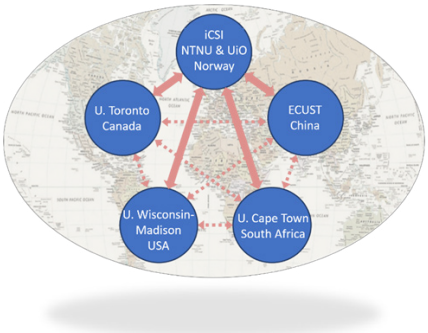
2025 CATHEX/Olaf A. Hougen Symposium in Catalysis

June 16-17, 2025

University of Wisconsin-Madison
Fluno Auditorium, Fluno Center for Executive Education
601 University Ave, Madison, WI 53715



CATHEX - Advances in heterogeneous catalysis through integrated theoretical and experimental efforts

Professor Olaf A. Hougen

Monday, June 16

9 AM – 9:10 AM | Opening Remarks | Manos Mavrikakis

9:10 AM – 9:40 AM
Catalyst Surface Dynamics in Response to Reactive Environments
Hilde J. Venvik, Norwegian University of Science and Technology

9:40 AM – 10:10 AM
Inorganics and Catalytic Conversion of Biomass and Plastics
George Huber, UW-Madison

10:10 AM – 10:40 AM
Dynamics of a Ruthenium Catalyst Revealed During NO Oxidation to NO2 at Industrial Nitric Acid Production Conditions
Magnus Rønning, Norwegian University of Science and Technology

10:40 AM – 11:00 AM | Break

11:00 AM – 11:30 AM
Diverse Active Sites on Transition Metal Oxides and their Catalytic Interconnectivities: a Thermodynamic Interpretation
Ya-Huei (Cathy) Chin, University of Toronto

11:30 AM – 12:00 PM
Au-Ni Antenna Reactors for Enhanced Photo-electrocatalytic Oxygen Evolution Reaction in Water Splitting
Anja Olafsen Sjåstad, University of Oslo

12:00 PM – 12:30 PM
Detangling Complex Catalytic Systems
Ive Hermans, UW-Madison

12:30 PM – 1:30 PM | Lunch

1:30 PM – 2:00 PM
Biomass to Liquid Fuels and Chemicals Using the Fischer-Tropsch Rout: Addressing the hurdles
Edd A. Blekkan, Norwegian University of Science and Technology

2:00 PM – 2:30 PM
Controlling the Dynamic Redox Function of Metal-Zeolites for Sustainable Catalytic Chemistries
Siddarth Krishna, UW-Madison

2:30 PM – 3:00 PM
Segregation Dynamics of Pd-Ag Alloy Systems
Ingeborg-Helene Svenum, Norwegian University of Science and Technology

3:00 PM – 3:20 PM | Break

3:20 PM – 3:50 PM
Real-time Electrocatalytic Control of C-H and C-C Bond Activation in Alkanes: Novel Avenues for Advanced Chemical Manufacturing
Marcel Schreier, UW-Madison

3:50 PM – 4:20 PM
Cobalt Catalyzed Fischer-Tropsch Synthesis: Attempting to Identify the Optimal Carbon Catalyst Support
Felix Herold, Norwegian University of Science and Technology

4:20 PM – 4:50 PM
Novel Active Sites for Catalysis Generated in Operando
Manos Mavrikakis, UW-Madison

Tuesday, June 17

9 AM – 9:05 AM | Welcome

9:05 AM – 9:20 AM
Optical Monitoring of Surface-Catalyzed Reactions Using Chemoresponsive Liquid Crystals
Evan Smith, UW-Madison

9:20 AM – 9:35 AM
(Scanning Precession) Electron Diffraction for Catalyst Characterization
Tina Bergh, Norwegian University of Science and Technology

9:35 AM – 9:50 AM
Nanozymes with Catalytic Triad Active Sites Mimicking Ester and PET Hydrolysis Enzymes
Hoya Ihara, UW-Madison

9:50 AM – 10:05 AM
Investigating the Activation of Fe-based Catalysts for CO2 Hydrogenation Using the In-Situ Mass Analyzer
Mei Ju A. Geomans, Norwegian University of Science and Technology

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10:05 AM – 10:20 AM
Catalytic Implications of Solvent Structuring in the Pores of Sn-Beta Zeolites on Meerwein-Ponndorf-Verley Reaction Rates
Faysal Ibrahim, UW-Madison

10:10 AM – 10:35 AM
Stability of LaSrBO3 Perovskites for Ammonia Oxidation
Alicia San Martin Rueda, Norwegian University of Science and Technology

10:35 AM – 11:00 AM | Break

11:00 AM – 11:15 AM
Unveiling Temperature Effects in Electrochemical Reactions: The Role of Entropy in CO2 Reduction
Seonmyeong Noh, UW-Madison

11:15 PM – 11:30 PM
Activation of Fe, Co, and Mo Based Metal Oxides for Ammonia Decomposition
Sahra L. Guldahl-Ibouder, Norwegian University of Science and Technology

11:30 AM – 11:45 AM
Understanding Selectivity in the (De)hydrogenation of Liquid Hydrogen Carriers Over Metal Catalysts
Matthew Edgar, UW-Madison

11:45 AM – 12:00 PM
Developing Machine-Learned Interatomic Potentials for Au: A Gold Mine for Surface Science Insights
Lance Kavalsky, UW-Madison

12:00 PM – 12:15 PM
Highly Active Cobalt Catalysts for Low-Temperature Ammonia Decomposition
Monica Pazos, Norwegian University of Science and Technology

12:15 PM – 12:30 PM
Kinetic Modeling of Guerbet Coupling Chemistry Over Cu-Mg-Al Mixed Oxides
Javier Chavarrio Canas, UW-Madison

12:30 PM –12:40 PM
Alloying and Segregation in Pd-based Catalysts
Willow N. Dew, Norwegian University of Science and Technology