



28th Organic Reactions Catalysis Society Meeting
March 29 – April 2, 2020
One Ocean Resort, Jacksonville, FL, USA

Preliminary Agenda
Podium Presentation Program

Sunday, March 29			
9:00-2:30	Networking Golf Outing – Queen’s Harbor Country Club	Girish Srinivas	ORCS Chair
5:00-7:00	Reception		
Monday, March 30	Title	Authors	Affiliations
8:20 - 8:30	Opening Remarks	Girish Srinivas	ORCS Chair
8:30-9:15	2019 Augustine Award Lecture: Mechanism Informed Design of Heterogeneous Catalysts	Nick Brunelli	Ohio State University
9:15-9:40	Synthesis of Supported Pd/Au Dilute Limit Alloy Nanoparticles for the Partial Oxidation of 1 - Phenylethanol	Anhua Dong, Abolfazl Shakouri, Christopher T. Williams, and <u>John R. Regalbuto</u>	University of South Carolina
9:40-10:05	Hydrodeoxygenation of Bio-Derived Feedstocks to Value-Added Chemicals and Materials using NiWO _x /TiO ₂ Catalyst – A Pathway to Achieve Sustainable Development Goals	<u>Sourav K. Sengupta</u> , Joachim C. Ritter, Alan M. Allgeier, Torren R. Carlson, W. Namal de Silva, Ekaterini Korovessi, Laurie A. Howe, Carl A. Menning, H. David Rosenfeld, Shekhar Subramoney, and Lei Zhang	DuPont Co.
10:05-10:35	Coffee Break	Sponsored by Parr Instrument Company	
10:35-11:00	Catalysts for Ethylbenzene to Styrene: Challenges & Breakthrough	Palanichami Manikandan	Clariant

11:00-11:25	BASF's Super Edge-Coated Precious Metal Catalysts	<u>Lei Zhang</u> , Peter Witte, Hans Donkervoort, Robert Terörde	<u>BASF Nederland, B.V.</u>
11:25-11:50	Gold Catalysts in Batch and Continuous Oxidation of Sugars from Hemicelluloses	<u>Tapio Salmi</u> ^{1*} , Sebastian Franz ¹ , Maria Herrero Manzano ^{1,2} , Leolincoln da Silva Correia ¹ , Kari Eränen ¹ , Johan Wärnå ¹ , Juan Garcia Serna ¹ , Dmitry Yu Murzin ¹	¹ Åbo Akademi ^{1,2} Universidad de Valladolid, Spain
12:00-1:30	Lunch and Networking Break		
1:30-2:15	Raney Award Lecture: (Sponsored by Grace): Heterogeneous catalysts: Examples of Recent Progress and Future Targets	James Spivey	Louisiana State University
2:15-2:40	CFP Catalytic Coke: Composition and Combustion Kinetics	<u>Bruce Adkins</u> ^{1*} , James Parks II ¹ , Michael Griffin ² , Kristin Smith ² , Kristiina Iisa ²	¹ Oak Ridge National Laboratory ² National Renewable Energy Laboratory
2:40-3:05	Supported Precious Metal Catalysts for the Synthesis of Bio-based Compounds as Sustainable Resource	<u>Gisa Meissner</u> ¹ , Hendrik Spod ¹ , Raphaela Sueß ² , Birgit Kamm ² *	¹ Heraeus Deutschland GmbH & Co ² Wood K plus, Kompetenzzentrum Holz GmbH
3:05-3:35	Coffee Break	Sponsored by Parr Instrument Company	
3:35-4:00	Catalytic Oxidation of Xylose to Xylonic Acid and Xylaric Acid over Bimetallic PtAu/TiO ₂ Catalysts	<u>Xin Jin</u> , Jie Ding, Mengyuan Liu, Guangyu Zhang, Tianqi Fang, Wenjuan Yan, Chaohe Yang	China University of Petroleum
4:00-4:25	Methane Steam Reforming Under Low Steam Conditions using Ni-based Pyrochlores	<u>Daniel Haynes</u> ¹ , Dushyant Shekhawat ¹ , Yan Zhou ^{1,2} , James J. Spivey ³	¹ US DOE National Energy Technology Lab ² Leidos Research Support Team; ³ Louisiana State University
4:25-4:50	Scaling Photochemical Reactions in Flow Using Visible Light	Eric Morchetta	AbbVie
4:50 – 5:15	Precious Metal Catalysis: Understanding the Criticality of Catalyst Development Through Case Studies	Mandan Chidambaran	Hindustan Platinum, Pvt. Ltd.
5:15-7:00	Poster Session		
7:00	Hospitality Suite	Sponsored by Evonik Industries	

