8: Distillation Topical

Factors Affecting Overall Tray Efficiency
2:00 PM, Paper 229a

Distillation Tower Operation Experience
2:25 PM, Paper 229b

Novel Test Results Demonstrate Exciting Advantages for Rascig Super-Pak
2:50 PM, Paper 229c

Maximize Propylene Recovery from a FCC Gas Plant
3:15 PM, Paper 229d

For Division Codes indicated in ACS led Co-Sponsored sessions, please refer to “Key to ACS Division Codes” on Page T40
Separation of o-Xylene from the Mixed Xylenes by Distillative Freezing
3:40 PM, Paper 229e

Hydrodynamic Performance of Cross-Flow Concentric-Ring Rotating Bed
4:05 PM, Paper 229f

Ammonia by Pressure Swing Adsorption – Part II
4:30 PM, Paper 229g

(230) Thursday, Apr 10, 8:30 AM
**ENHANCED HEAT TRANSFER FOR ENERGY SAVING**
New Orleans Convention Center, Room 289

**Sponsored by: Topical B: Energy Processes**

Experimental and Analytical Investigation of Heat Transfer Phenomena in the Chain Section of a Rotary Lime Kiln
8:30 AM, Paper 230a

Numerical and Experimental Study of Heat Transfer Enhancement in Compact Heat Exchanger with Offset Strip Fins
8:55 AM, Paper 230b

Enhanced Heat Transport in a Pulsating Heat Pipe Using a Self-Rewetting Working Fluid
9:20 AM, Paper 230c

Characteristics of Freezing Heat Transfer of PCMs in Elliptical Cylinders
9:45 AM, Paper 230d

Enhanced Heat Transfer in Vertical Thermosiphon Boilera
10:10 AM, Paper 230e

Energy Storage by Modeling a Cooling System
10:35 AM, Paper 230f

(231) Thursday, Apr 10, 8:30 AM
**GAS CONVERSION AND SEPARATION TECHNOLOGIES**
New Orleans Convention Center, Room 350

**Sponsored by: AIChE Led Co-Sponsored Session, Natural Gas Utilization**

Co-Sponsored by: Fuels and Petrochemicals Division, Topical 6: 6th Topical Conference on Natural Gas Utilization

Mechanistic Study of the Fischer-Tropsch Synthesis Using Transient Kinetics
8:30 AM, Paper 231a

Natural Gas Desulfurization for Fuel Cell Applications by Adsorption
8:55 AM, Paper 231b

Promoted ZnO Sorbents for Low Temperature H₂S Removal: Influence of Temperature, Support Surface Area, Pore Volume and Pore Size
9:20 AM, Paper 231c

Reduced Order Modeling of Rate-Based Distillation Columns
9:45 AM, Paper 231d

Investigation of Hydrodynamics, Heat and Mass Transfer Simultaneously in Liquid Film Flow on Inclined Plates Using CFD
10:10 AM, Paper 231e

(232) Thursday, Apr 10, 8:30 AM
**INDUSTRIAL ENERGY EFFICIENCY AND ITS CONTRIBUTIONS TO GREENHOUSE GAS EMISSIONS REDUCTION**
New Orleans Convention Center, Room 288

**Sponsored by: Topical B: Energy Processes**

Energy Saving in Crude Oil Pre-Heat Train for Predetermined Retrofit-Level Based Target
8:30 AM, Paper 232a

Standards for Automated Demand Response Communications
8:55 AM, Paper 232b

Energy Systems Management and Greenhouse Gas Reduction
9:20 AM, Paper 232c

User-Friendly Software for Pumping Systems Operations Optimization Using Repeated Simulation Approach
9:45 AM, Paper 232d

(233) Thursday, Apr 10, 8:30 AM
**MODELING AND CONTROL IN PROCESS DEVELOPMENT AND OPTIMIZATION**
New Orleans Convention Center, Room 390

**Sponsored by: Technology Transfer**

Co-Sponsored by: Pilot Plants

Welcoming Remarks
8:30 AM

Wireless Retrofits in Process Industries for Enhanced Plant Asset Management, Condition Monitoring and Maintenance
8:35 AM, Paper 233a

Virtual Simulation Environments Using Online Control Software
9:00 AM, Paper 233b

Using Experimental and Simulation Data to Design and Optimize Phenol Purification
9:25 AM, Paper 233c

Fundamental Liquid-Liquid Equilibrium Model for Asymmetric Component Systems
9:50 AM, Paper 233d

Fast and Precise Quantification of Polymer and Petrochemical Products and Processes Using Automated TD-NMR Technology
10:15 AM, Paper 233e

(234) Thursday, Apr 10, 9:00 AM
**FUEL CLEAN ENERGY, FUELS AND CHEMICALS FROM VEGETABLES**
New Orleans Convention Center, Room 242

**Sponsored by: ACS Led Co-Sponsored Sessions**

Co-Sponsored by: Pilot Plants

Microreactor Synthesis of Unimodal Molecularly Imprinted Polymer (MIP) Beads Used for Explosives Detection
11:05 AM, Paper 234f

Imprinted Polymer (MIP) Beads Used for Explosives Microreactor Synthesis of Unimodal Molecularly Imprinted Polymer (MIP) Beads Used for Explosives Detection
11:05 AM, Paper 234f

