Mixing XXVII Schedule

Monday **June 20 2022**

Session 1: Novel and Unconventional Mixing — Session Chairs: Eric Janz

Start EDT	Start BST	Duration	End EDT	Speaker	Co-Authors	Affiliation	Title
9:00 AM	2:00 PM	15:00	9:15 AM	Justin Walker	Aaron Strand	North American Mixing Forum	Conference Introduction and Welcome
9:15 AM	2:15 PM	18:00	9:33 AM	Ozcan-Taskin, N. Gul	Padron, Gustavo A., Utomo, Adi, Alderman, Neil J.	Loughborough University	Effects of particle concentration and dispersion rheology on the breakup of nanoparticle clusters through ultrasonication
9:33 AM	2:33 PM	18:00	9:51 AM	Mirfasihi, Sorosh	Fonte, Claudio, Basu, Wrichik, Rodgers, Thomas, Keshmiri, Amir, Kowalski, Adam	The University of Manchester	An experimental study on the influence of additive viscosity ratio on mixing performance in turbulently stirred vessels using Electrical Resistance Tomography
9:51 AM	2:51 PM	18:00	10:09 AM	Atanasova, Gergana	Ducci, Andrea, Micheletti, Martina	University College London	Fluid flow and mixing in an intermittently rotating vertical cylinder bioreactor for CAR-T cell therapy
10:09 AM	3:09 PM	18:00	10:27 AM	Labusch, Marc	Keller, Wolfgang	Ekato Rühr- und Mischtechnik GmbH	A New Generation of Gas Inducing Impellers – 3D Printing Enables Optimized Geometries for Industrial Agitators
10:27 AM	3:27 PM	18:00	10:45 AM	Rahimzadeh, Ali	Ein-Mozaffari, Farhad, Lohi, Ali	Ryerson University	Investigation of power consumption, torque fluctuation, and local gas hold-up in coaxial mixers, containing a shear-thinning fluid: Experimental and numerical approaches
10:45 AM	3:45 PM	15:00	11:00 AM	Break			

Session 2: Scale-up and Scale-down of Mixing Processes I — Session Chairs: Sarah Lanzafame

Start EDT	Start BST	Duration	End EDT	Speaker	Co-Authors	Affiliation	Title
11:00 AM	4:00 PM	20:00	11:20 AM	John, Thomas	Fonte, Claudio, Rodgers, Thomas, Kowalski, Adam	University of Manchester	The effect of radial impeller geometry on the link between power and flow numbers
11:20 AM	4:20 PM	20:00	11:40 AM	Adrian, David		The Dow Chemical Company	In Search of General Scaling Laws for Impeller Range
11:40 AM	4:40 PM	20:00	12:00 PM	Cunningham, Grace	O'Sullivan, Jonathan, Simmons, Mark, Deshpande, Shreyasi, Alberini, Federico	University of Birmingham	Investigating the effects of process variables on torque measurements to improve the scale-up of structured liquids
12:00 PM	5:00 PM	20:00	12:20 PM	Brown, David		Framatome BHR (FMP)	Predicting the Critical Feed Time for Mixing Sensitive Reactions at Large Scales
12:20 PM	5:20 PM	55:00	1:15 PM	Lunch / Dinner Break			

Session 3: Mixing in Rotor Stators and other High Energy systems — Session Chairs: Gustavo Padron

Start EDT	Start BST	Duration	End EDT	Speaker	Co-Authors	Affiliation	Title
1:15 PM	6:15 PM	20:00	1:35 PM	Calabrese, Richard		University of Maryland	Prediction of Emulsion Drop Size in Agitated Liquid-Liquid Systems: Progress and Current Challenges
1:35 PM	6:35 PM	20:00	1:55 PM	Cruz, Carolina	Oppong, Felix, Fonte, Claudio, Rodgers, Thomas, Jeatt, Will, De Simone, Antonio	University of Manchester	Effect of Homogenisation on Fat Droplets of Aged Ice Cream Mixes
1:55 PM	6:55 PM	20:00	2:15 PM	Kowalski, Adam	John, Thomas	Unilever	The impact of geometry on power draw characteristics of in-line rotor stator mixers
2:15 PM	7:15 PM	15:00	2:30 PM	Break			

Session 4: Scale-up and Scale-down of Mixing Processes II — Session Chair: Margaret Hwang

