	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 (Beauport)	Scaling of Reacting Systems (Courville)	Technical Writing (Sainte-Foy)
5:00-6:30pm	**Dinner on Own**			
6:30-7:30pm	Opening Plenary Presentation (Palais & Kent): **Rob Crane** *(Process Innovation & Scale-up Manager, ExxonMobil)*			
7:30-9:00pm	**Welcome Reception** **(Grande Place)**			

ISCRE 27 Program Schedule
Monday, June 12

Palais & Kent

Time	
8:00-8:10am	Introductory Remarks and Symposium Announcements Aris Award Presentation, Sponsored by Honeywell UOP
8:10-8:55am	Symposium Plenary: **Andrea Bozzano** *(Sr Director Technology Development, Honeywell UOP)*
8:55-9:40am	Symposium Plenary: **Yanet Villasana** *(IKIAM Amazon Regional University)*
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** **CO₂ Capture, Conversion** **and Valorization 1**	**Session 4** **Computational Fluid Dynamics** **in Reaction Engineering**	**Session 5** **Pharmaceutical and Biological** **Reaction Engineering 1**
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," Tom Carr, Fernando Russo Abegão, **Kamelia Boodhoo** (335)	"The Role of Reaction Engineering in the Scale-up of a Plate-Type Reactor for the CO₂ Methanation Reaction," **Emanuele Moioli** (15)	"catchy-CFDEM: Euler-Lagrange Computational Fluid Dynamics open-source framework for catalytic reactors," **Florian Wéry**, Laurien A. Vandewalle, Guy B. Marin, Geraldine J. Heynderickx, Kevin M. 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," Cláudio Rocha, Miguel Soria, **Luís Miguel Madeira** (72)	"Boosting Gasoline-Range Hydrocarbon Production by Shifting the Equilibrium of CO₂, CO Hydrogenation," **Onintze Parra**, Ander Portillo, Javier Ereña, Andrés Aguayo, Ainara Ateka (54)	"Hybrid Volume of Fluid and Porous Media Simulations of Dynamics of Liquid Spreading and Imbibition in Porous Particles," **Rohit Singh Gulia**, Vivek V. Buwa (278)	"Facile Isolation of Cannabinoid Acids from Plant Biomass via Ammonium Salt Formation," **Tony Durst**, Jay Van der Vlugt (329)
10:37-10:53am	"C₄, C₅-Alkane Dehydrogenation Utilizing Lattice S2- Species of Metal Sulfide Catalyst," **Ryo Watanabe**, Hiroshi Akama, Priyanka Verma, Choji Fukuhara, (490)	"Modeling Membrane Reactors for CO₂ Utilization," **Anan Uziri**, Michael Patrascu (518)	"Development of Silicalite-1-Encapsulated Cu-ZnO Catalysts for Methanol Synthesis by CO₂ Hydrogenation," Ryokuto Kanomata, Kouki Awano, Hiroyasu Fujitsuka, Kentarou Kimura, Raquel Simancas, Shuhei Yasuda, Takeshi Matsumoto, Toru Wakihara, Toshiyuki Yokoi, **Teruoki Tago** (489)	"Development of a Solver for CFD-DEM Simulations of Suspensions Containing Arbitrarily Shaped Particles," **Martin Kotouc Sourek**, Ondrej Studenik, Martin Isoz, Petr Koci, Andrew 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**, Maria-Cornélia Iliuta, (477)	"Membrane Reactor and Crystallization-based Process Intensification Strategy for Para-Xylene Recovery," **Nitish Mittal**, Jingjun Liu, JR Johnson, Benjamin McCool, Prodromos Daoutidis, Michael Tsapatsis (528)	"Alcohol Synthesis in a High-Pressure Membrane Contactor Reactor Using Waste CO₂ Feeds," Jingwen Gong, Mohammad Bazmi, Linghao Zhao, Fatemeh Sadat Zebarjad, Zhongtang Li, Kristian Jessen, Theodore Tsotsis, **Vasilios Manousiouthakis** (513)	"A Combined CFD-CPFD Modeling Approach for Characterizing Internal Recycle Berty Catalytic Reactors," **Shekhar R. Kulkarni**, Mengmeng Cui, Stefan Wagner, Claudia Berger-Karin, Lennart Jan-Weber, Anton Nagy, Pedro Castano (135)	"Optimization Strategy for Pharmaceutical Business," **Ashok Bhaseen** (338)
11:09-11:25am	"Highly Selective Iron Oxide Sites for CO₂ Valorization in Tandem with On-purpose Ethylene Production," Stavros Theofanidis, Allessandro Longo, Maria Tasioula, Emmanuelle de Clermont Gallerande, Christoph Sahle, **Angeliki Lemonidou**, (371)	"High Temperature Bubble Column Reactors for Alkane Dehydrogenation: Combining Reaction and Separation," **Chester Upham** (250)	"CO₂ Direct Hydrogenation to Lower Hydrocarbons over K-Fe/γ-Al2O3 Synthesized by Reverse Microemulsion Method," **Yue Yu**, Aiping Yu, David Simakov (106)	**Keynote**, "Chemical Reaction Engineering Tools for Battery Production and Optimization," **Danielle Marchisio** (559)	"Polyphenol from Maritime Pine Bark (MPB) Extract: Protective Effect on Collagen Structural Integrity," **Jean-Yves Leroux**, Robert Houde (445)
