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Wednesday, February 14th, 2024, 5:30PM
103 Maeder Hall
86 Olden St, Princeton, NJ, 08540

Prof. Jingguang Chen



*Department of Chemical Engineering
Columbia University*

Tandem Electrocatalytic-Thermocatalytic Reactions for CO₂ Conversion

CO₂ valorization is a promising pathway for mitigating greenhouse gas emissions from the chemical sector and reducing the reliance of chemical manufacturing on fossil fuel feedstocks. In this talk we will discuss tandem catalytic strategies involving electrochemical and thermochemical reactors for sustainable CO₂ conversion that have potential advantages over processes using a single reactor. We will discuss our attempts in performing tandem hydroformylation by starting with ethane and CO₂, which represents opportunities to insert the carbon atom in CO₂ into the final products. The tandem schemes combine the activation of ethane/CO₂ with a downstream hydroformylation reactor using heterogeneous catalysts at ambient pressure. We will then discuss coupling electrocatalytic-thermocatalytic reactors to convert CO₂ to the hydroformylation products of propanol and propanal. We will also present results of converting CO₂ to solid carbon nanofibers using the tandem strategy.

Speaker Bio

Jingguang Chen is the Thayer Lindsley Professor of Chemical Engineering at Columbia University, with a joint appointment at Brookhaven National Laboratory. He is the co-author of 500 journal publications and he is recognized as a Web of Science Highly Cited Researcher. He is currently the President of the North American Catalysis Society, the Director of the Synchrotron Catalysis Consortium, and an Associate Editor of *ACS Catalysis*. He received many catalysis awards, including the George Olah Award on Hydrocarbon/Petroleum Chemistry from the American Chemical Society and the R.H. Wilhelm Award on Chemical Reaction Engineering from the American Institute of Chemical Engineers.

<u>Schedule TBA</u>		<u>Meeting Fees</u>	
Student Presentation	5:30 PM	Professional Members	\$40
Social Hour (Cash Bar)	6:00 PM	Non-members	\$50
Dinner	6:45 PM	Students	\$25 (Student Members = \$10)
Presentation	7:30 PM	Retired/Post-Doc/Unemp.	\$40 (Members = \$30)
		Annual Membership Dues	\$35 (Students = \$15)

Deadline for reservations is 5:00PM Monday, February 12th, 2024

Please RSVP online using the [online form](#).
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