Start EDT	Start BST	Duration	End EDT	Speaker	Co-Authors	Affiliation	Title
2:30 PM	7:30 PM	18:00	2:48 PM	Padron, Gustavo		Framatome BHR Ltd	Drop Size Correlation for Non-Coalescing Turbulent liquid-liquid Dispersions in Stirred Tanks
2:48 PM	7:48 PM	18:00	3:06 PM	Sarafinas, Aaron		Sarafinas Process & Mixing Consulting LLC	Further Adventures in the Micromixing-Mesomixing Space: Next steps with the Bourne Protocol
3:06 PM	8:06 PM	18:00	3:24 PM	Sood, Sahil	Sanders, Sean, Fozooni Kangarshahi, Aref, Sethuraman, Lavanya, Machado, Marcio	University of Alberta	Identification of key parameters for scale-up or scale-down of flocculating systems
3:24 PM	8:24 PM	18:00	3:42 PM	Lanzafame, Sarah	Kehn, Richard	SPX FLOW	Comparing Predicted Just Suspended Speed versus Experimental Just Suspended Speed for Axial Flow Impellers in a Stirred Vessel
3:42 PM	8:42 PM	18:00	4:00 PM	Etchells, Art	Simpson, Thomas	AWE3 Enterprises	Standard Agitator Configurations for Tank Type Mixers – a review
4:00 PM	9:00 PM	1:00:00	5:00 PM	Social Hour		Networking / Interaction on the Virtual Platform	

Tuesday **June 21 2022**

Session 5: Mixing in the Pharmaceutical and Biopharmaceutical Industries I							Session Chairs: Chadakarn Sirasitthichoke
Start EDT	Start BST	Duration	End EDT	Speaker		Affiliation	Title
9:00 AM	2:00 PM	10:00	9:10 AM	Walker, Justin	Strand, Aaron	North American Mixing Forum	Daily Introduction and General Conference Information
9:10 AM	2:10 PM	18:00	9:28 AM	Metwally, Hossam	Shao, Clementine, Collin, Sophie, Horner, Marc, Nallamothu, Sravankumar	Ansys Inc	Real-time Bioreactor Performance Prediction & Control via a CFD-based Digital Twin
9:28 AM	2:28 PM	18:00	9:46 AM	Jamshidian, Roya	Van den Akker, Harry, Scully, James	University of Limerick	Two-fluid CFD simulation of a small-scale aerated bioreactor: Impeller treatment method
9:46 AM	2:46 PM	18:00	10:04 AM	Hanley, Thomas R.	Avvari, Rithvija, Todd, Paul W.	Auburn University	Mixing and Oxygen Transfer in a Rotating Continuous Bioreactor with Spiroid
10:04 AM	3:04 PM	18:00	10:22 AM	Sharifi, Forough	Behzadfar, Ehsan, Ein-Mozaffari, Farhad	Ryerson University	Investigation of gas dispersion in biopolymer solutions with a coaxial mixing system comprising of two central impellers and an anchor via tomography and computational fluid dynamics
10:22 AM	3:22 PM	18:00	10:40 AM	Pace, Justin	Sirasitthichoke, Chadakarn, Armenante, Piero	New Jersey Institute of Technology	Experimental Determination and Computational Prediction of Blend Time in the USP Dissolution Testing Apparatus

10:40 AM	3:40 PM	20:00	11:00 AM	Break

Session 6: Computational Modeling of Mixing Processes I							Session Chair: Navraj Hanspell
Start EDT	Start BST	Duration	End EDT	Speaker		Affiliation	Title
11:00 AM	4:00 PM	18:00	11:18 AM	Liang, Fuyue	Valdes, Juan P., Kahouadji, Lyes, Matar, Omar K.	Imperial College London	A numerical vinaigrette: A myriad of interfacial singularities with surfactants
11:18 AM	4:18 PM	18:00	11:36 AM	Poirier, Michael	Thomas, John, Noble, Sean	Savannah River National Laboratory	Lattice-Boltzmann Computational Fluid Dynamics (CFD) Simulation of Jet Mixing In Tanks
11:36 AM	4:36 PM	18:00	11:54 AM	Van den Akker, Harry	Zeinali, Javad	University of Limerick	Single-phase transient CFD simulations of mL scale reactors
11:54 AM	12:18 AM	18:00	12:12 PM	Tyler, Chris	Thomas, John	Cargill	Comparison of modeling methodologies for simulating a gassed-agitation system with experimental validation
12:12 PM	12:18 AM	18:00	12:30 PM	Nazemifard, Neda	Barber, Isabella, Miller, Russell, Lue, Leo, Sefcik, Jan	University of Alberta	Mixing Times of Miscible Liquid Systems in Agitated Vessels