11:25-11:41am	"Atomically Thin Platinum Nanolayers on MXene for Catalytic Non-oxidative Coupling of Methane," **Yang Xiao**, Zhe Li, Tobias Misicko, Jeff Miller, Yue Wu, Arvind Varma, (4)	"CO₂ Capture by Mechanical Separation Using a Spinning Disc Separator (SDS)," **Luis D. Virla**, Andrew McGovern, Saeed Rahbarimanesh, Joshua Brinkerhoff (510)	"Novel Kinetic Model for Combined CO and CO₂ Methanation Using Spatially Resolved Measurements," Varun Surendran, Jose A. Hernandez Lalinde, **Jan Kopyscinski** (379)		"Reduction of Methane Gas Production from Cattle," **Domenico Fuoco**, Patrice Kieffer, Daniel Quirion (530)
11:41am-1:10pm	Lunch on Own				

	Kent	Palais	St-Louis	Beauport/Beaumont/Belair	Courville/Montmorency
	ISCRE 27 Program Schedule **Monday, June 12**				
	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**
1:10-1:26pm	"An Alumina/Y-Zeolite Composite as Support to Minimize Overcracking in Hydrocracking Process," **Iratxe Crespo**, Roberto Palos, David Trueba, Suní Rodrígez, Alazne Gutiérrez, Jose 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?," **Yi Ouyang**, Geraldine Heynderickx, Kevin Van Geem (43)	"Modeling Catalyst Deactivation by Coke in Fluidized Bed Reactors," **Robin Lawler**, Fan He, Neeraj Sangar, John Coleman, Bing Du (245)	"Reactor and Storage Safety: A Thermal Analysis on the Stability of Hydroxylamine Solutions," **Paolo Mocellin**, Gianmaria Pio, Chiara Vianello, Ernesto Salzano (25)
1:26-1:42pm	"Forced Dynamic Operation for Enhanced Performance: Propene Conversion to Acrolein and Acrylonitrile," Mohammad Moniruzzaman, Lars Grabow, **Mike Harold**, Zhuoran Gan, William Epling (463)		"Thermal Catalysis of CO_2 Hydrogenation Reaction on a Novel Bio-Based Catalyst," **Farbod Farzi,** Ines Esma Achouri (451)	"CO_2 Utilization by Chemical Looping Super-dry Reforming Maximizing CO Production by Cycle Time Optimization," **Michiel W.F. Van Cauwelaert**, Lukas C. Buelens, Vladimir V. Galvita, Kevin M. Van Geem (178)	"Voidage Distribution and Isotropy of Packed Beds of Non-Spherical Particles (Trilobes)," Utkarsh Sinha, Prapanch Nair, Thorsten 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**, Daria Camilla Boffito, Bruno Blais (153)	"Direct Synthesis of Methyl Acetate via Tandem Coupling Strategy from Carbon Dioxide Hydrogenation," Xu Wang, **Jong Wook Bae** (347)	"Carbide Chemical Looping Reforming -- A Novel Process for Hydrogen/Syngas Production," **Felipe Camacho**, Nader Mahinpey (236)	"A Novel Position Reconstruction Algorithm for Particle Tracking Based on the Finite Element Method (FEM)," **Ghazaleh Mirakhori**, Audrey Collard-Daigneault, Amishga Alphonius, Jocelyn Doucet, Bruno Blais, Jamal Chouki (467)
1:58-2:14pm	"Molecular Weight Growth Technology Development: Isoparaffin Alkylation," **Matthew Mettler**, Josh Allen, Vinit Choudhary, Doron Levin, Christopher Dean, Jihad Dakka (34)	"Process Intensification at the Molecular Level: Plasma-Assisted Ammonia Synthesis and Its Catalyst Design," **Xiaolei Fan**, Huanhao Chen (37)	"In-situ CO_2 Capture and Catalytic Methanation Using Ni/alkaline Earth Carbonate Dual Function Materials," **Xianyue Wu**, Wen Liu, Ocean Cheung, Ribooga Chang (35)	"Assessment of the Operability Range of Dynamically Structured Gas-Solid Fluidized Bed Reactors," **Davide Cafaro**, Daniele Micale, Riccardo Uglietti, Kaiqiao Wu, Mauro Bracconi, Marc-Olivier Coppens, Matteo Maestri (204)	"Intensified Silicon Carbide Heat-Exchanger Reactor for Exothermic Catalytic Reactions," **Michele Scotto di Perta**, Carine Julcour, Patrick Cognet, Sebastien 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**, Ludovic Pinard, Anthony Dufour, Yannick