	ISCRE 27 Program Schedule Sunday, June 11			
1:00-7:00pm	Symposium Registration (Grande Place)			
2:00-5:00pm	Laboratory Reactors Workshop (Kent)	Modeling of Catalytic Reactors in gPROMS Process Workshop (Courville)	Scaling of Reacting Systems (Beauport)	Technical Writing (Sainte-Foy)
5:00-6:30pm	**Dinner on Own**			
6:30-7:20pm	Introductory Remarks (Palais & Kent) Opening Plenary Presentation (Palais & Kent): **Rob Crane**, "Creating Technology Solutions for Society's Needs" *(Process Innovation & Scale-up Manager, ExxonMobil)*			
7:20-9:00pm	**Welcome Reception (Grande Place)**			

ISCRE 27 Program Schedule
Monday, June 12

Palais & Kent

8:00-8:10am — Introductory Remarks and Symposium Announcements
Aris Award Presentation, Sponsored by Honeywell UOP

8:10-8:55am — Symposium Plenary: **Andrea Bozzano**, "Technology for a Sustainable Future" *(Sr Director Technology Development, Honeywell UOP)*

8:55-9:40am — Symposium Plenary: **Yanet Villasana,** "From the Laboratory to the Jungle: Challenges and Opportunities for Chemical Engineering in the Ecuadorian Amazon" *(IKIAM Amazon Regional University)* – Sponsored by Dow Chemical

9:40-10:05am — **Break: Coffee and Refreshments (Grande Place)**

	Kent	Palais	St-Louis	Beauport/Beaumont/Belair	Courville/Montmorency
	Session 1 **Catalytic Reaction Engineering 1**	**Session 2** **Process Intensification 1**	**Session 3** **CO_2 Capture, Conversion and Valorization 1**	**Session 4** **Computational Fluid Dynamics in Reaction Engineering**	**Session 5** **Pharmaceutical and Biological Reaction Engineering 1**
	Chair: Matthew Mettler Co-Chair: Ryan Hartman	Chair: Daria Boffito Co-Chair: Marc-Olivier Coppens	Chair: Ying Zheng Co-Chair: David Simakov	Chair: Rodney Fox Co-Chair: Bruno Blais	Chair: Domenico Fuoco
10:05-10:21am	**Aris Award Winner**, "Harnessing Coupled Reaction-Transport Phenomena in Brønsted Acidic Zeolites to Develop Stable and Selective Olefin Oligomerization Catalysts," **Rajamani Gounder**	"Process Intensification of Upstream Purification of Biorefinery Streams: Lignin Precipitation on a Spinning Disc," T Carr, F Russo Abegão, **Kamelia Boodhoo** (335)	"The Role of Reaction Engineering in the Scale-up of a Plate-Type Reactor for the CO_2 Methanation Reaction," **Emanuele Moioli** (15)	"catchy-CFDEM: Euler-Lagrange Computational Fluid Dynamics open-source framework for catalytic reactors," **Florian Wéry**, LA Vandewalle, GB Marin, GJ Heynderickx, KM Van Geem (21)	"Reactivity of Advanced Glycation End Products (AGPs) toward Collagen - A Connective Tissue Aging Process," **Jean-Yves Leroux** (440)
10:21-10:37am		"Olive Mill Wastewater Valorization through Steam Reforming using a Sorption-Enhanced Membrane Reactor," C Rocha, M Soria, **Luís Miguel Madeira** (72)	"Boosting Gasoline-Range Hydrocarbon Production by Shifting the Equilibrium of CO_2, CO Hydrogenation," **Onintze Parra**, A Portillo, J Ereña, A Aguayo, A Ateka (54)	"Hybrid Volume of Fluid and Porous Media Simulations of Dynamics of Liquid Spreading and Imbibition in Porous Particles," **Rohit Singh Gulia**, VV Buwa (278)	"Facile Isolation of Cannabinoid Acids from Plant Biomass via Ammonium Salt Formation," **Tony Durst**, J Van der Vlugt (329)
10:37-10:53am	"C_4, C_5-Alkane Dehydrogenation Utilizing Lattice S2- Species of Metal Sulfide Catalyst," **Ryo Watanabe**, H Akama, P Verma, C Fukuhara (490)	"Modeling Membrane Reactors for CO_2 Utilization," **Anan Uziri**, M Patrascu (518)	"Development of Silicalite-1-Encapsulated Cu-ZnO Catalysts for Methanol Synthesis by CO_2 Hydrogenation," R Kanomata, K Awano, H Fujitsuka, K Kimura, R Simancas, S Yasuda, T Matsumoto, T Wakihara, T Yokoi, **Teruoki Tago** (489)	"Development of a Solver for CFD-DEM Simulations of Suspensions Containing Arbitrarily Shaped Particles," **Martin Kotouc Sourek**, O Studenik, M Isoz, P Koci, A York (294)	"Production of Cellulose by a Novel Bacterial Strain Isolate," **Chandra Panchal** (541)
10:53-11:09am	"Bifunctional Materials Incorporating Carbon Microspheres for Intensified Glycerol Steam Reforming," **Antoine Olivier**, M-C Iliuta (477)	"Membrane Reactor and Crystallization-based Process Intensification Strategy for Para-Xylene Recovery," **Nitish Mittal**, J Liu, JR Johnson, B McCool, P Daoutidis, M Tsapatsis (528)	"Alcohol Synthesis in a High-Pressure Membrane Contactor Reactor Using Waste CO_2 Feeds," J Gong, M Bazmi, L Zhao, F Sadat Z, Z Li, K Jessen, T Tsotsis, **Vasilios Manousiouthakis** (513)	"A Combined CFD-CPFD Modeling Approach for Characterizing Internal Recycle Berty Catalytic Reactors," **Shekhar R Kulkarni**, M Cui, S Wagner, C Berger-Karin, L Jan-Weber, A Nagy, P Castano (135)	"Optimization Strategy for Pharmaceutical Business," **Ashok Bhaseen** (338)
11:09-11:25am	"Highly Selective Iron Oxide Sites for CO_2 Valorization in Tandem with On-purpose Ethylene Production," S Theofanidis, A Longo, M Tasioula, E de Clermont Gallerande, C Sahle, **Angeliki Lemonidou** (371)	"High Temperature Bubble Column Reactors for Alkane Dehydrogenation: Combining Reaction and Separation," **Chester Upham** (250)	"CO_2 Direct Hydrogenation to Lower Hydrocarbons over K-Fe/γ-Al2O3 Synthesized by Reverse Microemulsion Method," **Yue Yu**, A Yu, D Simakov (106)	**Keynote,** "Chemical Reaction Engineering Tools for Battery Production and Optimization," **Daniele Marchisio** (559)	"Polyphenol from Maritime Pine Bark (MPB) Extract: Protective Effect on Collagen Structural Integrity," **Jean-Yves Leroux**, R Houde (445)
11:25-11:41am	"Atomically Thin Platinum Nanolayers on MXene for Catalytic Non-oxidative Coupling of Methane," **Yang Xiao**, Z Li, T Misicko, J Miller, Y Wu, A Varma (4)	"CO_2 Capture by Mechanical Separation Using a Spinning Disc Separator (SDS)," **Luis D. Virla**, A McGovern, S Rahbarimanesh, J Brinkerhoff (510)	"Novel Kinetic Model for Combined CO and CO_2 Methanation Using Spatially Resolved Measurements," V Surendran, JA Hernandez Lalinde, **Jan Kopyscinski** (379)		"Reduction of Methane Gas Production from Cattle," **Domenico Fuoco**, P Kieffer, D Quirion (530)

