

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

8:40 AM 9:00 AM Opening Ceremony

Opening Ceremony
Alissa Park, Bing Du, & Liang-Shih Fan

9:00 AM 9:45 AM 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)

9:45 AM 10:00 AM Break (Atrium)

Act IV

Act III

Room 401/402

Room 403/404

10:00 AM 11:00 AM Sessions 1-4

10:00-10:10 AM

10:10-10:20 AM

10:20-10:30 AM

Session 1 - Classic 1
Chairs: Jiri Drahos & Vania Santos-Moreau

Bubble Dynamics and Mass Transfer Study in a Photo-Bioreactor

Onkar Manjrekar (Washington University in St. Louis, USA)

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New Approaches for Prediction of Gas Holdups and Validation of the Mixing Length Concept in Gas-Liquid and Slurry Bubble Columns

Stoyan Nedeltchev (Institute of Fluid Dynamics, Helmholtz-Zentrum Dresden-Rossendorf, Germany)

Developing Correlations for Prediction of Hydrodynamic Parameters in Bubble Column Reactors Operating with Non-Newtonian Liquids

Amin Esmaeili K.S (Ecole Polytechnique de Montreal, Canada)

Session 2 - Computational 1
Chairs: Ying Liu & Madhava Syamlal

Two-Fluid Model Analyses of Instabilities and Non-Uniformities in Bubbly Gas-Liquid Flows

Henrik Ström (Chalmers University of Technology, Sweden)

Numerical Simulation for Interfacial Forces of Counter-Current Flow over an Inclined Plate

Janine Galvin (U.S. DOE National Energy Technology Laboratory, Albany, OR, USA)

Multi-Scale Modelling of an Airlift-Loop Reactor Applied to Remove of Ferrous Iron from Potable Water

Christophe Vial (Clermont Université, Université Blaise Pascal, LABEX IMobS3, France)

Session 3 - Novel 1
Chairs: Faical Larachi & Joshua Allen

Liquid-like Hybrid Sorbents for Carbon Capture: Investigation of CO₂/Sorbent Interactions, Sorbent Viscosity and CO₂ Diffusivity

Camille Petit (Imperial College London, UK)

A Comparative Study of Different Amine-Based Solvents for CO₂-Capture Using the Rate-Based Approach

Nicole Hüser (University of Paderborn, Germany)

Recent Advances on the Integrated Effects of Dense Internals on Bubble Dynamics, Heat Transfer, and Flow Dynamics in Slurry Bubble Columns for Clean Alternative Fuels Production via Fischer-Tropsch Synthesis

Mohammed AlMesfer (King Khalid University, Saudi Arabia)

Session 4 - Process/Scale 1
Chairs: John Coleman & Michael Schlueter

Novel Clean Energy Technologies Utilizing Fluidized Bed Reactors

Raghubir Gupta (RTI International, USA)

Influence of Hydrodynamics on Yield and Selectivity in Reactive Bubbly Flows

Michael Schlueter (Hamburg University of Technology, Germany)

An Energy Saving Dimethyl Ether Production from Synthesis Gas Using Indirect Method By Self-Heat Recuperation

Yasuki Kansha (The University of Tokyo, Japan)

