### Technical Program

**Sunday, June 28, 2015**
- 3:00 PM  6:00 PM  Registration (Prefunction Lobby)
- 6:00 PM  7:00 PM  Welcoming Reception (Atrium)

**Monday, June 29, 2015**
- 8:00 AM  10:00 AM  Registration (Prefunction Lobby)
- 8:00 AM  8:40 AM  Coffee (Atrium)

#### Act IV

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>8:40 AM</td>
<td>Opening Ceremony</td>
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<tr>
<td>9:00 AM</td>
<td>Keynote Session 1: New Frontiers in Magnetic Resonance Imaging of Multi-Phase Flows and Reaction in Gas-Liquid and Gas-Liquid-Solid Reactors</td>
</tr>
<tr>
<td>9:45 AM</td>
<td>Break (Atrium)</td>
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#### Sessions 1-4

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 1 - Classic 1</th>
<th>Session 2 - Computational 1</th>
<th>Session 3 - Novel 1</th>
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<tr>
<td>10:00-10:10 AM</td>
<td>Bubble Dynamics and Mass Transfer Study in a Photo-Bioreactor</td>
<td>Two-Fluid Model Analyses of Instabilities and Non-Uniformities in Bubbly Gas-Liquid Flows</td>
<td>Liquid-like Hybrid Sorbents for Carbon Capture: Investigation of CO2/Sorbent Interactions, Sorbent Viscosity and CO2 Diffusivity</td>
</tr>
<tr>
<td></td>
<td>Onkar Manjrekar (Washington University in St. Louis, USA)</td>
<td>Henrik Ström (Chalmers University of Technology, Sweden)</td>
<td>Camille Petit (Imperial College London, UK)</td>
</tr>
<tr>
<td>10:10-10:20 AM</td>
<td>New Approaches for Prediction of Gas Holdups and Validation of the Mixing Length Concept in Gas-Liquid and Slurry Bubble Columns</td>
<td>Numerical Simulation for Interfacial Forces of Counter-Current Flow over an Inclined Plate</td>
<td>A Comparative Study of Different Amine-Based Solvents for CO2-Capture Using the Rate-Based Approach</td>
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<td></td>
<td>Stoyan Nedeltchev (Institute of Fluid Dynamics, Helmholtz-Zentrum Dresden-Rossendorf, Germany)</td>
<td>Janine Galvin (U.S. DOE National Energy Technology Laboratory, Albany, OR, USA)</td>
<td>Nicole Hüser (University of Paderborn, Germany)</td>
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<td></td>
<td>Amin Esmaeili K.S (Ecole Polytechnique de Montreal, Canada)</td>
<td>Christophe Vial (Clermont Université, Université Blaise Pascal, LABEX IMobS3, France)</td>
<td>Mohammed AlMester (King Khalid University, Saudi Arabia)</td>
</tr>
<tr>
<td>10:30-10:40 AM</td>
<td>Hydrodynamic Characteristics of Liquid Solids Binary Fluidized Bed through Radiotracer Techniques and Euler-Lagrangian Simulations</td>
<td>TBD</td>
<td>Industrial Petrochemical Wastewater Treatment By Ozonation in the Presence of Aluminum Silica Materials in a Gas Liquid Solid Reactor</td>
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**Act III**

**Room 401/402**

**Room 403/404**

**Opening Ceremony**

**Alessa Park, Bing Du, & Liang-Shih Fan**

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**Keynote Session 1**

New Frontiers in Magnetic Resonance Imaging of Multi-Phase Flows and Reaction in Gas-Liquid and Gas-Liquid-Solid Reactors