11:41am-1:10pm — **Lunch on Own**

ISCRE 27 Program Schedule
Monday, June 12

	Kent	Palais	St-Louis	Beauport/Beaumont/Belair	Courville/Montmorency
	Session 6 **Catalytic Reaction Engineering 2**	**Session 7** **Process Intensification 2**	**Session 8** **CO_2 Capture, Conversion and Valorization 2**	**Session 9** **Fluidization and Chemical Looping**	**Session 10** **Multiphase Reactor Engineering and Scale-up 1**
	Chair: Paul Dauenhauer Co-Chair: Raj Gounder	Chair: Reyes Mallada Co-Chair: Saurabh Maduskar	Chair: David Simakov Co-Chair: Hugo de Lasa	Chair: Ewa Marek Co-Chair: Jamal Chaouki	Chair: Nitish Mittal Co-Chair: Wayne Brown
1:10-1:26pm	"An Alumina/Y-Zeolite Composite as Support to Minimize Overcracking in Hydrocracking Process," **Iratxe Crespo**, R Palos, D Trueba, S Rodrígez, A Gutiérrez, J María Arandez (444)	**Keynote**, "Process Intensification and Electrification for Sustainable Chemical Manufacturing," **Dion Vlachos** (95)	"Will Vortex Units be the Next Generation of PI Equipment in CO_2 Capture?," Y Ouyang, G Heynderickx, **Kevin Van Geem** (43)	"Modeling Catalyst Deactivation by Coke in Fluidized Bed Reactors," **Robin Lawler**, F He, N Sangar, J Coleman, B Du (245)	"Reactor and Storage Safety: A Thermal Analysis on the Stability of Hydroxylamine Solutions," **Paolo Mocellin**, G Pio, C Vianello, E Salzano (25)
1:26-1:42pm	"Forced Dynamic Operation for Enhanced Performance: Propene Conversion to Acrolein and Acrylonitrile," M Moniruzzaman, L Grabow, **Mike Harold**, Z Gan, W Epling (463)		"Thermal Catalysis of CO_2 Hydrogenation Reaction on a Novel Bio-Based Catalyst," **Farbod Farzi,** IE Achouri (451)	"CO_2 Utilization by Chemical Looping Super-dry Reforming Maximizing CO Production by Cycle Time Optimization," MWF Van Cauwelaert, LC Buelens, VV Galvita, **Kevin Van Geem** (178)	"Voidage Distribution and Isotropy of Packed Beds of Non-Spherical Particles (Trilobes)," U Sinha, P Nair, T Pöschel, **Shantanu Roy** (263)
1:42-1:58pm	**Invited**, "Zeolites as Hosts for Single-Site Catalysis," **Maricruz Sanchez-Sanchez** (561)	"Physics-informed Neural Network to Predict the Kinetics of Biodiesel Production in Microwave Reactors," **Valérie Bibeau**, DC Boffito, B Blais (153)	"Direct Synthesis of Methyl Acetate via Tandem Coupling Strategy from Carbon Dioxide Hydrogenation," X Wang, **Jong Wook Bae** (347)	"Carbide Chemical Looping Reforming -- A Novel Process for Hydrogen/Syngas Production," **Felipe Camacho**, N Mahinpey (236)	"A Novel Position Reconstruction Algorithm for Particle Tracking Based on the Finite Element Method (FEM)," **Ghazaleh Mirakhori**, A Collard-Daigneault, A Alphonius, J Doucet, B Blais, J Chaouki (467)
1:58-2:14pm	"Molecular Weight Growth Technology Development: Isoparaffin Alkylation," **Matthew Mettler**, J Allen, V Choudhary, D Levin, C Dean, J Dakka (34)	"Process Intensification at the Molecular Level: Plasma-Assisted Ammonia Synthesis and Its Catalyst Design," **Xiaolei Fan**, H Chen (37)	"In-situ CO_2 Capture and Catalytic Methanation Using Ni/alkaline Earth Carbonate Dual Function Materials," **Xianyue Wu**, W Liu, O Cheung, R Chang (35)	"Assessment of the Operability Range of Dynamically Structured Gas-Solid Fluidized Bed Reactors," **Davide Cafaro**, D Micale, R Uglietti, K Wu, M Bracconi, M-O Coppens, M Maestri (204)	"Intensified Silicon Carbide Heat-Exchanger Reactor for Exothermic Catalytic Reactions," **Michele Scotto di Perta**, C Julcour, P Cognet, S Elgue (143)
2:14-2:30pm	"Catalytic Fast Pyrolysis on Zeolites: Activity and Stability of Different Structures and Acidic Catalysts for Anisole Transformation," **Nathan Pichot**, L Pinard, A Dufour, Y Pouilloux (285)	"Simulation-based Optimization of Simulated Moving Bed Reactor for Multiple Reaction Systems: Production of Triacetin using Glycerol," **Mohd Nadeem**, S Mahajani, R Nabar (274)	"Copper interactions with Zinc Oxide and Zirconia in Catalysis for Methanol Synthesis from CO_2 and H_2," **George Fulham**, E Marek (61)	"Chemical Looping Production of Ethylene Oxide from Ethanol in a Multi-Layered Reactor," **Joseph Gebers**, E Marek (356)	"Fault Detection of the Tennessee Eastman as a Reaction-Based Process," H Ziaei, R Zarghami, N Mostoufi, R Sotoudeh-Gharebagh, **Jamal Chaouki** (24)
2:30-2:46pm	"Cracking of Light Cycle Oil into BTX over Bifunctional CoMo Catalysts Supported on Fly-Ash Derived Beta Zeolite," **Akshata V Ramteke**, D Bhatia, KK Pant (266)	"A Sonochemical Reactor Utilizing a Cylindrically-Focused Acoustic Wavefield for Improved Sonochemical Efficiency," C Wong, A Sedgwick, L Usadi, J Raymond, R Roy, **James Kwan** (66)	"Catalytic Hydrogenations of CO_2 to Methanol Enabled by the Metal-Lewis Acid Interfaces in Metal-Organic Frameworks UIO-66," **Huy Nguyen**, J Ye, D Truhlar, J Lercher, M Neurock (203)	**Keynote**, "Chemical Looping -- Applications Beyond Energy", **Stuart Scott** (557)	"Influence of Active Particle Size and Support Acidity of Bi-functional Catalysts on the Product Distribution of Fischer-Tropsch Synthesis," **Kerstin Wein**, G Baade, R Güttel (179)
2:46-3:02pm	"Oxidation of Methane on Mono- and Bi-Nuclear Iron Complexes Supported over Zeolite-Y," **Balashanmugam Venu Gopal**, NS Kaisare, P Selvam (403)	"Paradigm Change through Phenomena-based Cavitation Process Intensification for Oil Sands Produced Water Treatment," **Deepak Kirpalani**, R Ansari (374)	"HKUST Plasma Reduction Strategy for CO_2 Hydrogenation Application," N Zou, T Qiu, **Ying Zheng** (392)		"Enhanced CO_2-Free Hydrogen Production from Liquid Hydrocarbons by Plasma Cracking by Applying Perovskite Catalysts," S-C Jung, **Kyong-Hwan Chung** (253)
3:02-3:20pm	**Break: Coffee and Refreshments (Grande Place)**				