10:30-10:40 AM	Hydrodynamic Characteristics of Liquid Solids Binary Fluidized Bed through Radiotracer Techniques and Euler-Lagrangian Simulations <i>Rajesh Kumar Upadhyay (Indian Institute of Technology Guwahati, India)</i>	Direct Numerical Simulations and Experiments of a Small Fluidized Bed <i>Yali Tang (Eindhoven University of Technology, Netherlands)</i>	Industrial Petrochemical Wastewater Treatment By Ozonation in the Presence of Alumino Silica Materials in a Gas Liquid Solid Reactor <i>Marie-Hélène Manero, Université de Toulouse</i>	Heat & Mass Transfer in Boiling and Reacting Gas-Liquid Systems: A Study of Isolated Droplets & Bubbles <i>Vivek V. Ranade (National Chemical Laboratory, Pune, India)</i>
10:40-10:50 AM	Circulation Structure Analysis of Fluid Flow in an Ebbulated Bed Reactor Using Tracer Techniques <i>Zi-Bin Huang (East China University of Science and Technology, China)</i>	Coupled CFD-PBM Modeling of the Effect of Liquid Viscosity on Gas-Liquid Mass Transfer in a Bubble Column <i>Tiefeng Wang (Tsinghua University, China)</i>	Discrete Bubble Modeling of CO2 Absorption in a NaOH Solution in a Micro-Structured Bubble Column <i>Niels G. Deen (Eindhoven University of Technology, Netherlands)</i>	Exergy Recuperative CO2 Separation Process <i>Atsushi Tsutsumi (The University of Tokyo, Japan)</i>
10:50-11:00 AM	Dynamics of Unary and Binary Gas-Solid Flows: ECT Measurements and CFD Simulations <i>Shantanu Roy (Indian Institute of Technology - Delhi, India)</i>	Investigation of Flow Regimes in Trickle Bed Reactors Using Volume of Fluid and Lattice Boltzmann Methods <i>Mohamed Sassi (Masdar Institute of Science and Technology, United Arab Emirates)</i>	Physical and Chemical Interactions of Shale with Supercritical CO2 for Enhanced Unconventional Hydrocarbon Extraction <i>Greeshma Gadikota (Columbia University, USA)</i>	Aqueous-Phase Hydrodechlorination of Chlorinated Organic Compounds over Ruthenium Catalysts <i>Prakash D. Vaidya (Institute of Chemical Technology, Mumbai, India)</i>

11:00 AM 12:30 PM Combined Poster Session for Sessions 1-4 (Atrium)

12:30 PM 2:00 PM Lunch (Act I and II)

12:30 PM 2:00 PM Committee Meeting (closed)

Act IV

Act III

Room 401/402

Room 403/404

2:00 PM 3:00 PM Sessions 5-8

	Session 5 - Classic 2 Chairs: Hans Kuipers & Tiberiu Leib	Session 6 - Computational 2 Chairs: Chao Zhu & Francesco Bertola	Session 7 - Novel 2 Chairs: Raghurib Gupta & Camille Petit	Session 8 - Multiphase 1 Chairs: Arturo Macchi & Ya Qin
2:00-2:10 PM	Study of Catalytic Coal Gasification in Fluidized Bed Thermogravimetric Analyzer <i>Said Samih (Polytechnique Montreal, Canada)</i>	Multiphase CFD Simulations for the Estimation of <i>K_{la}</i> Values in a Lab-Scale Stirred Tank Reactor with a Self-Inducing Impeller <i>Vania Santos-Moreau (IFP Energies Nouvelles, France)</i>	Effect of Particle Size and Density on Mixing in a Double Screw Pyrolyzer <i>Breanna L. Marmor (Iowa State University, USA)</i>	On in-Flight Collision Behaviour of Droplets on a Spherical Particle <i>Subhasish Mitra (University of Newcastle, Australia)</i>
2:10-2:20 PM	Cyclic Operation Strategies in Inclined and Moving Trickle Beds-Potential Marine Applications for Floating Systems <i>Faical Larachi (Laval University, Canada)</i>	Mal-Distribution and Formation of Hot Spots in Trickle Bed Reactors <i>Farzad Mousazadeh (Delft University of Technology, Netherlands)</i>	Catalytic Enhancement of the Alkaline Thermal Treatment of Wet Biomass to Hydrogen in the Presence of Group I and II Hydroxides <i>Maxim Stonor (Columbia University, USA)</i>	Dynamic Contact Angle of Bubble with an Immersed-in-Water Spherical Particle in Turbulent Flow and Its Application to Flotation <i>Guichao Wang (University of Newcastle, Australia)</i>
2:20-2:30 PM	Efficient Synthesis of Iron Nanoparticles in a Fluidized Bed and Their Thermal Properties <i>Jun Li (Chinese Academy of Sciences, China)</i>	Effects of Asymmetric Feeding on Gas-Solid-Liquid Transport and Catalytic Cracking Reaction in the Feed Zone of Riser <i>Bo Zhang (New Jersey Institute of Technology, USA)</i>	Multi-Functional Electrochemical Reactor for Hydrogen Energy System <i>Bokkyu Choi (The University of Tokyo, Japan)</i>	Experimental Study of Hydrodynamics of Trickle Bed Reactor with and without Fine Particle Suspension Under Different Pressure Conditions <i>Mohamed Sassi (Masdar Institute of Science and Technology, United Arab Emirates)</i>