Pouilloux (285)	"Simulation-based Optimization of Simulated Moving Bed Reactor for Multiple Reaction Systems: Production of Triacetin using Glycerol," **Mohd Nadeem**, Sanjay Mahajani, Rahu Nabar (274)	"Copper interactions with Zinc Oxide and Zirconia in Catalysis for Methanol Synthesis from CO_2 and H_2," **George Fulham**, Ewa Marek (61)	"Chemical Looping Production of Ethylene Oxide from Ethanol in a Multi-Layered Reactor," **Joseph Gebers**, Ewa Marek (356)	"Fault Detection of the Tennessee Eastman as a Reaction-Based Process," Hooman Ziaei, Reza Zarghami, Navid Mostoufi, Rahmat Sotoudeh-Gharebagh, **Jamal Chaouki** (24)
2:30-2:46pm	"Cracking of Light Cycle Oil into BTX over Bifunctional CoMo Catalysts Supported on Fly-Ash Dervied Beta Zeolite," **Akshata V. Ramteke**, Divesh Bhatia, Kamal K. Pant (266)	"A Sonochemical Reactor Utilizing a Cylindrically-Focused Acoustic Wavefield for Improved Sonochemical Efficiency," Cherie Wong, Adam Sedgwick, Lillian Usadi, Jason Raymond, Ronald 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**, Jingyun Ye, Donald Truhlar, Johannes Lercher, Matthew 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**, Göran Baade, Robert Güttel (179)
2:46-3:02pm	"Oxidation of Methane on Mono- and Bi-Nuclear Iron Complexes Supported over Zeolite-Y," **Balashanmugam Venu Gopal**, Niket S. Kaisare, Parasuraman Selvam (403)	"Paradigm Change through Phenomena-based Cavitation Process Intensification for Oil Sands Produced Water Treatment," **Deepak Kirpalani**, Rija Ansari (374)	"HKUST Plasma Reduction Strategy for CO_2 Hydrogenation Application," Nan Zou, Ting Qiu, **Ying Zheng** (392)		"Enhanced CO_2-Free Hydrogen Production from Liquid Hydrocarbons by Plasma Cracking by Applying Perovskite Catalysts," Sang-Chul 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**
3:20-3:36pm	"The Ammonia Synthesis Catalyst Applied to Green Ammonia: A Detailed Study on the Operative Conditions," Cristina Pizzolitto, Alberto Biasi, Matteo Guiotto, **Pierdomenico Biasi** (531)	"A Packed Bed Reactor Network Model for Biomass-fueled Chemical Looping Combustion," Kayden Toffolo, Sarah 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**, David Simakov (159)	"Microwave Heating in Chemical Reactors: Challenges and Opportunities for Efficient and Sustainable Energy Supply," **Reyes Mallada**, José Luis Hueso, Jesús Santamaría (447)	**Keynote,** "The Tumor as a Chemical Reactor", **Jesus Santamaria** (457)
3:36-3:52pm	"Novel Synthesis of Catalytic Active Sites in Flow for On-Demand Hydrogen Production from Ammonia," **Joseph El-Kadi**, Laura Torrente-Murciano (522)	"Intensification of Non-edible Vegetable Oil Epoxidation by Continuous Operation," **Tommaso Cogliano**, Vincenzo Russo, Kari Eränen, Riccardo Tesser, Tapio Salmi (83)	"Calcium Looping Coupled with in-situ Conversion of Captured CO_2 via Dry Reforming for Syngas Production," Theodoros Papalas, Dimitrios Lypiridis, **Andy Antzaras**, Angeliki Lemonidou (415)	"Experimental and Numerical Investigation of Methane Steam Reforming with Joule Heated Foams," **Matteo Ambrosetti**, Lei Zheng, Francesca Zaio, Alessandra Beretta, Gianpiero Groppi, Enrico Tronconi (399)	
3:52-4:08pm	"Water-assisted Sonochemically-induced Demethylenation of Benzyl Alcohol to Phenol over a Structurally Stable Cupric Oxide," **Shang Jiang**, Tesser Bahry, Umesh Jonnalagadda, Wen Liu, Benoit Teychene, Francois Jerome, Prince N. Amaniampong, Samir H. 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," Grant Seuser, Michela Martinelli, Elijah Garcia, Gabriel Upton, Martin Ayala, Jesus Villarreal, Zahra Rajabi, Donald Cronauer, A. Jeremy Kropf, **Gary Jacobs** (270)	"Decarbonizing Dry Reforming of Methane Using Rapid Pulse Joule Heating," **Kewei Yu**, Cong Wang, Weiqing Zheng, Dionisios Vlachos (13)	"Evaluation of Continuous Gas Dissolution Technology," **Faiz Mahdi**, Thomas Chamberlain, Andrew Karras, Joshua Trenchard, Gary Eccleson, Steve Pollington, Frans Muller (433)
