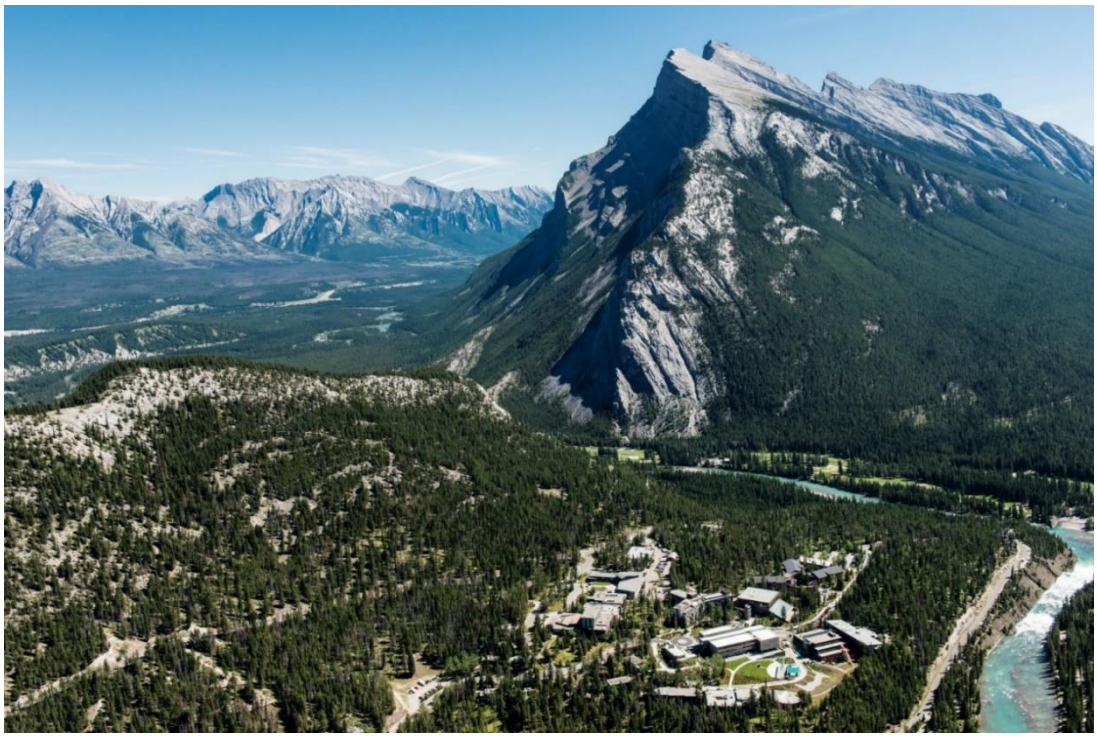
NAMF
North American Mixing Forum
An AIChE-Affiliated Community