ISCRE 27 Program Schedule
Monday, June 12

	Kent	Palais	St-Louis	Beauport/Beaumont/Belair	Courville/Montmorency
	Session 11 **Catalytic Reaction Engineering 3**	**Session 12** **Process Intensification 3**	**Session 13** **CO_2 Capture, Conversion and Valorization 3**	**Session 14** **Process Electrification**	**Session 15** **Pharmaceutical and Biological Reaction Engineering 2**
	Chair: Cathy Chin Co-Chair: Matthew Mettler	Chair: Luis Ricardez-Sandoval Co-Chair: Dalma Schieppati	Chair: Serge Kaliaguine Co-Chair: Jeremy Bedard	Chair: Guy Marin Co-Chair: Bryan Patel	Chair: Domenico Fuoco
3:20-3:36pm	"The Ammonia Synthesis Catalyst Applied to Green Ammonia: A Detailed Study on the Operative Conditions," C Pizzolitto, A Biasi, M Guiotto, **Pierdomenico Biasi** (531)	"A Packed Bed Reactor Network Model for Biomass-fueled Chemical Looping Combustion," K Toffolo, S Meunier, **Luis Ricardez-Sandoval** (475)	"Numerical and Experimental Investigation of Syngas Production from CO_2 by Reverse Water Gas Shift in a Thermally-Coupled Packed-Bed Reactor," **Guanjie Sun**, D Simakov (159)	"Microwave Heating in Chemical Reactors: Challenges and Opportunities for Efficient and Sustainable Energy Supply," **Reyes Mallada**, JL Hueso, J Santamaría (447)	**Keynote,** "The Tumor as a Chemical Reactor", **Jesús Santamaria** (457)
3:36-3:52pm	"Novel Synthesis of Catalytic Active Sites in Flow for On-Demand Hydrogen Production from Ammonia," **Joseph El-Kadi**, L Torrente-Murciano (522)	"Intensification of Non-edible Vegetable Oil Epoxidation by Continuous Operation," **Tommaso Cogliano**, V Russo, K Eränen, R Tesser, T Salmi (83)	"Calcium Looping Coupled with in-situ Conversion of Captured CO_2 via Dry Reforming for Syngas Production," T Papalas, D Lypiridis, **Andy Antzaras**, A Lemonidou (415)	"Experimental and Numerical Investigation of Methane Steam Reforming with Joule Heated Foams," **Matteo Ambrosetti**, L Zheng, F Zaio, A Beretta, G Groppi, E Tronconi (399)	
3:52-4:08pm	"Water-assisted Sonochemically-induced Demethylenation of Benzyl Alcohol to Phenol over a Structurally Stable Cupric Oxide," **Shang Jiang**, T Bahry, U Jonnalagadda, W Liu, B Teychene, F Jerome, PN Amaniampong, SH Mushrif (386)	**Keynote**, "Nature-Inspired Engineering: Exploiting Thin Film Flow Processing for Chemical and Bioprocess Intensification," **Kamelia Boodhoo** (334)	"Synergy of Platinum Nanoparticles Supported on Zirconia and the Role of Sodium Promoter in the Catalysis of H2 Production and CO_2 Conversion Reactions," G Seuser, M Martinelli, E Garcia, G Upton, M Ayala, J Villarreal, Z Rajabi, D Cronauer, AJ Kropf, **Gary Jacobs** (270)	"Decarbonizing Dry Reforming of Methane Using Rapid Pulse Joule Heating," **Kewei Yu**, C Wang, W Zheng, D Vlachos (13)	"Evaluation of Continuous Gas Dissolution Technology," **Faiz Mahdi**, T Chamberlain, A Karras, J Trenchard, G Eccleson, S Pollington, F Muller (433)
4:08-4:24pm	"Multicavity CuO Nanostructures for Sonocatalytic Glucose Oxidation," Z Xie, U Jonnalagadda, R Jien Wong, S Saqline, P Amaniampong, S Valange, J Kwan, **Wen Liu** (133)		"A Membrane Reactor (MR) / Adsorptive Reactor (AR) Process for Hydrogen Production and Simultaneous CO_2 Capture in the Context of Power Generation," L Zhao, I Somiari, N Margull, M Cao, D Parsley, P KT Liu, **Vasilios I Manousiouthakis,** TT Tsotsis (516)	"Direct HCN Synthesis via Plasma-Assisted Conversion of Methane and Nitrogen," **Nefeli S Kamarinopoulou**, DG Vlachos (49)	"At-line Monitoring of Diphenhydramine Synthesis via Low-Field NMR Spectroscopy as Process Analytical Technology," **Jakub Konkol**, R Singh, F Muzzio, G Tsilomelekis (380)
4:24-4:40pm	**Keynote**, "Selective Catalytic Dehydration of Alcohols to Olefins: Processes and Impact on Catalysts," **Jean-Luc Dubois** (556)	"An Efficient Catalytic Plate Reactor for Endothermic Dehydrogenation of Liquid Energy Carriers," **Phillip Nathrath**, B Baier, Y Raed Ramzi, J Mueller-Ebhardt, P Wasserscheid, E Huebner, P Schuehle (77)	"Dry Reforming of Steelworks Off-Gases in a Pilot Plant Integrated into a Steel Mill: A Study on the Influence of Operating Parameters," **Philipp Blanck**, O Deutschmann, B Kanz, G Kass, K-P Kinzel (140)	"Electrified Modular Reactors for Net Carbon Zero: Design and Performance Evaluation," **Ram Ratnakar**, V Balakotaiah (174)	"Solid State Reactive Mixing - Novel Drug and Nutrient Delivery Platform," **Dmitri Boudovitch** (500)
4:40-4:56pm		"Modeling and Simulation of Macro- and Micro-scale Hot Spots in Microwave Heating Systems," **Kazem Adavi**, J Shabanian, M Latifi, M Khajouei, J Chaouki (248)	"Assessing Zeolite Activity and Stability for the Direct CO_2 to Olefins Process," **Ander Portillo**, O Parra, AT Aguayo, J Ereña, A Ateka (55)	"Thermally and Electrically Conductive Internals for the Intensification of Catalytic NH_3 Cracking," **Federico Sascha Franchi**, N Usberti, M Ambrosetti, A Beretta, G Groppi, RW Gallen, E Tronconi (313)	"Intensified Batch to Continuous Conversion of Highly Exothermic and Non-Ideal Multiphase Pharmaceutical Systems," **Fatou B Diop**, A Silvera, G Chong, A Teixeira (517)
5:00-7:00pm	**Poster Session 1 (with Refreshments) – Sponsored by ExxonMobil (Grande Place)**				
7:00-10:00pm	**Dinner on Own**				