4:08-4:24pm	"Multicavity CuO Nanostructures for Sonocatalytic Glucose Oxidation," **Zhangyue Xie**, Umesh Jonnalagadda, Roong Jien Wong, Syed Saqline, Prince Amaniampong, Sabine Valange, James 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," Linghao Zhao, Isobelye Somiari, Nicholas Margull, Mingyuan Cao, Doug Parsley, Paul K.T. Liu, **Vasilios I. Manousiouthakis,** Theodore T. Tsotsis (516)	"Direct HCN Synthesis via Plasma-Assisted Conversion of Methane and Nitrogen," **Nefeli S. Kamarinopoulou**, Dionisios G. Vlachos (49)	"At-line Monitoring of Diphenhydramine Synthesis via Low-Field NMR Spectroscopy as Process Analytical Technology," **Jakub Konkol**, Ravendra Singh, Frenando Muzzio, George 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**, Benjamin Baier, Yousuf Raed Ramzi, Jannis Mueller-Ebhardt, Peter Wasserscheid, Eike Huebner, Patrick 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**, Olaf Deutschmann, Benjamin Kanz, Gilles Kass, Klaus-Peter Kinzel (140)	"Electrified Modular Reactors for Net Carbon Zero: Design and Performance Evaluation," **Ram Ratnakar**, Vemuri 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**, Jaber Shabanian, Mohammad Latifi, Mohammad Khajouei, Jamal Chaouki (248)	"Assessing Zeolite Activity and Stability for the Direct CO_2 to Olefins Process," **Ander Portillo**, Onintze Parra, Andrés Tomás Aguayo, Javier Ereña, Ainara Ateka (55)	"Thermally and Electrically Conductive Internals for the Intensification of Catalytic NH$_3$ Cracking," **Federico Sascha Franchi**, Nicola Usberti, Matteo Ambrosetti, Alessandra Beretta, Gianpiero Groppi, Robert W. Gallen, Enrico Tronconi (313)	"Intensified Batch to Continuous Conversion of Highly Exothermic and Non-Ideal Multiphase Pharmaceutical Systems," **Fatou B. Diop**, Ashli Silvera, Gabriela Chong, Andrew Teixeira (517)
5:00-7:00pm	**Poster Session 1 (with Refreshments) (Grande Place)**				
7:00-10:00pm	**Dinner on Own**				

ISCRE 27 Program Schedule
Tuesday, June 13

Palais & Kent

Time	
8:00-8:10am	Introductory Remarks and Symposium Announcements
8:10-8:55am	Symposium Plenary: **Kevin Van Geem** *(Ghent University)* – Sponsored by SABIC
8:55-9:40am	Symposium Plenary: **Jesper Nerlov** *(Chief Technology Officer, Topsoe)*
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**
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**, Rinu Chacko, Patrick Lott, Olaf 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$_2$O into Fischer-Tropsch Products - A Techno-Economic Assessment," **Simon Pratschner**, Martin Hammerschmid, Stefan Müller, Franz Winter (14)	"The New Active Learning Framework GandALF: A Plastic Waste Catalytic Pyrolysis Demonstration Study," **Yannick Ureel**, Maarten R. Dobbelaere, Oguzhan Akin, Robin J. Varghese, Kevin M. Van Geem (7)	"Kinetic Modeling and Optimization of Hemicellulose-Derived Saccharide Conversion," **Ana Jakob**, Blaž Likozar, Miha 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**, Cato A. R. Pappijn, Ruben Van de Vijver, Marie-Françoise Reyniers, Kevin M. Van Geem (191)		"Innovative Chemical Reaction System Contributing to Reduce and Utilize Greenhouse Gas (GHG)," **Choji Fukuhara**, Hiroshi Akama, Hiroto Naiki, Priyanka Verma, Ryo Watanabe (395)	"High-Throughput Models for Thermochemical Conversion of Biomass Using Machine Learning," **Varun Kumar Racha**, Himanshu Goyal (145)	"Selective Catalytic Hydrogenation of 5-Hydroxymethylfurfural to Value-Added Chemicals," **Brett Pomeroy**, Miha Grilc, Blaz Likozar (12)