TECHNICAL PROGRAM

MIXING XXVIII – ISMIP 11

By

The North American Mixing Forum and

The International Symposium of Mixing in Industrial Processes

at the

Banff Centre for Arts and Creativity

Banff, Alberta, Canada

24-June to 27-June-2024

Mixing XXVIII – ISMIP 11

June 24 – June 27, Banff, Alberta, Canada

Technical program

Monday, June 24, 2024

Time	Duration	Title	Speaker
11:00 am	2 hours	Registration (Vista Dining Room)	
12:00 pm	1.5 hours	Lunch (Vista Dining Room)	
02:00 pm	2 hours	NAMF Council Meeting (Kinnear Centre, Room 208)	
04:00 pm	2 hours	Registration (cont'd) (Kinnear Centre 100 Galleria South)	
05:00 pm	1 hour	Happy Hour **(**Kinnear Centre, Rooms 201-203)	
06:00 pm	1 hour	Dinner (Vistas Dining Room)	
Session 1: Industrial Applications and Troubleshooting (Kinnear Centre, Room 103) **Chairs: Luis Sierra, Richard Cope**			
07:00 pm	10 minutes	Welcome	
07:10 pm	20 minutes	Scale-up of rotor-stator mixers for dispersion and breakup of particulate	Adam J Kowalski, Unilever R&D, Port Sunlight Lab, UK Vicky Riding, Department of Chemical Engineering & Analytical Sciences, The University of Manchester, UK Peter J Martin, Department of Chemical Engineering & Analytical Sciences, The University of Manchester, UK
07:30 pm	20 minutes	Mixing of high viscosity oils in pipeline flushing operations	Robert P. Hesketh, Rowan University Kirti M. Yenkie, Rowan University C. Stewart Slater, Rowan University Barnabas Gao, Rowan Graduate Student David Theuma, Michael Fracchiolla, Sean Curtis, Steven Roth, Emma Padros, Rowan Undergraduates
07:50 pm	20 minutes	Effects of energy dissipation and mixing energy on a bitumen froth de-watering process	Marcio B. Machado, Chemical and Materials Engineering, University of Alberta, Edmonton, AB, Canada Aref Fozooni Kangarshani, Chemical and Materials Engineering, University of Alberta, Canada Jason Schaan, Suncor, Calgary, AB, Canada R. Sean Sanders, Chemical and Materials Engineering, University of Alberta, Canada
08:10 pm	20 minutes	Chaotic mixing induced by spacers in spiral wound reverse osmosis membrane module	Jo Eun Park, Department of Smart Air Mobility, Korea Aerospace University Tae Gon Kang, Department of Mechanical and Aircraft System

			Engineering and Department of Smart Air Mobility, Korea Aerospace University
08:30 pm	30 minutes	Reset/health break (Kinnear Centre 100 Galleria)	
Session 1 (cont'd) (Kinnear Centre, Room 103)			
09:00 pm	20 minutes	Food particle homogeneity in a vertical tank	Dragana Arlov, Tetra Pak Processing Systems AB, Core & Novel Food Technology
09:20 pm	20 minutes	Mixing liquids of disparate viscosities via drum tumble	Margaret Y. Hwang, Dow Nate Stelzer, The Dow Chemical Company David Adrian, The Dow Chemical Company
09:40 pm	20 minutes	Mixing for cellulose tips	Yuma Bando, Sumitomo Heavy Industries Process Equipment Co., Ltd., Japan Seungjoo Lee, Sumitomo Heavy Industries Process Equipment Co., Ltd., Japan Katsuhide Takenaka, Sumitomo Heavy Industries Process Equipment Co., Ltd., Japan
10:00 pm	1 hour	Happy Hour (Kinnear Centre, Room 201-203)	

Tuesday | June 25, 2024

Time	Duration	Title	Speaker
07:00 am	1 hour	Breakfast (Vistas Dining Room)	
Session 2: Mixing Under Extreme Conditions: Rheology (Kinnear Centre, Room 103) **Chairs: Clara Gomez, Antonio Buffo**			
08:00 am	20 minutes	**Plenary talk:** From turbulence fundamentals to process design: a chemical engineer's exploration of fluid modeling, mixing, and process engineering	**Li Xi**, McMaster University
08:50 am	20 minutes	Investigating the effect of agitator geometry and fluid rheology on the performance of saw tooth impellers using experimental and computational techniques	Shreyasi Deshpande, School of Chemical Engineering, University of Birmingham, Edgbaston, Unilever R&D, Quarry Road East, Bebington, Wirral Zoe Berisford, Unilever Research and Development, Quarry Road East, Bebington Joseph Mills, Design Manufacturing & Engineering Management, University of Strathclyde, Glasgow Simon Watson, Unilever Research and Development, Quarry Road East, Bebington, Wirral Thomas Abadie, School of Chemical Engineering, University of Birmingham, Edgbaston Andrew Ingram , School of Chemical Engineering, University of Birmingham, Edgbaston Bettina Wolf, School of Chemical Engineering, University of Birmingham, Edgbaston Jonathan J. O'Sullivan, Unilever Research and Development, Quarry Road East, Bebington, Wirral
09:10 am	20 minutes	Using alternating high-shear and rest-time environments to examine the build-up of localized yield stress in mineral slurries	Suzanne Kresta, University of Saskatchewan
09:30 am	20 minutes	Interpretation of rheological behavior based on fractal scaling theory toward design of mixing and preparation process of catalyst slurry	Kei Takeshita, Tokyo Institute of Technology Hideyuki Matsumoto, Tokyo Institute of Technology Shiro Yoshikawa, Tokyo Institute of Technology
09:50 am	30 minutes	Coffee break (Kinnear Centre 100 Galleria)	
Session 2 (cont'd) (Kinnear Centre, Room 103)			
10:20 am	20 minutes	Utilization of agitation torque for the formation of loosely packed	Yoshiyuki Komoda, Kobe University, Japan Rikuto Iwamoto, Kobe University,