**Lynn Gladden (University of Cambridge, UK)**

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**Opening Ceremony**

**Act IV**

Opening Ceremony

**Act III**

**Room 401/402**

**Room 403/404**
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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td></td>
<td>Coupled CFD-PBM Modeling of the Effect of Liquid Viscosity on Gas-Liquid Mass Transfer in a Bubble Column</td>
<td>TBD</td>
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<tr>
<td></td>
<td>Discrete Bubble Modeling of CO2 Absorption in a NaOH Solution in a Micro-Structured Bubble Column</td>
<td>Marie-Hélène Manero, Université de Toulouse</td>
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<td></td>
<td>Exergy Recuperative CO2 Separation Process</td>
<td>Vivek V. Ranade (National Chemical Laboratory, Pune, India)</td>
</tr>
<tr>
<td>10:50-11:00 AM</td>
<td>Dynamics of Unary and Binary Gas-Solid Flows: ECT Measurements and CFD Simulations</td>
<td>Zi-Bin Huang (East China University of Science and Technology, China)</td>
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<td></td>
<td>Physical and Chemical Interactions of Shale with Supercritical CO2 for Enhanced Unconventional Hydrocarbon Extraction</td>
<td>Maria Hélène, Université de Toulouse, Netherlands</td>
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<td></td>
<td>Aqueous-Phase Hydrodechlorination of Chlorinated Organic Compounds over Ruthenium Catalysts</td>
<td>Atsushi Tsutsumi (The University of Tokyo, Japan)</td>
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<tr>
<td>11:00 AM</td>
<td>Combined Poster Session for Sessions 1-4 (Atrium)</td>
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<tr>
<td>12:30 PM</td>
<td>Lunch (Act I and II)</td>
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<tr>
<td>12:30 PM</td>
<td>Committee Meeting (closed)</td>
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**Act IV**