12:30 PM	5:30 PM	45:00	1:15 PM	Lunch / Dinner Break

Session 7: Mixing in the Pharmaceutical and Biopharmaceutical Industries II							Session Chair: Luis Sierra
Start EDT	Start BST	Duration	End EDT	Speaker		Affiliation	Title
1:15 PM	6:15 PM	25:00	1:40 PM	TBD		TBD	Featured Talk – Ed Paul Memorial Lecture
1:40 PM	6:40 PM	20:00	2:00 PM	Shields, Richard		Eli Lilly and Company	Mixing optimization in biopharmaceutical biological drug substance manufacturing using M-Star's Digital Mixing Tank (DMT)
2:00 PM	7:00 PM	20:00	2:20 PM	Waldherr, Philipp	Böhm, Lutz, Kraume, Matthias, Bliatsiou, Chrysoula	Technische Universität Berlin	Hydrodynamic stress induced by stirring and aeration on Aspergillus niger agglomerates in stirred tank bioreactors

2:20 PM	7:20 PM	1:55:00	4:15 PM	NAMF Executive Council Meeting
2:20 PM	7:20 PM	1:55:00	4:15 PM	Additional Networking Time / Vendor Time

Wednesday **June 22 2022**

Session 8: Experimental Investigation of Mixing Phenomena

Session Chair: Richard Cope

Start EDT	Start BST	Duration	End EDT	Speaker		Affiliation	Title
9:00 AM	2:00 PM	10:00	9:10 AM	Walker, Justin	Strand, Aaron	North American Mixing Forum	Daily Introduction and General Conference Information
9:10 AM	2:10 PM	18:00	9:28 AM	Fitschen, Jürgen / Kuschel, Maike	Schlüter, Michael, Hoffmann, Marko, von Kameke, Alexandra, Hofmann, Sebastian, Wucherpfennig, Thomas	Hamburg University of Technology / Boehringer Ingelheim Pharma GmbH & Co.	Characterization of Heterogeneities in Stirred Tank Reactors by Means of 4D Particle Trajectories and Numerical Flow Simulation
9:28 AM	2:28 PM	18:00	9:46 AM	Dawson, Michael		Framatome BHR Ltd	Inline Blending: Effect of Additive-Bulk Viscosity Difference on Mixing Length with Sulzer SMX & SMXPlus in Laminar Flow
9:46 AM	2:46 PM	18:00	10:04 AM	Frey, Torben	Schlueter, Michael, Hoffmann, Marko	Hamburg University of Technology	Visualizing Reactive Mixing Phenomena in Milli and Micro Channels
10:04 AM	3:04 PM	18:00	10:22 AM	Maywurm, Alexander	Kraume, Matthias	Technische Universität Berlin	Flow field, power input and mixing times of viscoelastic fluids in an unbaffled tank with a three-stage cross-beam stirrer
10:22 AM	3:22 PM	18:00	10:40 AM	Teoman, Baran	Sirasitthichoke, Chadakarn, Potanin, Andrei, Armenante, Piero	New Jersey Institute of Technology	Determination of the just-suspended speed, Njs, in stirred tanks using electrical resistance tomography
10:40 AM	3:40 PM	20:00	11:00 AM	Break			