ISCRE 27 Program Schedule
Tuesday, June 13

	Palais & Kent				
8:00-8:10am	Introductory Remarks and Symposium Announcements				
8:10-8:55am	Symposium Plenary: **Jesper Nerlov** *(Chief Technology Officer, Topsoe)*				
8:55-9:40am	Symposium Plenary: **Kevin Van Geem**, "Driving Sustainability: Empowering Reaction Engineering for a Net Zero Chemical Industry" *(Ghent University)* – Sponsored by SABIC				
9:40-10:10am	**Break: Coffee and Refreshments (Grande Place)**				
	Kent	**Palais**	**St-Louis**	**Beauport/Beaumont/Belair**	**Courville/Montmorency**
	Session 16 Reaction Kinetics and Kinetic Modeling 1	**Session 17 Process Intensification 4**	**Session 18 CO_2 Capture, Conversion and Valorization 4**	**Session 19 Modeling Strategies in Reaction Engineering 1**	**Session 20 Biomass Conversion and Bioprocesses 1**
	Chair: Udit Gupta Co-Chair: Ashish Mhadeshwar	Chair: Kevin Smith Co-Chair: Reyes Mallada	Chair: Serge Kaliaguine Co-Chair: Ying Zheng	Chair: Matt Neurock Co-Chair: Linda Broadbelt	Chair: Jostein Gabrielsen Co-Chair: Rasmus Egeberg
10:10-10:26am	"Catalytic Total Oxidation of Methane -- Towards a Better Understanding of the Water Inhibition Effect and the Influence of the Support Material," **Kevin Keller**, R Chacko, P Lott, O Deutschmann (427)	**Keynote,** "Nature-Inspired Process Intensification: A Systematic Methodology to Innovate Catalysis and Reaction Engineering", **Marc-Olivier Coppens** (523)	"Converting CO_2 and H_2O into Fischer-Tropsch Products - A Techno-Economic Assessment," **Simon Pratschner**, M Hammerschmid, S Müller, F Winter (14)	"The New Active Learning Framework GandALF: A Plastic Waste Catalytic Pyrolysis Demonstration Study," **Yannick Ureel**, MR Dobbelaere, O Akin, RJ Varghese, KM Van Geem (7)	"Kinetic Modeling and Optimization of Hemicellulose-Derived Saccharide Conversion," **Ana Jakob**, B Likozar, M Grilc (218)
10:26-10:42am	"Which Reaction Pathways Govern the Decomposition of Sulfur-Containing Compounds During Pyrolysis of Fossil and Waste Resources?," **Jeroen Aerssens**, C AR Pappijn, R Van de Vijver, M-F Reyniers, KM Van Geem (191)		"Innovative Chemical Reaction System Contributing to Reduce and Utilize Greenhouse Gas (GHG)," **Choji Fukuhara**, H Akama, H Naiki, P Verma, R Watanabe (395)	"High-Throughput Models for Thermochemical Conversion of Biomass Using Machine Learning," VK Racha, **Himanshu Goyal** (145)	"Selective Catalytic Hydrogenation of 5-Hydroxymethylfurfural to Value-Added Chemicals," **Brett Pomeroy**, M Grilc, B Likozar (12)
10:42-10:58am	"Mechanistic Insights into Calcite Decomposition Reaction via Isotopic Exchange and Desorption Experiments," A Skaltsogiannis, **Angeliki Lemonidou** (370)	"Conductive Cellular Internals for the Intensification of the Fischer-Tropsch Synthesis in Tubular Reactors: A Pilot Study," M Panzeri, CG Visconti, G Groppi, **Enrico Tronconi** (325)	"A Multifunctional Reactor for the Capture and Valorization of CO_2," J Andrarde Martins, C Vasconcelos Miguel, AE Rodrigues, **Luis Miguel Madeira** (132)	"Data-Driven Surrogate Modelling to Optimise Plug Flow Performance," **Nausheen Basha** (225)	"Effect Size of Temperature and Potential for Electrochemical Lignin Upgrading to Valuable Products," **Andrew Carkner**, J Kopyscinski, A Seifitokaldani (459)
10:58-11:14am	"Acid Site Density as a Kinetic Descriptor of Reactions over Solid Acids," **Dmitry Murzin** (152)	"An Ultrasonic Microreactor for the Synthesis of Nanoparticles via Mini-Emulsion Polymerization," A Udepurkar, C Clasen, **Simon Kuhn** (6)	**Keynote**, "The Role of Chemical Engineering in Carbon Management", **Claude Létourneau** (562)	"Optimal Control of Start-up and Dynamic Product Transitions for Unstable CSTRs," **Jaber Darabi**, J Shi, N Nikbin, C Vila (340)	"Unveiling the Effect of Temperature, H_2-Atmosphere and Space-Velocity on One-Pot Hydrodeoxygenation of Bioglycerol to Sustainable Propylene," **Meryem Bahlouri**, M El Doukkali, S Heyte, J Thuriot-Roukos, S Paul, F Dumeignil (194)
11:14-11:30am	"Novel Jet-Loop Reactor for Measurement of Vapor-Phase Catalytic Kinetics Using Commercial-Scale Fixed-Bed Particles," A Nagaraj, **Patrick Mills** (525)	"Intensification of Methane Steam Reforming with Packed Foams: From Lab-Scale to Pilot Design," **Giulia Ferri**, F Zaio, M Ambrosetti, A Beretta, G Groppi, E Tronconi (284)		"A Hybrid Modeling Approach for Catalyst Monitoring and Lifetime Prediction," **Linh Bui**, I Castillo, B Braun, Y Peng, M Joswiak, A Phillips, J Yang, J Rose, J Dewilde, D Hickman (314)	"High-Gravity Fructose Solvolysis to n-Butyl Levulinate," **Daniele Di Menno Di Bucchianico**, J-C Buvat, V Casson Moreno, S Leveneur (90)
11:30am-1:00pm	**Lunch on Own**				