2:30-2:40 PM	Hydrodynamics of a Gas-Liquid Reactor with a Phase Change <i>Kunyu Guo (Tsinghua University, China)</i>	Modeling and Simulation By CFD of an Electrocoagulation Reactor <i>Mehdi Acil (High School of Technology-Casablanca, Morocco)</i>	Dual Bubbling Fluidized Bed Reactor Study for Hydrogen Production By Sorption Enhanced Steam Methane Reforming <i>Kumar Ranjan Rout (Norwegian University of Science and Technology, Norway)</i>	Effective Rates of Coalescence in Oil-Water Dispersions Under Constant Shear <i>Shantanu Roy (Indian Institute of Technology - Delhi, India)</i>
2:40-2:50 PM	Axial Distribution of Solid Particles in an Ebullated-Bed Reactor at High Solid Concentrations <i>Yan Shi (East China University of Science and Technology, China)</i>	Optimal Structure Design and Hotspot Change Analysis of Multi Tubular Fixed Bed Reactor for Fischer-Tropsch Synthesis Based on CFD Modeling with Sloshing Motion <i>Hyunseung Kim (Myongji University, South Korea)</i>	Biogas Upgrading at Farm Scale: Improvements of Absorption in Water Scrubbers <i>David Benizri (LISBP - EAD7, INSA, France)</i>	CFD-PBE Simulation of Gas-Liquid Flow in an Internal Airlift Loop Reactor <i>Jingcai Cheng (Institute of Process Engineering, Chinese Academy of Sciences, China)</i>
2:50-3:00 PM	Effect of Thermodynamic Parameters on Modeling Industrial Slurry Reactors for Catalytic Olefins Polymerization <i>Maryam Tamaddoni (SABIC, Netherlands)</i>	Direct Numerical Simulations of Particulate Two-Phase Flows of Porous Particles Using Lattice Boltzmann Method <i>Mao Ye (Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China)</i>	Hydrotreating of Karanja and Jatropha Oils over Pt/Al ₂ O ₃ Catalyst <i>Prakash D. Vaidya (Institute of Chemical Technology, Mumbai, India)</i>	Role of Free Surface in Liquid Mixing in Shallow Gas-Liquid Process Vessels <i>Abdul Quiyoom (Indian Institute of Technology Delhi, India)</i>

3:00 PM 4:30 PM Combined Poster Session for Sessions 5-8 (Atrium)

Act IV

4:30 PM 5:15 PM Keynote Session 2

Future Energy and Chemicals: Reaction Engineering and Process Intensification Challenges
Joe Powell (Shell, USA)

5:15 PM 6:30 PM Poster Session 1 & Light Reception (Atrium)

Tuesday, June 30, 2015

8:00 AM 10:00 AM Registration (Prefunction Lobby)

8:00 AM 9:00 AM Coffee (Atrium)

Act IV

9:00 AM 9:45 AM Keynote Session 3

Mesoscale Computational Fluid Dynamics for Multiphase Reactors
Ning Yang (Institute of Process Engineering, Chinese Academy of Sciences, China)

9:45 AM 10:00 AM Break (Atrium)