Session 9: Mixing in the Chemical Process Industry

Session Chairs: Thomas Simpson

Start EDT	Start BST	Duration	End EDT	Speaker		Affiliation	Title
11:00 AM	4:00 PM	18:00	11:18 AM	Zaman, Zafir	Thomas, John, Brown, Nicholas, Simpson, Thomas, Janz,	Dupont	How much value does a well-designed sparger provide?
11:18 AM	4:18 PM	18:00	11:36 AM	Robinson, Thomas	Drögemüller, Peter, Simmons, Mark, Komrakova, Alexandra	University of Birmingham & CALGAVIN LTD	Static Mixer Performance Enhancement using Continuous PLIF Experimentation and Particle-tracking CFD
11:36 AM	4:36 PM	18:00	11:54 AM	Hwang, Margaret	Froeschle, Kalyn, Hor, Jyo Lyn, Adrian, David	The Dow Chemical Company	Optimizing Dilution Process to Distinguish Particle Size: Effect of Mixing-induced Shear Stress
11:54 AM	12:18 AM	18:00	12:12 PM	Lake, Ryan	Hendrickson, Angie, Davies, Andy, Coller, Rachelle, Wright, Bryan	Amway	A novel way to scale-up between tanks containing high shear mixers.
12:12 PM	12:18 AM	18:00	12:30 PM	Penny, W. Roy		University of Arkansas	Computer Aided Design of Fluid Mixing Equipment
12:30 PM	5:30 PM	45:00	1:15 PM	Lunch / Dinner Break			

Mixing XXVII Poster Session

Session Chairs:

Start EDT	Start BST	Duration	End EDT	Speaker		Affiliation	Title
1:15 PM	6:15 PM	08:00	1:23 PM	Frey, Torben	Schlüter, Michael, Hoffmann, Marko	Hamburg University of Technology	A DNS Approach to high-Schmidt-Number Problems in Reactive Micro- and Milli Systems
1:23 PM	6:23 PM	08:00	1:31 PM	Brito, Margarida	Rocha, Fernando, Dias, Madalena, Ferreira, António, Santos, Ricardo	Universidade do Porto	Flow Dynamics in Oscillatory Baffled Reactors
1:31 PM	6:31 PM	08:00	1:39 PM	Hofmann, Sebastian	Schlüter, Michael, Hamann, Niklas, Fitschen, Jürgen, Kamp, Maximilian, Weiland, Christian, Hoffmann, Marko, von Kameke, Alexandra, GopalSingh, Paramveer	Hamburg University of Technology	Experimental and numerical determination of lifelines in a 3 L, 200 L and 15000 L stirred tank reactor to estimate the flow-following capability of Lagrangian Sensor Particles
1:39 PM	6:39 PM	08:00	1:47 PM	Hart-Villamil, Roberto	Gupta, Santoshkumar, Ingram, Andrew, Kowalski, Adam, Rosales, Waldo, Windows-Yule, Kit	University of Birmingham	Validation of Laminar Stirred Mixing CFD Models using Positron Emission Particle Tracking
1:47 PM	6:47 PM	08:00	1:55 PM	Bhargava, Aakanksha	Sanders, Sean, Machado, Marcio	University of Alberta	A study of the effect of shear on sweep flocculation in stable water-in-oil emulsions
1:55 PM	6:55 PM	08:00	2:03 PM	Hare, Sam	Nicuşan, Leonard, Simmons, Mark, Kendrick, Emma, Windows-Yule, Kit	University of Birmingham	Impact of mixing and formulation on the manufacturability and performance of Lithium-ion battery electrode materials
2:03 PM	7:03 PM	08:00	2:11 PM	Barros, Paloma	Ein-Mozaffari, Farhad, Lohi, Ali	Ryerson University	New Expressions for Power Number and Reynolds Number of Gassed Coaxial Mixers Containing Yield Stress Fluids
2:11 PM	7:11 PM	1:04:00	3:15 PM	NAMF Elections			Candidates for the NAMF executive council can introduce themselves and campaign for votes