10:42-10:58am	"Mechanistic Insights into Calcite Decomposition Reaction via Isotopic Exchange and Desorption Experiments," Athanasios Skaltsogiannis, **Angeliki Lemonidou** (370)	"Conductive Cellular Internals for the Intensification of the Fischer-Tropsch Synthesis in Tubular Reactors: A Pilot Study," Martino Panzeri, Carlo Giorgio Visconti, Gianpiero Groppi, **Enrico Tronconi** (325)	"A Multifunctional Reactor for the Capture and Valorization of CO$_2$," Joana Andrarde Martins, Carlos Vasconcelos Miguel, Alírio Egídio 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**, Jan Kopyscinski, Ali 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," Aniket Udepurkar, Christian Clasen, **Simon Kuhn** (6)	**Keynote**, "The Role of Chemical Engineering in Carbon Management", **Claude Letourneau** (562)	"Optimal Control of Start-up and Dynamic Product Transitions for Unstable CSTRs," **Jaber Darabi**, Jane Shi, Nima Nikbin, Carlos Vila (340)	"Unveiling the Effect of Temperature, H$_2$-Atmosphere and Space-Velocity on One-Pot Hydrodeoxygenation of Bioglycerol to Sustainable Propylene," **Meryem Bahlouri**, Mohamed El Doukkali, Svetlana Heyte, Joelle Thuriot-Roukos, Sébastien Paul, Franck Dumeignil (194)
11:14-11:30am	"Novel Jet-Loop Reactor for Measurement of Vapor-Phase Catalytic Kinetics Using Commercial-Scale Fixed-Bed Particles," Anuradha Nagaraj, **Patrick Mills** (525)	"Intensification of Methane Steam Reforming with Packed Foams: From Lab-Scale to Pilot Design," **Giulia Ferri**, Francesca Zaio, Matteo Ambrosetti, Alessandra Beretta, Gianpiero Groppi, Enrico Tronconi (284)		"A Hybrid Modeling Approach for Catalyst Monitoring and Lifetime Prediction," **Linh Bui**, Ivan Castillo, Brigid Braun, You Peng, Mark Joswiak, Ailene Phillips, Jin Yang, Justin Rose, Joseph Dewilde, Daniel Hickman (314)	"High-Gravity Fructose Solvolysis to n-Butyl Levulinate," **Daniele Di Menno Di Bucchianico**, Jean-Christophe Buvat, Valeria Casson Moreno, Sebastien Leveneur (90)
11:30am-1:00pm	Lunch on Own				

	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**
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**, Mohamed Gar Alalm, Maryam Mokhtarifar, Claudia L. Bianchi, Ermelinda Falletta, Viviane Yargeau, Daria C. Boffito (394)	"A Novel Setup for the Fundamental Kinetic Study of Biomass Pyrolysis," **Veronica Piazza**, Roberto Batista da Silva JR, Alessio Frassoldati, Luca Lietti, Stefano Carlo Chiaberge, Chiara Gambaro, Andrea Siviero, Tiziano Faravelli, Alessandra 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**, Kaustubha Mohanty (542)	"Dynamically Operated Fixed Bed Reactors for CO_2 Methanation: Strategies to Mitigate Catalyst Deactivation," **David Kellerman**, Moritz Langer, Hannsjörg Freund (180)	"Electrocatalytic Reduction of Peroxydisulfate for Efficient and Selective Oxidation of Alcohols," **Mayank Tanwar**, Seyyedamirhossein Hosseini, Jordyn Janusz, Andrew Pendergast, Henry White, Matthew Neurock (244)	"Novel Annular Jet Reactor for Converting Hydrocarbons to Olefins and Aromatics with Net-zero Carbon Emissions," **Sreekanth Pannala**, Vladimir Shtern, Lei Chen, Balamurali Nair, Byeongjin Baek, Zheng Liu, Retheesh VM, Murali Gopalakrishnan, Steve Turner, Istvan Lengyel, Krishnan Sankaranarayanan, Mike Mier, David Robichaud, David West (353)	
1:32-1:48pm	"Synthesis and Preliminary Catalytic Property Assessment of Transition Metal Nanoparticles on Boron Nitride Nanotube Supports," **Steven Walker**, Ken Bosnick, Ania Sergeenko, Jian Chen, Ruilin Liang, Jennifer Bruce, Benoit Simard, Jan Kopyscinski, Sylvain Coulombe (470)	"Approach to Model Based Reactor Optimization with Packed POCS for a Heterogeneously Catalyzed Extremely Fast Highly Endothermic Reaction," **Mira Zallmann**, Simon Walter, Ingolf Gummin and Hannsjörg Freund (67)	"New Approach for the Recycling of Spent LFP Battery Cathode Material," Kamyab Amouzegar, **François Larouche** and George , P Demopoulos (189)	**Keynote**, "Scaling Complex Systems Using Cold Flow Modeling", **Darwin Kiel** (566)	"Designing a Bioreactor to Generate Biomolecular Gradients across Hydrogels," **Luisa Metzler**, Jan Haelssig, Clémence Fauteux-Lefebvre and Jean-Philippe St-Pierre (150)