Time	Duration	Title	Speaker
		agglomerates of latex particles in the salt coagulation process	Japan Naoto Ohmura, Kobe University, Japan
10:40	20 minutes	Measurement of yield stress of industrial non-Newtonian slurries with coarse particles using an instrumented mixer	Imran Shah, Saskatchewan Research Council Pipe Flow Technology Centre (SRC PFTC) Ryan Spelay, SRC PFTC Reza Hashemi, SRC PFTC
11:00 am	20 minutes	Comprehensive investigation of gas hold-up in a double coaxial mixer with shear-thinning fluids exhibiting yield stress	Forough Sharifi, Department of Chemical Engineering, Toronto Metropolitan University Ehsan Behzadfar, Sustainable Polymers Research Lab, The Creative School, Toronto Metropolitan University Farhad Ein-Mozaffari, Department of Chemical Engineering, Toronto Metropolitan University
11:20 am	20 minutes	Application of a multiscale approach for predicting the rheological behavior of complex fluids in industrial mixing equipment	Francesco De Roma, Department of Applied Science and Technology (DISAT), Politecnico di Torino, Italy Daniele Marchisio, Department of Applied Science and Technology (DISAT), Politecnico di Torino, Italy Gianluca Boccardo, Department of Applied Science and Technology (DISAT), Politecnico di Torino, Italy Antonio Buffo, Department of Applied Science and Technology (DISAT), Politecnico di Torino, Italy
11:40 am	20 minutes	Using static mixers to build mathematical models of shear-sensitive fluids	William Hartt, The University of Delaware Alexandra Bayles, The University of Delaware Tiffany Jung, The University of Delaware Kainat Azhar, The University of Delaware Adrian Seucan, The University of Delaware
12:00 pm	1.5 hours	Lunch (Vistas Dining Room)	
01:30 pm	3.5 hours	Informal meeting time and networking	
05:00 pm	**1 hour**	**Poster session** + Happy hour (Kinnear Centre, Rooms 201-203)	
06:00 pm	1 hour	Dinner (Vistas Dining Room)	
Session 3: Single Phase Mixing (Kinnear Centre, Room 103) **Chairs: Justin Walker, Mark Simmons**			
07:00 pm	20 minutes	Blending in unbaffled vessels with multiple impellers	Arthur Etchells, Rowan University Robert Hesketh Rowan University

Time	Duration	Title	Speaker
07:20 pm	20 minutes	Experimental determination of the hydrodynamics in vials and laboratory bottles using particle image velocimetry	Piero M. Armenante, New Jersey Institute of Technology Otto H. York Department of Chemical and Materials Engineering Newark, NJ, USA Justin Pace, NJIT Sebastian Lidwin, NJIT
07:40 pm	20 minutes	Effect of the horizontal inclination of impellers on flow and mixing time in a tank with side-entering mixers	José Roberto Nunhez, School of Chemical Engineering, University of Campinas, Sao Paulo, Brazil Gilberto Ribeiro Pinto Júnior - School of Chemical Engineering, University of Campinas, Sao Paulo, Brazil Luiza Baptista Fernandes - School of Chemical Engineering, University of Campinas, Sao Paulo, Brazil Maria Estela Oliveira da Silva - School of Chemical Engineering, University of Campinas, Sao Paulo, Brazil Guilherme José de Castilho - School of Chemical Engineering, University of Campinas, Sao Paulo, Brazil Reynaldo Pires da Fonseca - School of Chemical Engineering, University of Campinas, Sao Paulo, Brazil and PETROBRAS/CENPES/PDIPL/LP/LOG
08:00 pm	30 minutes	Reset/health break (Kinnear Centre 100 Galleria)	
Session 3 (cont'd) (Kinnear Centre, Room 103)			
08:30 pm	20 minutes	Reanalysis of blend time Data: new insights	Aaron J. Strand, SPX FLOW Mixing Solutions Cormac Ryan, SPX FLOW Mixing Solutions Tarang K. Bulchandani, SPX FLOW Mixing Solutions Jason J. Giacomelli, SPX FLOW Mixing Solutions Richard K. Grenville, SPX FLOW Mixing Solutions
08:50 pm	20 minutes	Characterization of local mixing and dispersion in stirred tank reactors by means of 4d particle trajectories and numerical flow simulation	Jürgen Fitschen, Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach an der Riß, Germany Sebastian Hofmann, Hamburg University of Technology, Hamburg, Germany Michael Schlüter, Hamburg University of Technology, Hamburg, Germany Thomas Wucherpfennig, Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach an der Riß, Germany