Tuesday, March 31	Title	Authors	Affiliations
8:30-9:15	Keynote Lecture (Sponsored by Umicore): Development and Application of Selective Olefin Metathesis Catalysts	Robert Grubbs	California Institute of Technology
9:15-9:40	Catalyst-Controlled Site-Selective C-H Functionalization	Huw Davies	Emory University
9:40-10:05	Flow Reactors May Enable Efficient Rhodium-Catalyzed C-H Activation in Organic Synthesis	Chunjae Yoo, ¹ Eric G. Moschetta, ¹ Kathryn M. Chepiga, ² Daniel Rackl, ² Wenbin Liu, ² Solymar Negretti, ² Nicholas A. Brunelli, ¹ Ryan P. Lively, ¹ Huw M. L. Davies ² and <u>Christopher W. Jones</u> ¹	¹ Georgia Institute of Technology; ² Emory University
10:05-10:35	Coffee Break	Sponsored by Parr Instrument Company	
10:35-11:00	Sustainable Epoxidation of Olefins Using Water as O-atom Source	Karthish Manthiram	Massachusetts Institute of Technology
11:00-11:25	Catalysis in Ionic Liquids	Thomas Strassner	TU Dresden
11:25-11:50	Catalytic Carbonylation via Heterobimetallic Catalysis	Yanwei Cao ¹ , Jian-Gong Yang ² , Chaoren Shen ¹ , Yong Chen ² , Chungu Xia ¹ and <u>Lin He</u> ²	¹ Lanzhou Institute of Chemical Physics; ² Technical Institute of Physics and Chemistry, Chinese Academy of Sciences,
12:00-1:30	Lunch and Networking Break		
	Symposium on Pharma Catalysis		
1:30-2:15	Keynote Lecture: The Transformative Power of Catalysis for Pharmaceutical Research and Development	Shane Krska	Merck & Co.
2:15-2:40	Development of a Negishi Cross-Coupling Process	<u>Candice Joe</u> , Bahar Inankur, James Chadwick, Sha Lou, Jeffrey Nye, Ling Zhang, Neil Strotman, Albert DelMonte ¹	Bristol-Myers Squibb
2:40-3:05	Development of A Pilot Plant Design and Run Parameters For A Continuous Hydrogenation Process Using ACMC-Pd To Replace A Commercial Batch Reactor Process	<u>Matthew Jeffreys</u> ¹ , Josh McManus ² , Nicholas Onuska ² , Nicole Goodwin ¹ , Dave Nicewicz ²	¹ GlaxoSmithKline; ² University of North Carolina at Chapel Hill

3:05-3:35	Coffee Break	Sponsored by Parr Instrument Company	
3:35-4:00	Using Transition-Metal Catalyzed Reactions to Enable Convergent Synthetic Routes	Louise Guard	Eli Lilly and Company
4:00-4:25	Synergistic Aerobic Oxidation using a Metalloenzyme and a Transition Metal Activator in the Synthesis of Islatravir (MK-8591)	Neil Strotman	Merck & Co.
4:25-4:50	Enabling Pharmaceutical Process Development Through Catalysis Innovation	Alan Cherney	Amgen
4:50-5:15	Chemistry in the fast lane: The application of high throughput chemistry technologies for med chem research	Ying Wang	AbbVie
5:15-7:00	Poster Session		