Horizontal Taylor Flow Hydrodynamics, Pressure Drop and Overall Mass Transfer in a Capillary Reactor
9:00 AM, Paper 235a

Liquid-Liquid Two-Phase Flow Patterns and Mass Transfer Characteristics in Rectangular Glass Microreactors
9:25 AM, Paper 235b

Multiphase Packed-Bed Microreactors – Tracer Dispersion and Hydrodynamic Characterization
9:50 AM, Paper 235c

Efficient Gas-Liquid-Solid Reduction and Oxidation Systems by Micro-Packed Bed Reactor
10:15 AM, Paper 235d

A Transparent Micro-Structured Reactor for the Investigation of Gas-Liquid Reactions at Elevated Pressures and Temperatures
10:40 AM, Paper 235e

Reactor Design Optimization for Direct Synthesis of Hydrogen Peroxide
11:05 AM, Paper 235f

(236) Thursday, Apr 10, 9:00 AM
**PARTICLES AND FUNCTIONAL MATERIALS – PART 1**
New Orleans Convention Center, Room 392

**Sponsored by: Topical 5: IMRET-10: 10th International Conference on Microreaction Technology**

Capillary-Based Microfluidic Reactors for the Production of Size-Controlled Functional Polymer Particles
9:00 AM, Paper 236a

Synthesis of Shape-Controlled Polymer Microparticles Using Asymmetric Microfluidic Channels
9:25 AM, Paper 236b

Microfluidic Synthesis of Macroporous Copolymer Particles
9:50 AM, Paper 236c

Controllable Preparation of Monodispersed Calcium Alginate Microparticles in a Novel Microfluidic System
10:15 AM, Paper 236d

Electrospray Emulsification of Wax
10:40 AM, Paper 236e

Microreactor Synthesis of Unimodal Molecularly Imprinted Polymer (MIP) Beads Used for Explosives Detection
11:05 AM, Paper 236f

(237) Thursday, Apr 10, 9:00 AM
**COLL] UNDERSTANDING AND CONTROLLING BACTERIAL ADHESION AT MOLECULAR TO MACRO-SCALES I**
New Orleans Convention Center, Room 225

**Sponsored by: ACS Led Co-Sponsored Sessions**

Co-Sponsored by: Environmental Division

Microreactor Synthesis of Unimodal Molecularly Imprinted Polymer (MIP) Beads Used for Explosives Detection
11:05 AM, Paper 237f
(239) Thursday, Apr 10, 1:20 PM
[PHYS] MULTISCALE MODELING IN BIOPHYSICS -
MULTISCALE MODELING OF BIOPOLYMERS
New Orleans Convention Center, Rooms 340-341
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Thermodynamics and Transport Properties

(240) Thursday, Apr 10, 1:30 PM
PARTICLES AND FUNCTIONAL MATERIALS - PART 2
New Orleans Convention Center, Room 392
Sponsored by: Topical 5: IMRET-10: 10th International Conference on Microreaction Technology
Characterization of Porous Silicon Layers on Ordered Pillar Arrays Located in Flow Channels of Microfluidic Devices
1:30 PM, Paper 240a
Supported Gold Catalysts for CO Oxidation in Microchannel Reactors
1:55 PM, Paper 240b
Preparation of Polymer Colloidal Particles Using Spinning Disk Reactor
2:20 PM, Paper 240c
Controlled Deposition of Metallic Nanoparticles for Enhanced In Situ Raman Characterization
2:45 PM, Paper 240d
Synthesis of Carbon Nanofibers as Support Layer for Metal Catalysts in a Microreactor for Three-Phase Reactions
3:10 PM, Paper 240e

(241) Thursday, Apr 10, 1:30 PM
MULTIPHASE REACTIONS, DISPERSIONS AND FOAMS -
PART 2
New Orleans Convention Center, Room 391
Sponsored by: Topical 5: IMRET-10: 10th International Conference on Microreaction Technology
Microextractor for Liquid-Liquid Extraction and In situ Detection of Lead
1:30 PM, Paper 241a
Three-Phase Mass Transfer in Pillared Micro Channels
1:55 PM, Paper 241b
Development of a Novel Compact 3-Phase Hydrogenation Reactor
2:20 PM, Paper 241c
Porous Microreactors for Gas-Liquid Contacting
2:45 PM, Paper 241d
Nanoparticle Precipitation by Drops Flow in a Microchannel Device and Its Simulation
3:10 PM, Paper 241e
Development of Microstructured Reactors and a Following Continuous Work-Up System for Liquid/Liquid Reactions for Use in Polycondensation
3:35 PM, Paper 241f

(242) Thursday, Apr 10, 2:00 PM
[COLL] UNDERSTANDING AND CONTROLLING BACTERIAL ADHESION AT MOLECULAR TO MACRO-SCALES II
New Orleans Convention Center, Room 225
Sponsored by: ACS Led Co-Sponsored Sessions
Co-Sponsored by: Environmental Division

Key to American Chemical Society (ACS) Division Codes

This key refers to Division Codes indicated in the ACS led co-sponsored sessions.
Please reference division codes alphabetically listed on the ACS website @ www.acs.org
for corresponding sessions and session details.

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