ISCRE 27 Program Schedule
Tuesday, June 13

	Kent	Palais	St-Louis	Beauport/Beaumont/Belair	Courville/Montmorency
	Session 21 **Catalytic Reaction Engineering 4**	**Session 22** **Process Intensification 5**	**Session 23** **Electrocatalysis and Photocatalysis**	**Session 24** **Multiphase Reactor Engineering and Scale-up 2**	**Session 25** **Biomass Conversion and Bioprocesses 2**
	Chair: Angeliki Lemonidou Co-Chair: Ram Ratnakar	Chair: Ines Achouri Co-Chair: Jan Kopyscinski	Chair: Anthony De Crisci Co-Chair: Mike Harold	Chair: Wayne Brown Co-Chair: Nitish Mittal	Chair: Rasmus Egeberg Co-Chair: Miha Grilc
1:00-1:16pm	"Continuous-Flow Photocatalytic Coupling over a Series of Heterogeneous and Stable Ni Single-Atom Catalysts," **Gianvito Vilé** (208)	**Invited**, "Process Intensification by Model-Based Design and Optimal Operation of Tailor-Made Reactors," **Hannsjörg Freund** (453)	"Photocatalytic Activity of g-C3N4 Immobilized on Floating Polyurethane Foam," **Nila Davari**, M Gar Alalm, M Mokhtarifar, CL Bianchi, E Falletta, V Yargeau, DC Boffito (394)	"A Novel Setup for the Fundamental Kinetic Study of Biomass Pyrolysis," **Veronica Piazza**, R Batista da Silva, A Frassoldati, Luca Lietti, SC Chiaberge, C Gambaro, A Siviero, T Faravelli, A Beretta (373)	**Keynote**, "Reaction Engineering Aspects in the Low-Temperature Transformation of Biomass to Valuable Molecules," **Tapio Salmi** (93)
1:16-1:32pm	"Catalytic Activity of Novel Red Mud-based Catalysts for Hydrodeoxygenation of Palmitic Acid," **Vasu Chaudhury**, K Mohanty (542)	"Dynamically Operated Fixed Bed Reactors for CO_2 Methanation: Strategies to Mitigate Catalyst Deactivation," **David Kellerman**, M Langer, H Freund (180)	"Electrocatalytic Reduction of Peroxydisulfate for Efficient and Selective Oxidation of Alcohols," **Mayank Tanwar**, S Hosseini, J Janusz, A Pendergast, H White, M Neurock (244)	"Novel Annular Jet Reactor for Converting Hydrocarbons to Olefins and Aromatics with Net-zero Carbon Emissions," **Sreekanth Pannala**, V Shtern, L Chen, B Nair, Byeongjin Baek, Z Liu, VM Retheesh, M Gopalakrishnan, S Turner, I Lengyel, K Sankaranarayanan, M Mier, D Robichaud, D West (353)	
1:32-1:48pm	"Synthesis and Preliminary Catalytic Property Assessment of Transition Metal Nanoparticles on Boron Nitride Nanotube Supports," **Steven Walker**, K Bosnick, A Sergeenko, J Chen, R Liang, J Bruce, B Simard, J Kopyscinski, S Coulombe (470)	"Approach to Model Based Reactor Optimization with Packed POCS for a Heterogeneously Catalyzed Extremely Fast Highly Endothermal Reaction," **Mira Zallmann**, S Walter, I Gummin, H Freund (67)	"New Approach for the Recycling of Spent LFP Battery Cathode Material," K Amouzegar, **François Larouche** and GP Demopoulos (189)	**Keynote,** "Scaling Complex Systems Using Cold Flow Modeling", **Darwin Kiel** (566)	"Designing a Bioreactor to Generate Biomolecular Gradients across Hydrogels," **Luisa Metzler**, J Haelssig, C Fauteux-Lefebvre, J-P St-Pierre (150)
1:48-2:04pm	"Enhanced Performance of 3D-Printed Catalytic Convertors in Exhaust Emissions Aftertreatment," **Aidan Doyle**, C Davidson (418)	"Optimization of Lattice Supports for Process Intensification in Mass-Transfer Limited Catalytic Reactors," **Claudio Ferroni**, M Ambrosetti, M Bracconi, M Maestri, G Groppi, H Freund, E Tronconi (215)	"Electrocatalytic Reduction for Electrochemical Synthesis," **Matthew Neurock**, S Udyavara, S Gorthi, A Chemburkar, S Winikoff, B Peters, K Rodriguez, S Reisberg, S Beil, D Hickey, Y Kawamata, K Klunder, T Gorey, S Anderson, S Minteer, P Baran (234)		"Hydrothermal Liquefaction of Food Waste: Optimization, Kinetics and Pilot-Scale Validation," **Giulia Zoppi**, K Anastasakis, P Biller (175)
2:04-2:20pm	"Evaluating the Roles of Mo and Cu on the Performance of Fe Catalyst Supported on a Renewable Catalyst for Fischer-Tropsch Synthesis," **Zahra Teimouri**, AK Dalai, N Abatzoglou (383)	"Multiscale Hierarchical Analysis via Reactive CFD: A Strategy for Designing Intensified Catalytic Reactors," **Mauro Bracconi**, C Ferroni, M Ambrosetti, G Groppi, M Maestri, E Tronconi (193)	"Engineering High Performing Catalysts for Photothermal CO_2 Reduction to CO, CH_4 or Methanol," K Lorber, **Petar Djinović** (9)	"Evaluating and Comparing the Transport Properties of Several Continuous Stirred Tank Reactors," **Victor Sussman**, J Houser, A Smith, E Calverley (18)	"On the Nature of Coke Originating from Biomass-derived Oxygenates on Cracking Catalysts and Development of Catalyst Regeneration Model," E Farah, **Efthymios Kantarelis** (216)
2:20-2:36pm	"Reactant Adsorption Modulation by Fe and K in Pt Catalyst for Highly Effective CO Preferential Oxidation in Practical Conditions," **Jianlin Cao**, Q Wang, X Zhang, X Feng, Y Tuo, D Chen (351)	"Synthesis and Characterization of Multifunctional Catalysts for the Dry Reforming of Methane," **Hanaa Hassini**, IE Achouri (364)	"Microwave Heating Performance of Silicon Carbide-based Catalysts: Experimental and Numerical Studies," **Mohammad Khodabandehloo**, J Shabanian, J-P Harvey, J Chaouki (240)	"Magnetic Resonance Imaging of Turbulent Gas Flow in Packed Beds of Porous Catalyst Supports," **Scott Elgersma**, A Sederman, M Mantle, C Guedon, G Wells, L Gladden (92)	"Golden Rules for Uneconomical Sustainable Projects," **Mathieu Pominville-Racette**, O Rezazgui, P Mangin (206)
2:36-2:55pm	**Break: Coffee and Refreshments (Grande Place)**				