Time	Duration	Title	Speaker
09:10 pm	20 minutes	Modeling impeller type effects on heating times in a jacketed agitated vessel	Richard F. Cope, SPX FLOW (Lightnin), Rochester, NY Kevin Logsdon, SPX FLOW (Lightnin), Rochester, NY Richard Kehn, R.E. Mason, Durham, NC Eric Janz, M-Star CFD, Dover, DE
09:30 pm	30 minutes	**Poster summaries (Kinnear Centre, Room 103)**	
10:00 pm	**1 hour**	**Poster session** + Happy hour (Kinnear Centre, Rooms 201-203)	

Wednesday | June 26, 2024

Time	Duration	Title	Speaker(s)
07:00 am	1 hour	Breakfast (Vistas Dining Room)	
Session 4: Multiphase Mixing (Kinnear Centre, Room 103) **Chairs: Tom Simpson, Roberto Nunhez**			
08:00 am	20 minutes	**Plenary talk:** Liquid-liquid dispersions with high dispersed phase fraction in stirred tanks	**Gustavo A Padron**, Framatome Ltd.
08:50 am	20 minutes	Prediction of emulsion drop size in agitated liquid-liquid systems: progress and current challenges	Richard V. Calabrese, University of Maryland (USA)
09:10 am	20 minutes	Validation of CFD models to predict hydrodynamics of stirred tank flows in the transitional flow regime	Georgina Wadsley, University of Birmingham, UK David F. Fletcher, University of Sydney, Australia Andy Ingram, University of Birmingham, UK Joelle Aubin, Laboratoire de Génie Chimique, France Waldo Rosales, Unilever R&D Port Sunlight Laboratory, UK Mark J.H. Simmons, University of Birmingham, UK
09:30 am	20 minutes	Gas-liquid mass transfer correlation in an agitated reactor with a multistage large impeller for viscous fluids in batch vacuum operation	Yasuhiro Sumi, Executive Fellow, KANEKA CORPORATION, Tokyo, Japan Kunihiko Matsumura, Manager, Engineering Research Laboratories, KANEKA CORPORATION, Japan Kazuhiko Nishi, Professor, Department of Mechanical Engineering, Chiba Institute of Technology, Japan
09:50 am	30 minutes	Coffee break (Kinnear Centre 100 Galleria)	
Session 4 (cont'd) (Kinnear Centre, Room 103)			
10:20 am	20 minutes	Assessing dispersion and separation of a gas phase in a liquid phase using passive acoustic measurements in a continuous tubular reactor	Federico Alberini, University of Bologna Nicodemo Di Pasquale, University of Bologna Alessandro Paglianti, University of Bologna
10:40 am	20 minutes	Power draw and solid suspension in glass-lined and lab reactors	David A R Brown, Framatome Ltd. (FMP)
11:00 am	20 minutes	Monte Carlo-Free Radioactive Particle Tracking Technique	Ghazaleh Mirakhori, Department of Chemical Engineering, Polytechnique Montreal Jocelyn Doucet, Pyrowave Inc, Montreal Bruno Blais, Department of Chemical Engineering, Polytechnique Montreal