Thursday **June 23 2022**

Session 10: Mixing in Mining and Heavy Industries							Session Chairs:
Start EDT	Start BST	Duration	End EDT	Speaker		Affiliation	Title
9:00 AM	2:00 PM	10:00	9:10 AM	Walker, Justin	Strand, Aaron	North American Mixing Forum	Daily Introduction and General Conference Information
9:10 AM	2:10 PM	18:00	9:28 AM	Machado, Marcio	Breakey, David, Sanders, Sean, Alili, Aligulu	University of Alberta	Effects of mixing and solvent-to-bitumen ratio on Solvent Deasphalting (SDA) process
9:28 AM	2:28 PM	18:00	9:46 AM	Chaaban, Mohie al Dine	Kresta, Suzanne	University of Saskatchewan	Using Alternating High-Shear and Rest-Time Environments to Examine the Build-up of Localized Yield Stress in Mineral Slurries of Nickel Laterite
9:46 AM	2:46 PM	18:00	10:04 AM	Singh, Brajesh	Khajouei, Mohammad, Latifi, Mohammad, Omari, Lhoussaine, Shabanian, Jaber, Chaouki, Jamal	Polytechnique Montreal	Mixing Characterization of a Top-submerged Lance Column by Electrical Resistance Tomography
10:04 AM	3:04 PM	18:00	10:22 AM	Hurley, Michael	Wu, Jie, Rudman, Murray	CSIRO	Large-Scale Oscillations in a Multi-Phase Unbaffled Mixing System
10:22 AM	3:22 PM	18:00	10:40 AM	Jadidi, Behrooz	Lohi, Ali, Ein-Mozaffari, Farhad, Ebrahimi, Mohammadreza	Ryerson University	Mixing and segregation assessment of bi-disperse solid particles in a double paddle mixer

10:40 AM 3:40 PM 15:00 10:55 AM Break

Session 11: Computational Modeling of Mixing Processes II							Session Chairs: Chris Tyler
Start EDT	Start BST	Duration	End EDT	Speaker		Affiliation	Title
10:55 AM	3:55 PM	18:00	11:13 AM	Kahouadji, Lyes	Liang, Fuyue, Valdes, Juan Pablo, Matar, Omar K.	Imperial College London	Numerical simulation of the transition to aeration in turbulent two-phase mixing in stirred vessels
11:13 AM	4:13 PM	18:00	11:31 AM	Hanspal, Navraj	Thomas, John	Corteva Agriscience	Bioreactor Design from a Microbial Perspective: Insights from Euler-Lagrange CFD Simulations
11:31 AM	4:31 PM	18:00	11:49 AM	Janz, Eric	Thomas, John, Myers, Kevin	University of Dayton	A Computational Study Examining Pressure Drop Over Eight Decades of Reynolds Numbers in Pipe Flow
11:49 AM	12:18 AM	18:00	12:07 PM	Sami, Muhammad	Metwally, Hossam, Brown, Kathleen	Ansys Inc	Assessing the performance of a Clean-In-Place (CIP) system using Computational Fluid Dynamics
12:07 PM	12:18 AM	18:00	12:25 PM	Thomas, John	Kehn, Richard	M-Star Simulations, LLC	Modeling Oxygen Mass Transfer and Hydrodynamics in Tall Stirred Reactors with High Gas Flow Rates

12:25 PM 5:25 PM 50:00 1:15 PM Lunch / Dinner Break

Session 12: Multidisciplinary Mixing							Session Chair: Clara Gomez
Start EDT	Start BST	Duration	End EDT	Speaker		Affiliation	Title
1:15 PM	6:15 PM	18:00	1:33 PM	Brito, Margarida	Lopes, José Carlos, Blanco, Angeles, Manrique, Yaidelin, Sanchez-Salvador, José Luis, Monte Lara, M. Concepción, Cachada, Rita, Santos, Ricardo, Dias, Madalena, Fernandes, Isabel	Universidade do Porto	Production of Pickering Emulsions containing Cellulose Microfibers in Mesostructured Reactors
1:33 PM	6:33 PM	18:00	1:51 PM	Cope, Richard	Logsdon, Kevin, Kehn, Richard, Bartholomew, Bryan	SPX FLOW	The Effect of Impeller Type on Heating Times in a Jacketed Agitated Vessel
1:51 PM	6:51 PM	18:00	2:09 PM	Fernandes, Isabel	Santos, Ricardo, Dias, Madalena, Lopes, José Carlos	University of Porto	A reduced geometrical model for the design of NETmix reactors
2:09 PM	7:09 PM	18:00	2:27 PM	Hoseini, Seyed Salar		Tarbiat Modares University	Impeller Shape-Optimization of Stirred-Tank Reactor: CFD and FSI Analyses
2:27 PM	7:27 PM	18:00	2:45 PM	Wadsley, Georgina	Ingram, Andrew, Alberini, Federico, Aubin, Joelle, Rosales, Waldo, Simmons, Mark, Fletcher, David F.	University of Birmingham	Modelling of pipe flow to understand mixing in the transitional flow regime

2:45 PM 7:45 PM 1:00:00 3:45 PM Awards / Election Results / Wrap-Up