10:00 AM 11:00 AM Sessions 9-12

	Act IV	Act III	Room 401/402	Room 403/404
	Session 9 - Novel 3 Chairs: Atsushi Tsutsumi & Greeshma Gadikota	Session 10 - Computational 3 Chairs: Janine Galvin & Bing Du	Session 11 - Measure 1 Chairs: Ryan Stephens & Sayuri Yanai	Session 12 - Gas-Liquid 1 Chairs: Geoffrey Evans & Ashfaq Shaikh
10:00-10:10 AM	Toward CO2 Capturing Using Aqueous DEMEA/MEA, DEMEA/DEA and DEMEA/PZ/Sulfolane Mixtures <i>Prakash D. Vaidya (Institute of Chemical Technology, Mumbai, India)</i>	Flow Visualization Around a Particle Bubble Aggregate <i>Guichao Wang (University of Newcastle, Australia)</i>	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 Upflow Moving Packed Bed Hydrotreater Reactor <i>Vineet Alexander (Missouri University of Science and Technology, USA)</i>	Review and Analysis of Current Gas-Liquid Drag Models at High Gas Fractions <i>Chris Lane (Dalhousie University, Canada)</i>
10:10-10:20 AM	Numerical Modelling of the FCC Regenerator Reactor Based on Shrinkage Reaction Rate Model <i>Salar Azizi (Institute of Fluid Dynamics, Helmholtz-Zentrum Dresden-Rossendorf, Germany)</i>	CFD Modeling of Miscible Fluid Blending in Pulse Jet Mixing Vessels <i>Rahul Garg (National Energy Technology Laboratory, Morgantown, WV & URS Corp., USA)</i>	Bubble Size Measurement in Large Bubble Columns at High Void Fraction By an Original Method of Spatial Cross-Correlation Between Optical Probes <i>Pedro Raimundo (IFPEnergies Nouvelles, France)</i>	Mass Transfer in Bubble Columns – a Single Bubble Approach <i>David Merker (Technische Universität Berlin, Germany)</i>
10:20-10:30 AM	Development of Circulating Molten Metal Thermochemical Conversion System <i>Jihong Moon (Korea Institute of Industrial Technology (KITECH) & Yonsei University, South Korea)</i>	Simulation of Flow and Temperature Fields in Passive Decay Heat Removal System: Design Optimization <i>Jyeshtharaj B. Joshi (Homi Bhabha National Institute, India)</i>	Hydrodynamic Studies of Bubble Cutting in a Micro-Structured Bubble Column Reactor for a Dodecane-Nitrogen System <i>Krushnathaj Thiruvalluvan Sujatha (Eindhoven University of Technology, Netherlands)</i>	Influences of Gas-Liquid Interface Contamination on Bubble Motions, Bubble Wakes, and Instantaneous Mass Transfer <i>Jie Huang (Shizuoka University, Japan)</i>
10:30-10:40 AM	Absorption of Toluene in Silicone Oil: Effect of the Solvent Viscosity on Hydrodynamics and Mass Transfer <i>Annabelle Couvert (ENSCR, UMR CNRS 6226, France)</i>	Numerical Studies of Kinetic Theory of Granular Flows (KTGF) on the Viscosity of Granular Fluid <i>Yupeng Xu (Eindhoven University of Technology, Netherlands)</i>	Bubble Holdup Structure in a Three-Phase Circulating Fluidized Bed <i>Dong Jun Yoo (Chungnam National University, South Korea)</i>	Numerical Study of Buoyancy-Induced Instability during CO2 Absorption in Alkaline Solutions <i>Benoît Haut (Université Libre de Bruxelles (ULB), Belgium)</i>
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 <i>Eric Dumont (GEPEA, UMR CNRS 6144, France)</i>	Internal Age Distribution inside Trickle Bed Reactors Using an Eulerian Two-Fluid Approach <i>Frédéric Augier (IFP Energies Nouvelles, France)</i>	Axial and Radial Vapor Void Fraction Profiles in Forced Convection Flow Boiling <i>Shantanu Roy (Indian Institute of Technology - Delhi, India)</i>	Fluid Flow and Gas-Liquid Transfer in a Swirling Quench Box with Jet <i>Kun Yu (East China University of Science and Technology, China)</i>

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

Ah-Hyung Alissa Park (Columbia University, USA)

Pyrolysis of Biomass Particles Using Circulating Fluidized Bed Reactor with Heat Loop of the Heat Carrier Particles

Salar Azizi (Institute of Fluid Dynamics, Helmholtz-Zentrum Dresden-Rossendorf, Germany)