Time	Duration	Title	Speaker(s)
			Jamal Chaouki, Department of Chemical Engineering, Polytechnique Montreal
11:20 am	20 minutes	Analysis of two-phase gas-liquid stirred tank scale-up methods using Positron Emission Particle Tracking	William Peace, University of Birmingham Alexander Garraway, University of Birmingham Christopher Windows-Yule, University of Birmingham Frédéric Augier, IFP Energies Nouvelles Mark Simmons, University of Birmingham
11:40 am	20 minutes	Minimising scale growth in agitated reactors	Rajarathinam Parthasarathy, Chemical and Environmental Engineering, School of Engineering, RMIT University, Melbourne, Australia Jie Wu, CSIRO Mineral Resources, Clayton, Australia Naoto Ohmura, Department of Chemical Science and Engineering, Graduate School of Engineering, Kobe University, Japan Saddam Mohd Khayry, Chemical and Environmental Engineering, School of Engineering, RMIT University, Melbourne, Australia
12:00 pm	10 minutes	Introduction of Candidates for NAMF Executive Council (KC, Room 103)	
12:10 pm	1.5 hours	Lunch (Vistas Dining Room)	
01:40 pm	3.3 hours	Informal meeting time and networking	
05:00 pm	1 hour	Happy hour (Kinnear Centre, Rooms 201-203)	
06:00 pm	1 hour	Dinner (Vistas Dining Room)	
Session 5: Novel Mixing Techniques and Mixers (Kinnear Centre, Room 103) **Chairs: Federico Alberini, David Brown**			
07:00 pm	20 minutes	Investigation of gas-liquid slug flow characteristics in a novel Taylor vortex flow reactor with narrow gap width	Naoto Ohmura, Kobe University Rikuya Tanaka, Kobe University Yuichiro Tanaka, Kobe University Tatsuki Kawahara, Tipton Co.LTD Kairi, Kato, Tipton Co.LTD
07:20 pm	20 minutes	O-NETmix: an oscillatory mesostructured reactor for process intensification	M.S.C.A. Brito, LSRE-LCM, University of Porto S.P. Brandão, LSRE-LCM, University of Porto J.C.B. Lopes, LSRE-LCM, University of Porto M.M. Dias, LSRE-LCM, University of Porto R.J. Santos, LSRE-LCM, University of Porto

Time	Duration	Title	Speaker(s)
07:40 pm	20 minutes	Sulzer development of a new non-ragging static channel mixer	Marcel Suhner, Eleonora Taffora Ansor Gaebler Matthias Hack Stefan Leuppi
08:00 pm	20 minutes	Comparing trajectories from Lagrangian sensor particles and lattice-Boltzmann simulations in a 15,000 L bioreactor	Sebastian Hofmann, Institute of Multiphase Flows, Hamburg University of Technology, Hamburg, Germany Lukas Buntkiel, Helmholtz-Zentrum Dresden-Rossendorf (HZDR), Experimentelle Thermofluiddynamik, Dresden, Germany Ryan Rautenbach, Institute of Multiphase Flows, Hamburg University of Technology, Hamburg, Germany Uwe Hampel, Helmholtz-Zentrum Dresden-Rossendorf (HZDR), Experimentelle Thermofluiddynamik, Dresden, Germany and Chair of Imaging Techniques in Energy and Process Engineering, Dresden University Michael Schlüter, Institute of Multiphase Flows, Hamburg University of Technology, Hamburg, Germany
08:20 pm	20 minutes	Reset/Health break (Kinnear Centre 100 Galleria)	
Session 5 (cont'd) (Kinnear Centre, Room 103)			
08:40 pm	20 minutes	Emulsification using a power intensive process device- Microfluidizer M110-P	Gustavo Padron, Framatome Ltd N Gul Ozcan-Taskin, Loughborough University, Department of Chemical Engineering Tim Addison, UKBIC
09:00 pm	20 minutes	A novel finite volume mesh-tying method with application to stirred mixing	Kian Karimian, Emmy Noether Group for Dispersed Multiphase Flows, Chair of Mechanical Process Engineering, Otto-von-Guericke-Universität Magdeburg Fabian Sewerin, Emmy Noether Group for Dispersed Multiphase Flows, Chair of Mechanical Process Engineering, Otto-von-Guericke-Universität Magdeburg
09:20 pm	20 minutes	On the AI driven geometry optimisation of a stirred tank CFD model in laminar flow	Roberto Hart-Villamil, University of Birmingham Andy Ingram, University of Birmingham Christopher Windows-Yule, University of Birmingham