Wednesday, April 1	Title	Authors	Affiliations
8:30-9:15	Rylander Award Lecture (Sponsored by BASF): Catalysis with Earth-Abundant Metals: New Opportunities in Sustainable Catalysis	Paul Chirik	Princeton University
9:15-9:40	Mechanistic Pathways for Hydrogenation and Hydrodeoxygenation of Dihydroxybenzenes	Kathleen Kirkwood and <u>S. David Jackson</u>	University of Glasgow
9:40-10:05	Hydrogenation in Water: Green Processes and Mechanism via Isotope Incorporation	Kyle Stephens, Alysha Bell and <u>Alan Allgeier</u>	University of Kansas
10:05-10:35	Coffee Break	Sponsored by Parr Instrument Company	
10:35-11:00	Hydrogenation and Coupling with Metal Supported Polymer Catalysts.	Jose Antonio Trejo O'Reilly	DuPont
11:00-11:25	Preparation of ketones by decarboxylative ketonization: mechanism, rates of elementary steps, reversibility and degenerate reactions.	<u>Alexey V. Ignatchenko</u> , Morgan E. Springer, Reem M. Ibrahim, Jordan D. Walker	St. John Fisher College
11:25-11:50	Fe-Containing N-doped Porous Carbon for Isobutane Dehydrogenation	<u>Baohua Liu</u> ^{1,2} , Lingjun Chou ¹ , Huanling Song ¹	¹ Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences; ² University of Chinese Academy of Sciences, Beijing
12:00-1:30	Lunch and Networking Break		
	Symposium on Biomass and Waste Carbon Conversion and Panel Discussion		
1:30-2:15	Keynote Lecture: Closing the Circle: New Technologies in the Chemical Industry to Address Emissions and Plastics in the Environment	Mark Jones	The Dow Chemical Co.
2:15-2:40	Waste Conversion to Chemicals and Materials	John Holladay	Pacific Northwest National Laboratory
2:40-3:05	Closing the Anthropogenic Carbon Cycle - Feedstocks-Process-Product Applications	Joerg Sauer	Karlsruhe Institute of Technology
3:05-3:35	Coffee Break	Sponsored by Parr Instrument Company	

3:35-4:00	Mechanisms and Materials for Catalytic Activation of Cellulose	Vineet Maliekkal, Matthew Neurock, Paul Dauenhauer	University of Minnesota
4:00-4:25	Sustainable Materials from Renewable Feedstocks	Erik Hagberg	Archer Daniels Midland Co.
4:25-4:50	SPERLU: Selective Process for the Efficient Removal of Lignin and Upgrading	Ian Klein	Spero Renewables
4:50-5:15	Panel Discussion		
7:00	Reception, Dinner and Awards Ceremony		

Thursday April 2	Title	Authors	Affiliations
8:30-9:15	2020 Augustine Award Lecture: Biocatalysis and Complex Molecule Synthesis	Alison Narayan	University of Michigan
9:15-9:40	A Novel Nickel Foam Fixed-bed Catalyst for Hydrogenation Reactions	<u>Wynter. Osminski</u> ¹ , René Poss ² , Meike Roos ² , Monika Berweiler ² , Markus Göttlinger ² , Andrea Bernhard ²	¹ Evonik Corporation; ² Evonik Resource Efficiency, GmbH
9:40-10:05	Stabilization of Catalytic Surfaces using Bimetallic Core-Shell Structures with Different Surface Free Energies (SFE)	<u>Weijian Diao</u> , Andrew P. Wong, John Tengco, John Regalbuto, and John Monnier *	University of South Carolina
10:05-10:35	Coffee Break	Sponsored by Parr Instrument Company	
10:35-11:00	CO ₂ as a feedstock - alternative pathways to key chemicals	Erik-Jan Ras	Avantium Chemicals
11:00-11:25	Aldol Condensation of Acetone over Single -Facet Dominant Anatase TiO ₂ (101) and (011) Catalysts	Fan. Lin ¹ , Yuntao Zhao ¹ , <u>Huamin Wang</u> ^{*1} , Donghai Mei ¹ , Nicholas R. Jaegers ^{1,2} , Feng Gao ¹ , Yong Wang ^{1,2} ,	¹ Pacific Northwest National Laboratory; ² Washington State University
11:25-11:50	Glycerol Valorization into Epichlorohydrins - From Gas-Liquid to Gas-Liquid-Solid Reaction	<u>Pasi Tolvanen</u> ^{1*} , Javier Ibáñez Abad ¹ , Ananias Medina ¹ , Debanga Mondal ¹ , Jyri-Pekka Mikkola ² , Tung Ngoc Pham ² , Tapio Salmi ¹ *	¹ Åbo Akademi Finland; ² Umeå University, Sweden
11:50-12:00	Closing Remarks	Girish Srinivas	ORCS Chair