Influence of Multiple Gas Inlet Jets on Fluidized Bed Hydrodynamics Using Digital Image Analysis Under Pressure

Junguo Li (Institute of Coal Chemistry, Chinese Academy of Sciences, China)

Power Consumption and Gas-Liquid Mass Transfer in a Hot-Sparged Three-Phase Stirred Tank with Triple Impellers

Yuyun Bao (Beijing University of Chemical Technology, China)

11:00 AM 12:30 PM Combined Poster Session for Sessions 9-12 (Atrium)

12:30 PM 1:00 PM Break (Atrium)

1:00 PM 6:00 PM Site Visits

Tour 1 - Alzo International

Tour 2 - BASF

Tour 3 - Phillips66

6:30 PM 9:00 PM Banquet (Columbia University)

Wednesday, July 1, 2015

8:00 AM 9:30 AM Registration (Prefunction Lobby)

8:30 AM 9:30 AM Coffee & Networking (Atrium)

Act IV

Act III

Room 401/402

Room 403/404

9:30 AM 10:30 AM Sessions 13-16

Session 13 - Classic 3

Chairs: Benoit Haut

Session 14 - Computational 4

Chairs: Henrik Strom & Qiang Xu

Session 15 - Measure 2

Chairs: Robert Mudde

Session 16 - Gas-Liquid 2

Chairs: Theodore Heindel & Bryan Patel

9:30-9:40 AM

Comparison of Membrane and Fixed-Bed Reactor Performances of Ni-W-Mesoporous Alumina Catalysts in Dry Reforming of Methane

Timur Dogu (Middle East Technical University, Turkey)

A New Approach to Development of Molecular Based Kinetic Lumping Model for Design and Simulation of Hydrodesulfurization Process

HongThuy T. Nguyen (The University of Tokyo, Japan)

Experimental Measurement of the Bulk and Flow Properties of Gas-Liquid-Solid Mixtures

Benjamin J. Glasser (Rutgers University, USA)

Experimental Investigation of Particle Loading on Miscible Fluid Blending in Pulse Jet Mixing Vessels

Balaji Gopalan (National Energy Technology Laboratory, Morgantown, WV & West Virginia University Research Corp, USA)

9:40-9:50 AM

Absorption of Toluene per a Vegetable Oil-Water Emulsion in Scrubbing Tower: Experiments and Modeling

Gilles Hébrard (Université de Toulouse & INRA, UMR792 & CNRS, UMR5504, France)

Unified Modeling of Bubbly Flows in Pipes, Bubble Columns, and Airlift Columns

Roland Rzehak (Helmholtz-Zentrum Dresden - Rossendorf, Germany)

Effect of Internals on Fluid Dynamic Parameters in Bubble Column: A Comparative Study

Dinesh V. Kalaga (Institute of Chemical Technology, Mumbai & Indian Institute of Technology - Gandhinagar, India)

Instabilities Due to Turbulence through Inlet Jet in Plunging Jet Bubble Column

Geoffrey M. Evans (The University of Newcastle, Australia)

9:50-10:00 AM

Modeling and Scale-up of a Continuous Process for the Production of Hexafluoroisopropanol

Tiberiu Leib (The Chemours Company, USA)

A New Force Law for a Spherical Intruder Plunging Vertically into a Granular Bed

Yupeng Xu (Eindhoven University of Technology, Netherlands)

Imaging an Air-Water Trickle Bed Using Electrical Capacitance Volume Tomography (ECVT)

Aining Wang (The Ohio State University, USA)

Hydrodynamic Characteristics at Layer Inversion Point in Three-phase Fluidized Beds with Binary Solids

Jun Young Kim (Sungkyunkwan University, South Korea)

10:00-10:10 AM

Gas Dispersion and Solid Suspension in a Three-Phase Stirred Reactor with Optimized Triple Impellers

Yuyun Bao (Beijing University of Chemical Technology, China)

Direct Numerical Simulations of Freely Moving Spheres: A Dynamic Drag Correlation

Yali Tang (Eindhoven University of Technology, Netherlands)