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<tr>
<th>Session 5 - Classic 2</th>
<th>Session 6 - Computational 2</th>
<th>Session 7 - Novel 2</th>
<th>Session 8 - Multiphase 1</th>
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<tbody>
<tr>
<td>2:00-2:10 PM</td>
<td>Study of Catalytic Coal Gasification in Fluidized Bed Thermogravimetric Analyzer</td>
<td>Multi-phase CFD Simulations for the Estimation of Kla Values in a Lab-Scale Stirred Tank Reactor with a Self-Inducing Impeller</td>
<td>Effect of Particle Size and Density on Mixing in a Double Screw Pyrolyzer</td>
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<tr>
<td>Said Samih (Polytechnique Montreal, Canada)</td>
<td>Vania Santos-Moreau (IFP Energies Nouvelles, France)</td>
<td>Breanna L. Marmur (Iowa State University, USA)</td>
<td>Subhasish Mitra (University of Newcastle, Australia)</td>
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<td>Faical Larachi (Laval University, Canada)</td>
<td>Farzad Mousazadeh (Delft University of Technology, Netherlands)</td>
<td>Maxim Stonor (Columbia University, USA)</td>
<td>Guichao Wang (University of Newcastle, Australia)</td>
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<tr>
<td>Jun Li (Chinese Academy of Sciences, China)</td>
<td>Bo Zhang (New Jersey Institute of Technology, USA)</td>
<td>Bokkyu Choi (The University of Tokyo, Japan)</td>
<td>Mohamed Sassi (Masdar Institute of Science and Technology, United Arab Emirates)</td>
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<tr>
<td>2:30-2:40 PM</td>
<td>Hydrodynamics of a Gas-Liquid Reactor with a Phase Change</td>
<td>Modeling and Simulation By CFD of an Electrocoagulation Reactor</td>
<td>Dual Bubbling Fluidized Bed Reactor Study for Hydrogen Production By Sorption Enhanced Steam Methane Reforming</td>
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<td>2:40-2:50 PM</td>
<td>Kunyu Guo (Tsinghua University, China)</td>
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<td>Mehdi Acil (High School of Technology-Casablanca, Morocco)</td>
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<td>Kumar Ranjan Rout (Norwegian University of Science and Technology, Norway)</td>
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<td>Shantanu Roy (Indian Institute of Technology - Delhi, India)</td>
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<td>Axial Distribution of Solid Particles in an Ebullated-Bed Reactor at High Solid Concentrations</td>
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<td>Optimal Structure Design and Hotspot Change Analysis of Multi Tubular Fixed Bed Reactor for Fischer-Tropsch Synthesis Based on CFD Modeling with Sloshing Motion</td>
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<td>Biogas Upgrading at Farm Scale: Improvements of Absorption in Water Scrubbers</td>
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<td>CFD-PBE Simulation of Gas-Liquid Flow in an Internal Airlift Loop Reactor</td>
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<td>2:50-3:00 PM</td>
<td>Yan Shi (East China University of Science and Technology, China)</td>
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<td>Hyunseung Kim (Myongji University, South Korea)</td>
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<td>David Benizri (LISBP - EAD7, INSA, France)</td>
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<td>Jingcai Cheng (Institute of Process Engineering, Chinese Academy of Sciences, China)</td>
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<td>Effect of Thermodynamic Parameters on Modeling Industrial Slurry Reactors for Catalytic Olefins Polymerization</td>
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<td>Direct Numerical Simulations of Particulate Two-Phase Flows of Porous Particles Using Lattice Boltmann Method</td>
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<td>Hydrotreating of Karanja and Jatropha Oils over Pt/Al2O3 Catalyst</td>
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<td>Role of Free Surface in Liquid Mixing in Shallow Gas-Liquid Process Vessels</td>
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<td>3:00 PM</td>
<td>Yan Shi (East China University of Science and Technology, China)</td>
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<td>4:30 PM</td>
<td>Hyunseung Kim (Myongji University, South Korea)</td>
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<td>5:15 PM</td>
<td>David Benizri (LISBP - EAD7, INSA, France)</td>
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<td>5:15 PM</td>
<td>Jingcai Cheng (Institute of Process Engineering, Chinese Academy of Sciences, China)</td>
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<tr>
<td>Tuesday, June 30, 2015</td>
<td>Future Energy and Chemicals: Reaction Engineering and Process Intensification Challenges</td>
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<td>8:00 AM</td>
<td>Coffee (Atrium)</td>
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<tr>
<td>9:00 AM</td>
<td>Keynote Session 3 - Future Energy and Chemicals: Reaction Engineering and Process Intensification Challenges</td>
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<td>9:00 AM</td>
<td>Mesoscale Computational Fluid Dynamics for Multiphase Reactors</td>
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<td>9:45 AM</td>
<td>Break (Atrium)</td>
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<tr>
<td>10:00 AM</td>
<td>Toward CO2 Capturing Using Aqueous DEMEA/MEA, DEMEA/DEA and DEMEA/PZ/Sulfolane Mixtures</td>
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<td>10:00-10:10 AM</td>
<td>Flow Visualization Around a Particle Bubble Aggregate</td>
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<td>10:00-10:10 AM</td>
<td>Phase Distribution, Local Maldistribution and Back Mixing Behavior Using Two Tip Optical Probe And Statistical/Chaotic Analysis Approach to Determine And To Monitor Local Flow Using Gamma Ray Densitometry In Uplow Moving Packed Bed Hydrotreater Reactor</td>
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<tr>
<td>10:00-10:10 AM</td>
<td>Review and Analysis of Current Gas-Liquid Drag Models at High Gas Fractions</td>
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<tr>
<td>Chairs: Atsushi Tsutsumi &amp; Greeshma Gadikota</td>
<td>Chairs: Janine Galvin &amp; Bing Du</td>
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<td>Chairs: Ryan Stephens &amp; Sayuri Yanai</td>
<td>Chairs: Geoffrey Evans &amp; Ashfaq Shaikh</td>
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<td>Prakash D. Vaidya (Institute of Chemical Technology, Mumbai, India)</td>
<td>Guichao Wang (University of Newcastle, Australia)</td>
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<td>Vineet Alexander (Missouri University of Science and Technology, USA)</td>
<td>Chris Lane (Dalhousie University, Canada)</td>
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<tr>
<td>10:10-10:20 AM</td>
<td>Numerical Modelling of the FCC Regenerator Reactor Based on Shrinkage Reaction Rate Model</td>
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<td>CFD Modeling of Miscible Fluid Blending in Pulse Jet Mixing Vessels</td>
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<td>Bubble Size Measurement in Large Bubble Columns at High Void Fraction By an Original Method of Spatial Cross-Correlation Between Optical Probes</td>
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<td>Mass Transfer in Bubble Columns – a Single Bubble Approach</td>
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<td>Salar Azizi</td>
<td>Rahul Garg (National Energy Technology Laboratory, Morgantown, WV &amp; URS Corp., USA)</td>
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<td>Rahul Garg</td>
<td>Pedro Raimundo (IFPEnergies Nouvelles, France)</td>
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<td>David Merker (Technische Universität Berlin, Germany)</td>
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| 10:20-10:30 AM  | Development of Circulating Molten Metal Thermochemical Conversion System |
|                 | Hydrodynamic Studies of Bubble Cutting in a Micro-Structured Bubble Column Reactor for a Dodecane-Nitrogen System |
|                 | Influences of Gas-Liquid Interface Contamination on Bubble Motions, Bubble Wakes, and Instantaneous Mass Transfer |
| Jihong Moon     | Jyeshtharaj B. Joshi (Homi Bhabha National Institute, India)               |
|                 | Krushnathej Thiruvalluvan Sujatha (Eindhoven University of Technology, Netherlands) |
|                 | Jie Huang (Shizuoka University, Japan)                                     |