ISCRE 27 Program Schedule
Tuesday, June 13

	Kent	Palais	St-Louis	Beauport/Beaumont/Belair	Courville/Montmorency
	Session 26 **Operando and Imaging of Catalytic Reactions**	**Session 27** **Process Intensification 6**	**Session 28** **Polymer Upcycling 1**	**Session 29** **Modeling Strategies in Reaction Engineering 2**	**Session 30** **Pyrolysis**
	Chair: Olga Guerrero Perez Co-Chair: Gregory Patience	Chair: Dalma Schieppati Co-Chair: Robin Lawler	Chair: Jean-Luc Dubois Co-Chair: Bob Weber	Chair: Alan Stottlemyer Co-Chair: Jean-Philippe Harvey	Chair: Cedric Briens Co-Chair: James Butler
2:55-3:11pm	"Rapid Scan FTIR for Uncovering Reaction (Am)Oxidation Mechanisms," **M. Olga Guerrero Perez**, A McCue, J Anderson (20)	"SYNOPSIS – A Software Prototype for Computer-Aided Process Intensification," **Shivam Vedant**, M Ali, N Pabba, D Kenefake, E Pistikopoulos, Y Tian (484)	**Keynote**, "Fundamental Mechanisms and Kinetics of Polymer Pyrolysis for Energy and Chemicals", **Paul Dauenhauer** (296)	"Modelling for Optimal Operation of Modular Integrated Methane Dehydroaromatization Process," **Arun Senthil Sundaramoorthy**, S Kim, BA Ogunnaike, RF Lobo (247)	"On the Fate of Alkylated Aromatics during Pyrolysis and Steam Cracking: An Experimental and Computational Study," J Zhang, **Ruben Van de Vijver**, FH Vermeire, M-F Reyniers, KM Van Geem (195)
3:11-3:27pm	"Operando Imaging of Product Distribution from Reactor to Pellet Scales during Fischer-Tropsch Synthesis," **Qingyuan Zheng**, J Williams, L van Thiel, S Elgersma, M Mantle, A Sederman, T Baart, L Bezemer, C Guedon, L Gladden (82)	"Optimal Design and Operation of Intensified Packed Towers for Solvent-Based CO2 Capture," S Summits, **Debangsu Bhattacharyya** (519)		"A Comprehensive Approach for Bottleneck Identification in Trickle Bed Reactors for the Liquid Phase Hydrogenation of Viscouse Aromatic Derivatives on Egg-Shell Catalysts," **Hendrik Held**, H Freund (78)	"Molecular-level Interplays During Co-Pyrolysis of Cellulose and Thermoplastics," F Sakirler, M Tekbas, **Hsi-Wu Wong** (239)
3:27-3:43pm	**Keynote**, "Raman Characterization: FAIRness and Relevance", **Raquel Portela** (567)	"Exploring the Role of Reaction Engineering in the Decarbonization of the Process Industries," **Julia Faeth**, I Palou-Rivera (535)	"Depolymerization of Plastics on Twin-Screw Extruder," **Yuji Fukuda** (388)	"Detailed multi-phase modeling of reactive fouling of a distillation column," **Hao-Wei Pang**, X Dong, RE Hawtof, WH Green (551)	"Impact of Vapor Saturation of Oil Pyrolysis in a Fluid Coker," **Jie Han**, C Briens, J McMillan (142)
3:43-3:59pm		"Ethyl Levulinate Ketalization: From Batch to Continuous Operation," V Russo, F Taddeo, R Turco, R Vitiello, R Tesser, **Tapio Salmi**, M Di Serio (115)	"Early Stage Capital Estimation of Chemical Recycling Plants," **Jacopo De Tommaso**, F Galli, R Weber, J-L Dubois, G Patience (211)	"Understanding the Role Perforations on the Void-Scale Hydrodynamics of Gas-Liquid Flows through Structured Packings," AS Ambekar, EAJF Peters, **Olaf Hinrichsen**, VV Buwa, JAM Kuipers (342)	"Catalytic Pyrolysis of Polypropylene with Zeolites: Maximizing Olefin Yield by Optimizing Acidity, Si/Al-Ratio, and P-Doping," **Oğuzhan Akin**, RJ Varghese, Y Ureel, A Eschenbacher, J Oenema, K Van Geem (124)
3:59-4:15pm	"Investigating the Effect of Branching on Diffusion in Confined Porous Media with Pulsed-Field Gradient NMR," **Yeojin Lee**, A Sederman, M Mantle, L Gladden (182)	"Microreactor Technology in Selective Oxidation of Alcohols to Aldehydes," **Luca Mastroianni**, A Meunier, K Eränen, Z Vajglová, V Russo, M Di Serio, D Murzin, T Salmi (28)	"Chemical Reaction Engineering Challenges for Advanced Recycling of Plastic Waste at Scale," **Saurabh Maduskar**, B Patel, K Buettner, P Dauenhauer, S Uppili (316)	"Intensified CO2 Hydrogenation: Kinetics and Modelling of the Reverse Water-Gas Shift Reaction and Water Adsorption," **Alex Desgagnés**, I Iliuta, M-C Iliuta (192)	**Keynote**, "Pilot-scale Recycling of End-of-Life Tires via ex-situ Catalytic Pyrolysis", **Angelos Lappas** (17)
4:15-4:31pm	"Probing the Diffusion Mechanism of Linear Hydrocarbons in Mesoporous Confinement Using Pulsed-Field Gradient NMR," **Jack H Williams**, Q Zheng, MD Mantle, LF Gladden, AJ Sederman (45)	"Asphaltenes De-clustering behind Viscosity Reduction in Heavy Fuel Oils undergoing Ultrasonically-induced Cavitation," **Varaha P Sarvothaman**, E Colleoni, G Viciconte, C Canciani, S Saxena, P Giada, W Roberts (282)	"Modeling Polymer Pyrolysis via the Method of Moments," **Pratyush Agarwal**, D Tremblay (511)	"Key Aspects to Maintain Efficient Steam Reforming Operation during Catalyst Life," **Monica Zanfir**, C Satam, Z Wang (41)	
4:30-6:30pm	**Poster Session 2 (with Refreshments)** **(Grande Place)**				
7:45-10:30pm	**Symposium Reception (Grand Place) and Banquet (Palais & Kent)** **Amundson Award Presentation (Sponsored by ExxonMobil) and Speech, Klavs Jensen** **ISCRE 28 Announcement**				

ISCRE 27 Program Schedule
Wednesday, June 14

Palais & Kent

8:30-8:45am — Introductory Remarks and Poster Award Announcements

8:45-9:30am — Symposium Plenary: **Theodore Betley**, "Radical Intermediate Trapping and Use in New Catalysis" *(Harvard University)*