Biological Floc Size Measurement for Shear Stress Characterisation in Full-Scale

Yannick Fayolle (UR HBAN, Irstea, France)

Cutting Bubbles Using Direct Numerical Simulation

Maïke W. Baltussen (Eindhoven University of Technology, Netherlands)

10:10-10:20 AM	<p>Estimation of Gas Induction in Jet Loop Reactors: Influence of Nozzle Designs</p> <p><i>Vivek V. Ranade (National Chemical Laboratory, Pune, India)</i></p>	<p>Pore-Scale Level Numerical Simulation of Flow in a Solid Foam: An Immersed Boundary Method (IBM) Based Approach</p> <p><i>Saurish Das (Eindhoven University of Technology, Netherlands)</i></p>	<p>Advance in a Single-Tip Optical Fiber Probe for Simultaneously Measuring Droplet Size, Velocity, and Volume Fraction in Dispersed Flows</p> <p><i>Yuki Mizushima (Shizuoka University, Japan)</i></p>	<p>CFD Simulation and Local Phase Holdup Measurement in a Gas-Liquid-Solid Agitated Reactor</p> <p><i>Shifang Yang (Institute of Process Engineering, Chinese Academy of Sciences, China)</i></p>
10:20-10:30 AM	<p>Comparison of Different Capillary Pressure Models for Simulation on Liquid Dispersion in Tricking Flow Reactors</p> <p><i>Peng Liu (East China University of Science and Technology, China)</i></p>	<p>Two-/Multi-Fluid Simulations of Dispersed Gas-Liquid/Gas-Liquid-Solid Flows in a Slurry Bubble Column</p> <p><i>Parul Tyagi (Indian Institute of Technology Delhi, India)</i></p>	<p>Influence of Pressure on Hydrodynamic Characteristics in Fluidized Beds of Coarse Particles</p> <p><i>Junguo Li (Institute of Coal Chemistry, Chinese Academy of Sciences, China)</i></p>	<p>CFD Simulation of Bubble Column Reactor : Comparison of Turbulence Models</p> <p><i>J. B. Joshi (Homi Bhabha National Institute, India)</i></p>

10:30 AM 12:00 PM Combined Poster Session for Sessions 13-16 (Atrium)

12:00 PM 1:30 PM Lunch (Act I and II)

1:30 PM 2:45 PM Poster Session 2 (Atrium)

	Act IV	Act III	Room 401/402	Room 403/404
2:45 PM 3:45 PM Sessions 17-20	Session 17 - Innovative 1	Session 18 - Biotech 1	Session 19 - Measure 3	Session 20 - Gas-Liquid 3
	Chairs: Benjamin Glasser & Eric Hukkanen	Chairs: Thomas Hanley & Eric Cordi	Chairs: Melaz Tayakout	Chairs: Tiefeng Wang & Alissa Park
2:45-2:55 PM	<p>A Novel Multiphase Continuous Polymeric Fiber Reactor</p> <p><i>Eric J Hukkanen (The Dow Chemical Company, USA)</i></p>	<p>Design and Simulation of a Multiphase Continuous Bioreactor</p> <p><i>Thomas R. Hanley (Auburn University, USA)</i></p>	<p>Probe Effects on the Local Gas Holdup Conditions within a Fluidized Bed</p> <p><i>Theodore J. Heindel (Iowa State University, USA)</i></p>	<p>Transient Global Modelling of Oxygen Mass Transfer in an Internal Gas-Liquid Airlift Reactor</p> <p><i>Arnaud Cockx (Université de Toulouse, France)</i></p>
2:55-3:05 PM	<p>Analysis of Evaporation Mechanism in Thermal Desalination Process Using Fluidized Bed</p> <p><i>Hiroyuki Mizuno (The University of Tokyo, Japan)</i></p>	<p>Analysis of the Influence of Abiotic Parameters of a Submerged Membrane Bioreactor for BioH₂ Production Using a Coupled Experimental and Numerical Methodology</p> <p><i>Zaineb Trad (Université Blaise Pascal, LABEX IMobS3 & UMR6602, CNRS & Institut Pascal, France)</i></p>	<p>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</p> <p><i>Valois Parisien (University of Ottawa, Canada)</i></p>	<p>Motion of a Particle Bubble Aggregate in a Rectangular Cavity</p> <p><i>Guichao Wang (University of Newcastle, Australia)</i></p>
3:05-3:15 PM	<p>Inertial Focusing in Spiral Microchannel for Separating Biological Particles in Drinking Water Monitoring</p> <p><i>Mélanie Jimenez (Heriot-Watt University, Scotland)</i></p>	<p>Coupled Hydrodynamic-Metabolic Simulations of Fermentation Processes</p> <p><i>Cees Haringa (TU Delft, Netherlands)</i></p>	<p>Analyzing Clustering in Bubbly Flow Using Ultra-Fast X-Ray Tomography</p> <p><i>Yuk Man Lau (Institute of Fluid Dynamics, Helmholtz-Zentrum Dresden-Rossendorf, Germany)</i></p>	<p>Theoretical Prediction of Mass Transfer Coefficients in Two-Phase and Slurry Bubble Columns</p> <p><i>Stoyan Nedeltchev (Institute of Fluid Dynamics, Helmholtz-Zentrum Dresden-Rossendorf, Germany)</i></p>