| 10:30-10:40 AM  | Absorption of Toluene in Silicone Oil: Effect of the Solvent Viscosity on Hydrodynamics and Mass Transfer |
|                 | Numerical Studies of Kinetic Theory of Granular Flows (KTGF) on the Viscosity of Granular Fluid |
|                 | Bubble Holdup Structure in a Three-Phase-Circulating Fluidized Bed |
|                 | Numerical Study of Buoyancy-Induced Instability during CO2 Absorption in Alkaline Solutions |
| Annabelle Couvert | Yung Xu (Eindhoven University of Technology, Netherlands)               |
|                 | Dong Jun Yoo (Chungnam National University, South Korea)               |
|                 | Benoit Haut (Université Libre de Bruxelles (ULB), Belgium)            |

| 10:40-10:50 AM  | “Equivalent Absorption Capacity” Concept Applied to the VOCs Absorption in a Countercurrent Packed-Bed Column Using Water/Silicone Oil Mixtures |
|                 | Internal Age Distribution inside Trickle Bed Reactors Using an Eulerian Two-Fluid Approach |
|                 | Axial and Radial Vapor Void Fraction Profiles in Forced Convection Flow Boiling |
|                 | Fluid Flow and Gas-Liquid Transfer in a Swirling Quench Box with Jet |
| Eric Dumont     | Frédéric Augier (IFP Energies Nouvelles, France)                         |
|                 | Shantanu Roy (Indian Institute of Technology - Delhi, India)             |
|                 | Kun Yu (East China University of Science and Technology, China)          |

| 10:50-11:00 AM  | Enhanced Water-Gas Shift Reaction and In-situ Carbon Fixation in the Presence of a Mg(OH)2 Slurry in a High Pressure Aqueous System |
|                 | Pyrolysis of Biomass Particles Using Circulating Fluidized Bed Reactor with Heat Loop of the Heat Carrier Particles |
|                 | Influence of Multiple Gas Inlet Jets on Fluidized Bed Hydrodynamics Using Digital Image Analysis Under Pressure |
|                 | Power Consumption and Gas-Liquid Mass Transfer in a Hot-Sparaged Three-Phase Stirred Tank with Triple Impellers |
| Ah-Hyung Alissa Park | Salar Azizi (Institute of Fluid Dynamics, Helmholtz-Zentrum Dresden-Rossendorf, Germany) |
|                 | Junguo Li (Institute of Coal Chemistry, Chinese Academy of Sciences, China) |
|                 | Yuyun Bao (Beijing University of Chemical Technology, China)             |