9:30-9:50am — **Break: Coffee and Refreshments (Grande Place)**

	Kent	Palais	St-Louis	Beauport/Beaumont/Belair	Courville/Montmorency
	Session 31 **Reaction Kinetics and Kinetic Modeling 2**	**Session 32** **Hydrogen Production**	**Session 33** **Polymer Upcycling 2**	**Session 34** **Multiphase Reactor Engineering and Scale-up 3**	**Session 35** **Modeling Strategies in Reaction Engineering 3**
	Chair: Jaber Darabi Co-Chair: Udit Gupta	Chair: Federico Galli Co-Chair: Saurabh Maduskar	Chair: Bob Weber Co-Chair: Olga Chub	Chair: Victor Sussman Co-Chair: Nicolas Abatzoglou	Chair: Linh Bui Co-Chair: Alan Stottlemyer
9:50-10:06am	"Unraveling the Pyrolysis and Oxidation of Trimethoxymethane E-Fuel: a Combined Experimental and Kinetic Modeling Study," **Kevin De Ras**, G Dossche, M Saab, A Jamil, Y Fenard, RJ Varghese, JW Thybaut, G Vanhove, KM Van Geem (5)	**Keynote**, "Development of Electrically Heated Reactor: the Case of Steam Methane Reforming", **Gianluca Pauletto** (563)	"Plastic Waste Upgrade to Olefins via Mild Slurry Microwave Pyrolysis over Solid Acids," **Esun Selvam**, P Kots, B Hernandez, A Malhotra, W Chen, J Catala-Civera, J Santamaria, M Ierapetritou, D Vlachos (56)	"Slurry Phase Hydroconversion: Gas Environment and Solvent Effects," T Pugsley, M Fleming, **Kevin Smith** (555)	"Modelling of the Coupling Between Acid Reactive Extraction and Calcium Carbonate Precipitation for the Valorisation of a Mining Industry Effluent," T Neron, A-M Billet, **Carine Julcour** (141)
10:06-10:22am	"Conjunction of Kinetic and Process Modeling - Paving the Way to a Green Epoxy Resin," **Matthias Feigel**, J Breitsameter, B Rieger, O Hinrichsen (317)		"Catalytic Pyrolysis of Polyolefin Wastes in a Microwave Reactor," **Fatemeh Vatankhah**, M Latifi, J Chaouki (155)	"High-Order CFD-DEM for the Prediction of Solid-Fluid Flows in Chemical Reactors," **Bruno Blais**, T El Getaini Nehme, V Oliveira Ferreira, A Collard-Daigneault (249)	"Investigating Hydroconversion of Lignin: A Composition and Reaction Modeling Approach," Maria Lopez Abelairas, LP de Oliveira, N Charon, **Jan J Verstraete** (265)
10:22-10:38am	"Dual site RHC+OHC Transient Kinetics on Cu-CHA: Prediction of the Low-T Standard SCR Rates," ND Nasello, N Usberti, U Iacobone, F Gramigni, W Hu, S Liu, I Nova, X Gao, **Enrico Tronconi** (134)	"Spherical Catalyst Supports with and without Internal Voids for Steam Methane Reforming," **Anthony Dixon**, B Vardhan R Kuncharam, B Partopour (71)	"Upcycling of Waste Plastics using Unique Microwave Technology in a Circular Economy," **Amir Kerenkan**, J-P Laviolette (319)	"Fischer-Tropsch Synthesis over a Sustainable Catalyst in a GLS Slurry Reactor," **Sabrina Bahia Karakache**, IE Achouri, N Abatzoglou (422)	"High Temperature Combustion Cracking of Ethane: Ideal Reactor vs. Annular Jet Vortex Reactor," **Byeongjin Baek**, I Lengyel, B Nair, L Chen, M Mier, D Robichaud, S Pannala (366)