3:15-3:25PM	<p>Visualization of Gas-Liquid Mass Transfer Around a Taylor Bubble during the Forming-Stage and the Flowing-Stage in Microreactors</p> <p><i>Gilles Hébrard (Université de Toulouse & INRA, UMR792 & CNRS, UMR5504, France)</i></p>	<p>Modelling Oxygen Transfer in Moving-Bed Biofilm Reactors Using Dimensional Analysis</p> <p><i>Yannick Fayolle (UR HBAN, Irstea, France)</i></p>	<p>Comparison and Experimental Verification of Methods to Convert Chord Length Measurements to Bubble Size Distribution</p> <p><i>Abdul Quiyoom (Indian Institute of Technology Delhi, India)</i></p>	<p>About the Dynamics and Morphology of Single Ellipsoidal Bubbles in Liquids</p> <p><i>Benoit Haut (Université Libre de Bruxelles (ULB), Belgium)</i></p>
3:25-3:35 PM	<p>Innovative External-Loop Airlift Reactors As Electrochemical Reactors for Electrocoagulation / Electroflotation</p> <p><i>Abdel hafid Essadki III (Ecole Supérieure de Technologie de Casablanca, Morocco)</i></p>	<p>Effect of Mixed Liquor Suspended Solids (MLSS) on Mass Transfer Coefficient in Sparged and Stirred Tank Reactors</p> <p><i>Jyeshtharaj B. Joshi (Homji Bhabha National Institute, India)</i></p>	<p>Radioactive Particle Tracking Technique for Velocity Measurements in Coiled Geometries: Design of Experiments and Experimental Flow Patterns</p> <p><i>Loveleen Sharma (Indian Institute of Technology - Delhi, India)</i></p>	<p>Insights of Liquid Cooled Pebble Bed Reactor through Experiments and CFD Simulations</p> <p><i>Rajesh Kumar Upadhyay (Indian Institute of Technology Guwahati, India)</i></p>
3:35-3:45PM	<p>Water/Wastewater Ozonation: The Importance of Effective Gas/Liquid Contacting</p> <p><i>Feilong Zheng (Morimatsu Group, China)</i></p>	<p>Dry Storage of <i>C. ljungdahlii</i> Paper-Based Biocomposites: Steps Toward Continuous, Modular, High Intensity Bioprocessing of Syngas into Liquids</p> <p><i>Mark Schulte (North Carolina State University, USA)</i></p>	<p>Low-Temperature, Wet Coating of Cohesive Particles in a Vortex Chamber Generated High-G Fluidized Bed</p> <p><i>Juray De Wilde (Université Catholique de Louvain (UCL))</i></p>	<p>Gas-Liquid Distribution in Monoliths: Effect of Distributor Configurations and Scale</p> <p><i>Shantanu Roy (Indian Institute of Technology - Delhi, India)</i></p>

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