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<td>Session 15 - Measure 2</td>
<td>Session 16 - Gas-Liquid 2</td>
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<tr>
<td>Time</td>
<td>Session</td>
<td>Authors</td>
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<tr>
<td>9:30-9:40 AM</td>
<td>Comparison of Membrane and Fixed-Bed Reactor Performances of Ni-W-Mesoporous Alumina Catalysts in Dry Reforming of Methane</td>
<td>Timur Dogu (Middle East Technical University, Turkey)</td>
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<td>A New Approach to Development of Molecular Based Kinetic Lumping Model for Design and Simulation of Hydrodesulfurization Process</td>
<td>HongThuy T. Nguyen (The University of Tokyo, Japan)</td>
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<td>Experimental Measurement of the Bulk and Flow Properties of Gas-Liquid-Solid Mixtures</td>
<td>Benjamin J. Glasser (Rutgers University, USA)</td>
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<td>Experimental Investigation of Particle Loading on Miscible Fluid Blending in Pulse Jet Mixing Vessels</td>
<td>Balaji Gopalan (National Energy Technology Laboratory, Morgantown, WV &amp; West Virginia University Research Corp, USA)</td>
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<tr>
<td>9:40-9:50 AM</td>
<td>Absorption of Toluene per a Vegetable Oil-Water Emulsion in Scrubbing Tower: Experiments and Modeling</td>
<td>Gilles Hébrard (Université de Toulouse &amp; INRA, UMR792 &amp; CNRS, UMR5504, France)</td>
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<td></td>
<td>Unified Modeling of Bubbly Flows in Pipes, Bubble Columns, and Airlift Columns</td>
<td>Roland Rzehak (Helmholtz-Zentrum Dresden - Rossendorf, Germany)</td>
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<td>Effect of Internals on Fluid Dynamic Parameters in Bubble Column: A Comparative Study</td>
<td>Dinesh V. Kalaga (Institute of Chemical Technology, Mumbai &amp; Indian Institute of Technology - Gandhinagar, India)</td>
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<td>Instabilities Due to Turbulence through Inlet Jet in Plunging Jet Bubble Column</td>
<td>Geoffrey M. Evans (The University of Newcastle, Australia)</td>
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<tr>
<td>9:50-10:00 AM</td>
<td>Modeling and Scale-up of a Continuous Process for the Production of Hexafluoroisopropanol</td>
<td>Tiberiu Leib (The Chemours Company, USA)</td>
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<td>A New Force Law for a Spherical Intruder Plunging Vertically into a Granular Bed</td>
<td>Yupeng Xu (Eindhoven University of Technology, Netherlands)</td>
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<td>Imaging an Air-Water Trickle Bed Using Electrical Capacitance Volume Tomography (ECVT)</td>
<td>Aining Wang (The Ohio State University, USA)</td>
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<td>Hydrodynamic Characteristics at Layer Inversion Point in Three-phase Fluidized Beds with Binary Solids</td>
<td>Jun Young Kim (Sungkyunkwan University, South Korea)</td>
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<tr>
<td>10:00-10:10 AM</td>
<td>Gas Dispersion and Solid Suspension in a Three-Phase Stirred Reactor with Optimized Triple Impellers</td>
<td>Yuyun Bao (Beijing University of Chemical Technology, China)</td>
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<td>Direct Numerical Simulations of Freely Moving Spheres: A Dynamic Drag Correlation</td>
<td>Yali Tang (Eindhoven University of Technology, Netherlands)</td>
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<td>Biological Floc Size Measurement for Shear Stress Characterisation in Full-Scale</td>
<td>Yannick Fayolle (UR HBAN, Irstea, France)</td>
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<td>Cutting Bubbles Using Direct Numerical Simulation</td>
<td>Maïke. W. Baltussen (Eindhoven University of Technology, Netherlands)</td>
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<tr>