10:38-10:54am	"Reaction Kinetics for Oxidative Coupling of Methane over Platinum Catalyst," J Chawla, S Schardt, P Lott, S Angeli, S Tischer, L Maier, **Olaf Deutschmann** (40)	"In-situ Hydrogen Supply via Aqueous Phase Reforming: A Novel Strategy for Tackling the Economic & Environmental Sustainability of Aviation Fuels," **Giuseppe Pipitone**, G Zoppi, R Pirone, S Bensaid (64)	"Chemical Recycling of Polyurethane: Conversion of Carbamates," **Shahab Zamani Gharaghooshi**, J-P Lange, S Kersten, MP Ruiz (331)	"Interplay Between Surface Barriers of Guest Molecules and Coke Deposition in Methanol-to-Olefins over ZSM-5 Zeolites," **Yiwei Xie**, H Li, M Ye, Z Liu (480)	"Equilibrium-based Modelling of GHG Reduction Resulting from Hydrogen Injection in a MIDREX DRI Process," **Ugo Mahue,** S Roy, L Fradette, J-P Harvey (509)
10:54-11:10am	"Cross-Talking of Ni Metal Nanoparticle Facets Explains the Structure Sensitivity of the CO_2 Methanation Reaction," M Ferri, R Cheula, M Monai, BM Weckhuysen, **Matteo Maestri** (199)	"Zoneflow Structured Reactors for Efficient Steam Methane Reforming: Kinetics, Heat Transfer, and Pilot Plant Studies," **Juray De Wilde**, F Minette, S Ratan, Z He, W Blasko, W Spieker, B Boisture (224)	"PMMA Pyrolysis Upcycling," **Christian Roy**, B de Caumia, D Blanchette, H Pakdel, GJ Adolphe-Mbou (341)	"Oxidative Conversion for Methane Valorization: Exploiting OCM," **Alejandro Romero-Limones**, J Poissonnier, Y Cheng, C Omar Castillo-Araiza, JW Thybaut (101)	"Identifying the Rate-Determining Step Based on Ab Initio Calculations for the Decomposition of Ammonia on Ru- and Co-Based Catalysts," N Realpe, S Kulkarni, **Gontzal Lezcano**, Y Attada, N Morlanes, JL Cerrillo, S Katikaneni, S Paglieri, K Lee, J Gascon, P Castano (117)
11:10-11:26am	"Propylene Oligomerization Kinetics over a sPA Catalyst: Experimental Assessment and Kinetic Model Construction," **Jeroen Poissonnier**, C Alvarado Camacho, M Herrero Manzano, J Thybaut (44)	"Hydrogen Production through Dry Reforming of Biogas Reaction on Co- and Ni-Based Materials," M Chaghouri, C Ciotonea, HL Tidahy, F Cazier, C Gennequin, **Edmond Abi-Aad** (420)	"Dechlorination of PVC Waste through Hydrothermal Liquefaction," **Edoardo Tito**, J Souza dos Passos, R Pirone, S Bensaid, P Biller (209)	"Evaluating Performance of Hydrodynamic Cavitation Device Type and Scale Using Dosimetry," **Varaha P Sarvothaman**, J Subburaj, S Kulkarni, A Farooq, W Roberts (123)	"Efficient Implementation of Detailed Surface Kinetics by Neural Network Representations of the Rate-Determining Steps," **Felix Antonidas Döppel,** M Votsmeier (151)
11:26-11:42am	"Study of a Supported Enzymatic Reactive Distillation: Effect of Intraparticle Mass Transfer," **Nicolas Chaussard**, C Nikitine, P Fongarland (127)	"Tackling the Limits of Steam Reforming of Biorefinery Side Streams," **Abdelrahman Mostafa**, I Rapone, A Bosetti, MC Romano, A Beretta, G Groppi (355)	"Hydroformylation as a Pathway to Functionalize Plastic Waste Pyrolysis Oil," **Maria Herrero Manzano**, J Poissonnier, JW Thybaut (196)	"Understanding Heat Transfer Mechanisms in a Packed Bed Reactor through Particle-Resolved CFD Simulations," **Ankita Kumari,** VV Buwa (279)	"Artificial Intelligence on Hybrid Modeling in Fluid Catalytic Cracking," **Jansen-Acosta Lopez**, C Medina Pedrazam, H de Lasa (60)