Time	Duration	Title	Speaker(s)
			Andrei L. Nicuşan, University of Birmingham Santoshkumar Gupta, Hindustan Unilever R&D, Bangalore Waldo Rosales, Unilever R&D, Port Sunlight Laboratory Adam Kowalski, Unilever R&D, Port Sunlight Laboratory
09:40 pm	20 minutes	Will ChatGPT replace me?	Adam J Kowalski, Unilever R&D, Port Sunlight Lab, UK John Labarga, Unilever R&D, Trumbull, CT, USA
10:00 pm	1 hour	Happy Hour (Kinnear Centre, Rooms 201-203)	

Thursday | June 27, 2024

Time	Duration	Title	Speaker(s)
07:00 am	1 hour	Breakfast (Vistas Dining Room)	
Session 6a: Multiphase Mixing (Kinnear Centre, Room 103) **Chairs: Marcio Machado, Richard Grenville**			
08:00 am	20 minutes	**Plenary talk:** Connecting mixing and formulation conditions with emulsion separation	**Edgar Acosta**, University of Toronto, ON, Canada
08:50 am	20 minutes	Investigating the impact of 'tickler' impellers on solids concentration and cloud height in agitated tanks using electrical resistance tomography	Justin Walker, The Dow Chemical Company
09:10 am	20 minutes	On the boundary between inertial and viscous subrange turbulence solids suspension mechanisms: Reynolds or Archimedes number?	Jason Giacomelli, SPXFLOW, Palmyra, USA Richard Grenville, SPXFLOW, Wilmington, USA Harry E.A. Van den Akker, University of Limerick, Ireland
09:30 am	20 minutes	Simulation of an axial-flow gas induction impeller	Eric Janz, M-Star CFD, Dover, Delaware Kevin Myers, University of Dayton, Department of Chemical and Materials Engineering Panagiotis Athanasiou, NOV Mixing Technologies (Chemineer)
09:50 am	30 minutes	Coffee break (Kinnear Centre 100 Galleria)	
Session 6b: Bioreactors (Kinnear Centre, Room 103)			
10:20 am	20 minutes	Multi-phase CFD simulations of a large-scale aerated bioreactor	Harry Van den Akker, University of Limerick, Ireland Roya Jamshidian, University of Limerick, Ireland
10:40 am	20 minutes	Flow pattern analysis for design of gas-liquid-solid three-phase hydrogenation process using oscillating flow	Hideyuki Matsumoto, Tokyo Institute of Technology Yuma Kanbayashi, Tokyo Institute of Technology Shiro Yoshikawa, Tokyo Institute of Technology Shinichi Ookawara, Tokyo Institute of Technology
11:00 am	20 minutes	A novel systematic framework for modeling the effect of heterogeneities in large-scale bioreactors	Katherine Raudenbush, University of Delaware, Chemical and Biomolecular Engineering Department
11:20 am	20 minutes	Coupled hydrodynamic – kinetics mammalian bioreactor CFD for mixing / process optimization	John Thomas, President MStar CFD Navraj Hanspal (Senior Mixing & CFD SME, Corteva Agriscience) Brian Devincentis (Lead Algorithm Developer, MStar CFD)
11:40 am	50 minutes	NAMF general meeting and elections (Kinnear Centre, Room 103)	
12:30 pm	1.5 hours	Lunch (Vistas Dining Room)	

Time	Duration	Title	Speaker(s)
01:30 pm	3.5 hours	**Group Photo** followed by Informal meeting time and networking	
05:00 pm	1 hour	Happy hour (Kinnear Centre, Room 101 and Patio)	
06:00 pm	4 hours	Gala Dinner (Kinnear Centre, Rooms 103-105 and Patio)	