<td>10:10-10:20 AM</td>
<td>Estimation of Gas Induction in Jet Loop Reactors: Influence of Nozzle Designs</td>
<td>Vivek V. Ranade (National Chemical Laboratory, Pune, India)</td>
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<td>Pore-Scale Level Numerical Simulation of Flow in a Solid Foam: An Immersed Boundary Method (IBM Based Approach</td>
<td>Saurish Das (Eindhoven University of Technology, Netherlands)</td>
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<td>Advance in a Single-Tip Optical Fiber Probe for Simultaneously Measuring Droplet Size, Velocity, and Volume Fraction in Dispersed Flows</td>
<td>Yuki Mizushima (Shizuoka University, Japan)</td>
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<td></td>
<td>CFD Simulation and Local Phase Holdup Measurement in a Gas-Liquid-Solid Agitated Reactor</td>
<td>Shifang Yang (Institute of Process Engineering, Chinese Academy of Sciences, China)</td>
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<tr>
<td>10:20-10:30 AM</td>
<td>Comparison of Different Pore-Scale Level Capillary Pressure Models for Simulation on Liquid Dispersion in Trickling Flow Reactors</td>
<td>Peng Liu (East China University of Science and Technology, China)</td>
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<td>Two-/Multi-Fluid Simulations of Dispersed Gas-Liquid/Gas-Liquid Solid Flows in a Slurry Bubble Column</td>
<td>Parul Tyagi (Indian Institute of Technology Delhi, India)</td>
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<td>CFD Simulation of Bubble Column Reactor : Comparison of Turbulence Models</td>
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<td>J. B. Joshi (Homi Bhabha National Institute, India)</td>
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<td>Time</td>
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<tr>
<td>2:45-2:55 PM</td>
<td>A Novel Multiphase Continuous Polymeric Fiber Reactor</td>
<td>Chairs: Benjamin Glasser &amp; Eric Hukkanen</td>
<td>Eric J Hukkanen (The Dow Chemical Company, USA)</td>
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<td>Design and Simulation of a Multiphase Continuous Bioreactor</td>
<td>Chairs: Thomas Hanley &amp; Eric Cordi</td>
<td>Thomas R. Hanley (Auburn University, USA)</td>
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<td>Probe Effects on the Local Gas Holdup Conditions within a Fluidized Bed</td>
<td>Chairs: Bruce Latshaw &amp; Melaz Tayakout</td>
<td>Theodore J. Heindel (Iowa State University, USA)</td>
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<td>Transient Global Modelling of Oxygen Mass Transfer in an Internal Gas-Liquid Airlift Reactor</td>
<td>Chairs: Tiefeng Wang &amp; Alissa Park</td>
<td>Arnaud Cockx (Université de Toulouse, France)</td>
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<td>2:55-3:05 PM</td>
<td>Analysis of Evaporation Mechanism in Thermal Desalination Process Using Fluidized Bed</td>
<td>Eric J Hukkanen (The Dow Chemical Company, USA)</td>
<td>Thomas R. Hanley (Auburn University, USA)</td>
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<td>Comparison of Monofibre Optical Probe and Dynamic Gas Disengagement Techniques for Local and Global Bubble Characteristics in a Bubble Column at High Gas Holdups Conditions</td>
<td>Theodore J. Heindel (Iowa State University, USA)</td>
<td>Arnaud Cockx (Université de Toulouse, France)</td>
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<td>Motion of a Particle Bubble Aggregate in a Rectangular Cavity</td>
<td>Chairs: Tiefeng Wang &amp; Alissa Park</td>
<td>Guichao Wang (University of Newcastle, Australia)</td>
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<td>3:05-3:15 PM</td>
<td>Inertial Focusing in Spiral Microchannel for Separating Biological Particles in Drinking Water Monitoring</td>
<td>Chairs: Benjamin Glasser &amp; Eric Hukkanen</td>
<td>Hiroyuki Mizuno (The University of Tokyo, Japan)</td>
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<td>Coupled Hydrodynamic-Metabolic Simulations of Fermentation Processes</td>