1:48-2:04pm	"Enhanced Performance of 3D-Printed Catalytic Convertors in Exhaust Emissions Aftertreatment," **Aidan Doyle**, Callum Davidson (418)	"Optimization of Lattice Supports for Process Intensification in Mass-Transfer Limited Catalytic Reactors," **Claudio Ferroni**, Matteo Ambrosetti, Mauro Bracconi, Matteo Maestri, Gianpiero Groppi, Hannsjörg Freund and Enrico Tronconi (215)	"Electrocatalytic Reduction for Electrochemical Synthesis," **Matthew Neurock**, Sagar Udyavara, Sahithi Gorthi, Ashwin Chemburkar, Stewart Winikoff, Byron Peters, Kevin Rodriguez, Solomon Reisberg, Sebastian Beil, David Hickey, Yu Kawamata, Kevin Klunder, Timothy Gorey, Scott Anderson, Shelley Minteer, Phil Baran (234)		"Hydrothermal Liquefaction of Food Waste: Optimization, Kinetics and Pilot-Scale Validation," **Giulia Zoppi**, Konstantinos Anastasakis and Patrick 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**, Ajay K Dalai, Nicolas Abatzoglou (383)	"Multiscale Hierarchical Analysis via Reactive CFD: A Strategy for Designing Intensified Catalytic Reactors," **Mauro Bracconi**, Claudio Ferroni, Matteo Ambrosetti, Gianpiero Groppi, Matteo Maestri, Enrico Tronconi (193)	"Engineering High Performing Catalysts for Photothermal CO_2 Reduction to CO, CH_4 or Methanol," Kristijan Lorber, **Petar Djinović** (9)	"Evaluating and Comparing the Transport Properties of Several Continuous Stirred Tank Reactors," **Victor Sussman**, Jing Houser, Austin Smith and Edward Calverley (18)	"On the Nature of Coke Originating from Biomass-derived Oxygenates on Cracking Catalysts and Development of Catalyst Regeneration Model," Elise 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**, Qing Wang, Xiaoqian Zhang, Xiang Feng, Yongxiao Tuo, De Chen (351)	"Synthesis and Characterization of Multifunctional Catalysts for the Dry Reforming of Methane," **Hanaa Hassini**, Ines Esma Achouri (364)	"Microwave Heating Performance of Silicon Carbide-based Catalysts: Experimental and Numerical Studies," **Mohammad Khodabandehloo**, Jaber Shabanian, Jean-Philippe Harvey, Jamal Chaouki (240)	"Magnetic Resonance Imaging of Turbulent Gas Flow in Packed Beds of Porous Catalyst Supports," **Scott Elgersma**, Andrew Sederman, Michael Mantle, Constant Guedon, Gary Wells and Lynn Gladden (92)	"Golden Rules for Uneconomical Sustainable Projects," **Mathieu Pominville-Racette**, Olivier Rezazgui and Patrice 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**

	Kent	Palais	St-Louis	Beauport/Beaumont/Belair	Courville/Montmorency
2:55-3:11pm	"Rapid Scan FTIR for Uncovering Reaction (Am)Oxidation Mechanisms," **M. Olga Guerrero Perez**, Alan McCue, James Anderson (20)	"SYNOPSIS – A Software Prototype for Computer-Aided Process Intensification," **Shivam Vedant**, Moustafa Ali, Navya Pabba, Dustin Kenefake, Efstratios Pistikopoulos, Yuhe 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**, Sunkyu Kim, Babatunde A. Ogunnaike, Raul F. Lobo (247)	"On the Fate of Alkylated Aromatics during Pyrolysis and Steam Cracking: An Experimental and Computational Study," Jia Zhang, **Ruben Van de Vijver**, Florence H. Vermeire, Marie-Françoise Reyniers, Kevin M. Van Geem (195)
3:11-3:27pm	"Operando Imaging of Product Distribution from Reactor to Pellet Scales during Fischer-Tropsch Synthesis," **Qingyuan Zheng**, Jack Williams, Leonard van Thiel, Scott Elgersma, Mick Mantle, Andrew Sederman, Timothy Baart, Leendert Bezemer, Constant Guedon, Lynn Gladden (82)	"Optimal Design and Operation of Intensified Packed Towers for Solvent-Based CO2 Capture," Stephen 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**, Hannsjörg Freund (78)	"Molecular-level Interplays During Co-Pyrolysis of Cellulose and Thermoplastics," **Fuat Sakirler**, Mihriye 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**, Ignasi 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**, Xiaorui Dong, Ryan E. Hawtof, William H. Green (551)	"Impact of Vapor Saturation of Oil Pyrolysis in a Fluid Coker," **Jie Han**, Cedric Briens, Jennifer McMillan (142)