Posters

Number	Title	Author(s)
1	From solid-stabilized emulsions to sound absorption porous material	Mina Saghaei, Chemical Engineering department, École polytechnique Montréal Louis Fradette, Chemical Engineering department, École polytechnique Montréal Annie Ross, Mechanical Engineering department, École polytechnique Montréal Edith-Roland Fotsing, Mechanical Engineering department, École polytechnique Montréal
2	Scale-up framework for aerated coaxial mixers with yield-pseudoplastic fluids	Paloma L. Barros, Department of Chemical Engineering, Toronto Metropolitan University Farhad Ein-Mozaffari, Department of Chemical Engineering, Toronto Metropolitan University Ali Lohi, Department of Chemical Engineering, Toronto Metropolitan University
3	Coupled CFD-PBM analysis of stirring power input and volumetric mass transfer coefficient under a wide range of aeration-stirring conditions	R. Misumi, Yokohama National University K. Anzai, Yokohama National University M. Hamaguchi, Kirin Holdings H. Shinohara, Kirin Holdings H. Nishihara, Kirin Holdings
4	Numerical study of pitched blade turbine impellers configured in contra-rotating axial systems in tanks without baffles	José Roberto Nunhez, Unicamp, Campinas-SP / Brazil Gabriel de Souza Berestinas - Unicamp, Campinas-SP / Brazil
5	Predicting turbulent convective heat transfer coefficients in agitated vessels from large eddy simulation	John A. Thomas, M-Star CFD Brian DeVincentis, M-Star CFO
6	Impact of mixing variables on the scale-up/down of a wastewater treatment process	Sahil Sood, Chemical & Materials Engineering, University of Alberta, Edmonton, AB, Canada Sydney Roper, Chemical & Materials Engineering, University of Alberta, Edmonton, AB, Canada Aref Fozooni Kangarshani, Chemical & Materials Engineering, University of Alberta, Edmonton, AB, Canada Marcio B. Machado, Chemical & Materials Engineering, University of Alberta, Edmonton, AB, Canada R. Sean Sanders, Chemical & Materials Engineering, University of Alberta, Edmonton, AB, Canada
7	The proper use of mixing software and its role in education	David A R Brown, Framatome Limited (FMP) Aaron Sarafinas, Sarafinas Process & Mixing Consulting LLC
8	Assessing the reliability of experimental measurements of bubble size distribution across various gas-liquid flow regimes in a 10L stirred vessel	Federico Alberini, University of Bologna Francesco Nerini, University of Bologna Niccolò Mandolini, University of Bologna Giuseppina Montante,University of Bologna Alessandro Paglianti, University of Bologna
9	Applying mesomixing principles to reactive precipitations to optimize agitator design and feed location	Ben Boyer, SPXFLOW, Palmyra, USA Jason Giacomelli, SPXFLOW, Palmyra PA, USA Todd Hutchinson, SPXFLOW, Palmyra PA, USA

Number	Title	Author(s)
	in staged reactors with high recycle: a CFD study	Richard Grenville, SPXFLOW, Wilmington DE, USA
10	Validation and prediction of the fluidization of a cuboidal particle bed with the resolved particle model using high-resolution LBM simulations	Margaret Hwang, The Dow Chemical Company Sarat Kuchibhatla, The Dow Chemical Company
11	Mixing technology for the industrial process engineer	David S. Dickey, MixTech, Inc.
12	Mixing dynamics of multiple shaft, multiple impeller (MSMI) stirred tanks for Newtonian fluids in the laminar regime	Darius Khoshdel, School of Chemical Engineering, University of Birmingham, UK Mark J. H. Simmons, School of Chemical Engineering, University of Birmingham, UK Andrew Ingram, School of Chemical Engineering, University of Birmingham, UK Thomas Abadie, School of Chemical Engineering, University of Birmingham, UK Waldo Rosales Trujilo, Unilever R&D, Port Sunlight Laboratory, Wirral, UK

Friday | June 28, 2024

Time	Duration	Title	Speaker
7:00 am	2 hours	Breakfast (Vista Dining Room)	