<td>Chairs: Thomas Hanley &amp; Eric Cordi</td>
<td>Zaineb Trad (Université Blaise Pascal, LABEX IMobS3 &amp; UMR6602, CNRS &amp; Institut Pascal, France)</td>
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<td>Analyzing Clustering in Bubbly Flow Using Ultra-Fast X-Ray Tomography</td>
<td>Chairs: Bruce Latshaw &amp; Melaz Tayakout</td>
<td>Valois Parisien (University of Ottawa, Canada)</td>
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<td>3:15-3:25 PM</td>
<td>Visualization of Gas-Liquid Mass Transfer Around a Taylor Bubble during the Forming-Stage and the Flowing-Stage in Microreactors</td>
<td>Chairs: Benjamin Glasser &amp; Eric Hukkanen</td>
<td>Mélanie Jimenez (Heriot-Watt University, Scotland)</td>
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<td>Modelling Oxygen Transfer in Moving-Bed Biofilm Reactors Using Dimensional Analysis</td>
<td>Chairs: Thomas Hanley &amp; Eric Cordi</td>
<td>Cees Haringa (TU Delft, Netherlands)</td>
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<td>About the Dynamics and Morphology of Small Ellipsoidal Bubbles in Liquids</td>
<td>Chairs: Bruce Latshaw &amp; Melaz Tayakout</td>
<td>Yuk Man Lau (Institute of Fluid Dynamics, Helmholtz-Zentrum Dresden-Rossendorf, Germany)</td>
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<td>Insights of Liquid Cooled Pebble Bed Reactor through Experiments and CFD Simulations</td>
<td>Chairs: Tiefeng Wang &amp; Alissa Park</td>
<td>Benoît Haut (Université Libre de Bruxelles (ULB), Belgium)</td>
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<td>3:25-3:35 PM</td>
<td>Innovative External-Loop Airlift Reactors As Electrochemical Reactors for Electrocoagulation / Electroflotation</td>
<td>Chairs: Benjamin Glasser &amp; Eric Hukkanen</td>
<td>Abdel hafid Essadki III (Ecole Supérieure de Technologie de Casablanca, Morocco)</td>
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<td>Effect of Mixed Liquor Suspended Solids (MLSS) on Mass Transfer Coefficient in Sparged and Stirred Tank Reactors</td>
<td>Chairs: Thomas Hanley &amp; Eric Cordi</td>
<td>Jyeshtharaj B. Joshi (Homi Bhabha National Institute, India)</td>
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<td>Radioactive Particle Tracking Technique for Velocity Measurements in Coiled Geometries: Design of Experiments and Experimental Flow Patterns</td>
<td>Chairs: Bruce Latshaw &amp; Melaz Tayakout</td>
<td>Loveleen Sharma (Indian Institute of Technology - Delhi, India)</td>
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<td>Rajesh Kumar Upadhyay (Indian Institute of Technology Guwahati, India)</td>
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<td>3:35-3:45 PM</td>
<td>Water/Wastewater Ozoneation: The Importance of Effective Gas/Liquid Contacting</td>
<td>Chairs: Benjamin Glasser &amp; Eric Hukkanen</td>
<td>Feilong Zheng (Mori-matsu Group, China)</td>
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<td>Dry Storage of C. ijungdahlii Paper-Based Biocomposites: Steps Toward Continuous, Modular, High Intensity Bioprocessing of Syngas into Liquids</td>
<td>Chairs: Thomas Hanley &amp; Eric Cordi</td>
<td>Mark Schulte(North Carolina State University, USA)</td>
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<td>Low-Temperature, Wet Coating of Cohesive Particles in a Vortex Chamber Generated High-G Fluidized Bed</td>
<td>Chairs: Bruce Latshaw &amp; Melaz Tayakout</td>
<td>Juray De Wilde (Université Catholique de Louvain (UCL))</td>
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<td>Gas-Liquid Distribution in Monoliths: Effect of Distributor Configurations and Scale</td>
<td>Chairs: Tiefeng Wang &amp; Alissa Park</td>
<td>Shanantan Roy (Indian Institute of Technology - Delhi, India)</td>
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3:45 PM - 5:15 PM Combined Poster Session for Sessions 17-20 (Atrium)

Act IV
5:15 PM  5:30 PM  Closing Ceremony

| Closing Ceremony - current and next conference chairs |