3:43-3:59pm		"Ethyl Levulinate Ketalization: From Batch to Continuous Operation," Vincenzo Russo, Francesco Taddeo, Rosa Turco, Rosa Vitiello, Riccardo Tesser, **Tapio Salmi**, Martino Di Serio (115)	"Early Stage Capital Estimation of Chemical Recycling Plants," **Jacopo De Tommaso**, Federico Galli, Robert Weber, Jean-Luc Dubois, Gregory Patience (211)	"Understanding the Role Perforations on the Void-Scale Hydrodynamics of Gas-Liquid Flows through Structured Packings," Aniket S. Ambekar, E.A.J.F. Peters, **Olaf Hinrichsen**, Vivek V. Buwa, J.A.M. Kuipers (342)	"Catalytic Pyrolysis of Polypropylene with Zeolites: Maximizing Olefin Yield by Optimizing Acidity, Si/Al-Ratio, and P-Doping," **Oğuzhan Akin**, Robin John Varghese, Yannick Ureel, Andreas Eschenbacher, Jogchum Oenema, Kevin 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**, Andy Sederman, Mick Mantle, Lynn Gladden (182)	"Microreactor Technology in Selective Oxidation of Alcohols to Aldehydes," **Luca Mastroianni**, Antoine Meunier, Kari Eränen, Zuzana Vajglová, Vincenzo Russo, Martino Di Serio, Dmitry Murzin, Tapio Salmi (28)	"Chemical Reaction Engineering Challenges for Advanced Recycling of Plastic Waste at Scale," **Saurabh Maduskar**, Bryan Patel, Kevin Buettner, Paul Dauenhauer, Sundararajan Uppili (316)	"Intensified CO2 Hydrogenation: Kinetics and Modelling of the Reverse Water-Gas Shift Reaction and Water Adsorption," **Alex Desgagnés**, Ion Iliuta, Maria-Cornélia 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**, Qingyuan Zheng, Mick D. Mantle, Lynn F. Gladden, Andrew J. Sederman (45)	"Asphaltenes De-clustering behind Viscosity Reduction in Heavy Fuel Oils undergoing Ultrasonically-induced Cavitation," **Varaha P Sarvothaman**, Elia Colleoni, Gianmaria Viciconte, Chiara Canciani, Saumitra Saxena, Paolo Giada, William Roberts (282)	"Modeling Polymer Pyrolysis via the Method of Moments," **Pratyush Agarwal**, David Tremblay (511)	"Key Aspects to Maintain Efficient Steam Reforming Operation during Catalyst Life," **Monica Zanfir**, Chinmay Satam, Ziwei Wang (41)	
4:30-6:30pm	Poster Session 2 (with Refreshments) (Grande Place)				
7:15-10:00pm	Symposium Reception (Grand Place) and Banquet (Palais & Kent) Amundson Award Presentation (Sponsored by ExxonMobil) and Speech, Klavs Jensen ISCRE 28 Announcement				

	Palais & Kent			
8:30-8:45am	Introductory Remarks and Poster Award Announcements			
8:45-9:30am	Symposium Plenary: **Theodore Betley** *(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**
9:50-10:06am	"Unraveling the Pyrolysis and Oxidation of Trimethoxymethane E-Fuel: a Combined Experimental and Kinetic Modeling Study," **Kevin De Ras**, Gilles Dossche, Marwa Saab, Anas Jamil, Yann Fenard, Robin J. Varghese, Joris W. Thybaut, Guillaume Vanhove, Kevin M. 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**, Pavel Kots, Borja Hernandez, Abhinav Malhotra, Weiqi Chen, Jose Catala-Civera, Jesus Santamaria, Marianthi Ierapetritou, Dionisios Vlachos (56)	"Slurry Phase Hydroconversion: Gas Environment and Solvent Effects," Todd Pugsley, Mark Fleming, **Kevin Smith** (555)	"Modelling of the Coupling Between Acid Reactive Extraction and Calcium Carbonate Precipitation for the Valorisation of a Mining Industry Effluent," Thomas Neron, Anne-Marie Billet, **Carine Julcour** (141)
10:06-10:22am	"Conjunction of Kinetic and Process Modeling - Paving the Way to a Green Epoxy Resin," **Matthias Feigel**, Jonas Breitsameter, Bernhard Rieger, Olaf Hinrichsen (317)		"Catalytic Pyrolysis of Polyolefin Wastes in a Microwave Reactor," **Fatemeh Vatankhah**, Mohammad Latifi, Jamal Chaouki (155)	"High-Order CFD-DEM for the Prediction of Solid-Fluid Flows in Chemical Reactors," **Bruno Blais**, Toni El Getaini Nehme, Victora Oliveira Ferreira, Audrey Collard-Daigneault (249)	"Investigating Hydroconversion of Lignin: A Composition and Reaction Modeling Approach," Maria Lopez Abelairas, Luis P. de Oliveira, Nadège 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," Nicole Daniela Nasello, Nicola Usberti, Umberto Iacobone, Federica Gramigni, Wenshuo Hu, Shaojun Liu, Isabella Nova, Xiang Gao, **Enrico Tronconi** (134)	"Spherical Catalyst Supports with and without Internal Voids for Steam Methane Reforming," **Anthony Dixon**, Bhanu Vardhan Reddy Kuncharam, Behnam Partopour (71)	"Upcycling of Waste Plastics using Unique Microwave Technology in a Circular Economy," **Jean-Philippe Laviolette** (319)	"Fischer-Tropsch Synthesis over a Sustainable Catalyst in a GLS Slurry Reactor," **Sabrina Bahia Karakache**, Inès Esma Achouri, Nicolas Abatzoglou (422)	"High Temperature Combustion Cracking of Ethane: Ideal Reactor vs. Annular Jet Vortex Reactor," **Byeongjin Baek**, Istvan Lengyel, Balamurali Nair, Lei Chen, Mike Mier, David Robichaud, Sreekanth Pannala (366)
10:38-10:54am	"Reaction Kinetics for Oxidative Coupling of Methane over Platinum Catalyst," Jaspreet Chawla, Sven Schardt, Patrick Lott, Sofia Angeli, Steffen Tischer, Lubow 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**, Giulia Zoppi, Raffaele Pirone, Samir Bensaid (64)	"Chemical Recycling of Polyurethane: Conversion of Carbamates," **Shahab Zamani Gharaghooshi**, Jean-Paul Lange, Sascha Kersten, M. Pilar Ruiz (331)	"Interplay Between Surface Barriers of Guest Molecules and Coke Deposition in Methanol-to-Olefins over ZSM-5 Zeolites," **Yiwei Xie**, Hua Li, Mao Ye, Zhongmin Liu (480)	"Equilibrium-based Modelling of GHG Reduction Resulting from Hydrogen Injection in a MIDREX DRI Process," **Ugo Mahue**, Sophia Roy, Louis Fradette, Jean-Philippe Harvey (509)
10:54-11:10am	"Cross-Talking of Ni Metal Nanoparticle Facets Explains the Structure Sensitivity of the CO_2 Methanation Reaction," Matteo Ferri, Raffaele Cheula, Matteo Monai, Bert M. Weckhuysen, **Matteo Maestri** (199)	"Zoneflow Structured Reactors for Efficient Steam Methane Reforming: Kinetics, Heat Transfer, and Pilot Plant Studies," **Juray De Wilde**, Florent Minette, Sanjiv Ratan, Zirui He, William Blasko, Wolfgang Spieker, Bruce Boisture (224)	"PMMA Pyrolysis Upcycling," **Christian Roy**, Bruno de Caumia, Daniel Blanchette, Hooshang Pakdel, Gloire Justesse Adolphe-Mbou (341)	"Oxidative Conversion for Methane Valorization: Exploiting OCM," **Alejandro Romero-Limones**, Jeroen Poissonnier, Yonggang Cheng, Carlos Omar Castillo-Araiza, Joris W. Thybaut (101)	"Identifying the Rate-Determining Step Based on Ab Initio Calculations for the Decomposition of Ammonia on Ru- and Co-Based Catalysts," Natalia Realpe, Shekhar Kulkarni, **Gontzal Lezcano**, Yerrayya Attada, Natalia Morlanes, Jose Luis Cerrillo, Sai Katikaneni, Stephen Paglieri, Kunho Lee, Jorge Gascon, Pedro Castano (117)
11:10-11:26am	"Propylene Oligomerization Kinetics over a sPA Catalyst: Experimental Assessment and Kinetic Model Construction," **Jeroen Poissonnier**, Carlos Alvarado Camacho, Maria Herrero Manzano, Joris Thybaut (44)	"Hydrogen Production through Dry Reforming of Biogas Reaction on Cobalt and Nickel-Based Materials," **Muriel Chaghouri**, Carmen Ciotonea, Haingomalala Lucette Tidahy, Fabrice Cazier, Cedric Gennequin, Edmond Abi-Aad (420)	"Dechlorination of PVC Waste through Hydrothermal Liquefaction," **Edoardo Tito**, Juliano Souza dos Passos, Raffaele Pirone, Samir Bensaid, Patrick Biller (209)	"Evaluating Performance of Hydrodynamic Cavitation Device Type and Scale Using Dosimetry," **Varaha P Sarvothaman**, Janardhanraj Subburaj, Shekhar Kulkarni, Aamir Farooq, William Roberts (123)	"Efficient Implementation of Detailed Surface Kinetics by Neural Network Representations of the Rate-Determining Steps," **Felix Antonidas Döppel**, Martin Votsmeier (151)
11:26-11:42am	"Study of a Supported Enzymatic Reactive Distillation: Effect of Intraparticle Mass Transfer," **Nicolas Chaussard**, Clémence Nikitine, Pascal Fongarland (127)	"Tackling the Limits of Steam Reforming of Biorefinery Side Streams," **Abdelrahman Mostafa**, Irene Rapone, Aldo Bosetti, Matteo Carmelo Romano, Alessandra Beretta, Gianpiero Groppi (355)	"Hydroformylation as a Pathway to Functionalize Plastic Waste Pyrolysis Oil," **Maria Herrero Manzano**, Jeroen Poissonnier, Joris W. Thybaut (196)	"Understanding Heat Transfer Mechanisms in a Packed Bed Reactor through Particle-Resolved CFD Simulations," **Ankita Kumari**, Vivek V. Buwa (279)	"Artificial Intelligence on Hybrid Modeling in Fluid Catalytic Cracking," **Jansen-Acosta Lopez**, Cesar Medina Pedrazam, Hugo de Lasa (60)