



CHEMICAL SCIENCES ROUNDTABLE

Advances in the Chemistry of CO₂ Capture Webinar

Hosted by the Chemical Sciences Roundtable

March 9th, 2021

12:00 pm – 1:30pm EST

Speaker Biographies

Ana C. Alba-Rubio is an assistant professor in the Department of Chemical Engineering at the University of Toledo (UToledo). She joined the University of Toledo as a faculty in 2015 and her current research interests involve the rational design and synthesis of nanomaterials for catalysis and sensing applications, with a special interest in producing fuels and materials sustainably and developing technologies to improve the human condition. Previously, Dr. Alba-Rubio joined the Department of Chemical and Biological Engineering at the University of Wisconsin-Madison to conduct postdoctoral research under the supervision of Professor James Dumesic and Professor Manos Mavrikakis. She focused on the controlled synthesis of metal, bimetallic, and bifunctional catalysts for reactions of interest in biomass conversion and the direct synthesis of H₂O₂ from H₂ and O₂. Dr. Alba-Rubio holds an NSF CAREER Award studying the development of dual-function materials for capture and conversion of CO₂ into methanol and higher alcohols, the 2019 UToledo College of Engineering Excellence in Supervision of Undergraduate Research Award, the 2018 UToledo Outstanding Scholarly and Creative Activity Award, and she was recently named to the 2020 Class of Influential Researchers by the Industrial & Engineering Chemistry Research journal. She received a bachelor's degree in chemical engineering from the University of Malaga, Spain, in 2007. She then moved to the Institute of Catalysis and Petrochemistry in Madrid, Spain, to pursue her Ph.D. under the supervision of Dr. Manuel López Granados. Her Ph.D. focused on base and acid catalysis for the production of biodiesel from vegetable oils.

Jeffrey R. Long is a professor of chemistry and professor of chemical and bimolecular engineering at University of California, Berkeley. He is also the Director of the UC Berkeley's Center for Gas Separations. His research expertise and interests concentrate on Inorganic and materials chemistry; synthesis of inorganic molecules and higher dimensional solids; precise tailoring of chemical and physical properties; gas storage, molecular separations, and catalysis in porous materials; magnetic and conductive materials. Currently, research in the Long group focuses on the design and controlled synthesis of novel inorganic materials and molecules toward the fundamental understanding of new physical phenomena, with applications in gas storage, molecular separations, conductivity, catalysis, and magnetism. He was elected to the American Academy of Arts and Sciences in 2019 and is the 2019 F Albert Cotton Award recipient. Dr. Long was a Bakar Fellow from 2016-2020, has received the National Science



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Foundation Special Creativity Award twice, and is an Honorary Professor at Jilin University. Dr. Long earned his Ph.D. in chemistry from Harvard University.

Raghubir Gupta is co-founder and President of Susteon Inc., a technology startup with a mission of development and deployment of low-carbon energy technologies to achieve Net Zero emissions. Previously, Dr. Gupta served as the Senior Vice President of the Energy Technology Division at RTI International, where he led a large research and development team to develop technologies in syngas, hydrogen, CO₂ capture and methane and biomass conversion. Currently, he is also an Adjunct Professor in the Chemical and Biomolecular Engineering Department at the North Carolina State University. Dr. Gupta's technical expertise ranges from coal/biomass gasification, biomass conversion, synthesis gas (syngas) production, cleanup and utilization, methane storage and conversion, modular process systems, hydrogen production, carbon capture, utilization and sequestration. He led the development of several Department of Energy funded technologies from lab to pilot to commercial scale, including a \$180 million project for demonstration of RTI's syngas cleanup technology at Tampa Electric, where 50 megawatts scale commercial demonstration plant was designed, built and operated to capture 1,000 ton/day of CO₂. Dr. Gupta has presented his research work in a number of national and international conferences, published in a number of reputed journals (including a paper in "Science") and holds more than 20 patents. He was a member of Academies committee which recently wrote a report on Research Needs in Gaseous Carbon Waste Streams Utilization. Dr. Gupta obtained his Ph.D. degree in chemical engineering from the Illinois Institute of Technology.

Moderator Biography

David F. Myers is the Vice President of Specialty Businesses and Strategic Accounts for the Specialty Construction Chemicals business of GCP Applied Technologies (a recent spinoff of W. R. Grace & Co). Dr. Myers rejoined Grace in 2014 after spending 10 years at RTI International, first as Vice President of the Engineering and Technology Unit and later as the Vice President and Chief Technology Officer of the Discovery-Science-Technology business. His career began when he was 16 years old at Grace. He is a member of the American Chemical Society and the American Institute of Chemical Engineers, has served as a member of the Governor's Task Force on Nanotechnology and North Carolina's Economy, and is a former member of the Cleaner Fossil Fuel Systems Committee of the World Energy Council. Dr. Myers is a founder of the Research Triangle Energy Consortium and has served as an observer to the Board of Directors at three technology start-ups; Avantium Technologies, Nextreme Thermal Solutions, and siXis Inc. He has served on the board of the Department of Energy National Advanced Biofuels Consortium and the Energy Frontier Research Center on Solar Fuels and Next Generation Photovoltaics at the University of North Carolina. Currently, he is a member of the Awards Committee of the American Institute of Chemical Engineers, the Chemical Sciences Roundtable



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at the Academies, and the Board of Visitors of the D'Amore-McKim School of Business at Northeastern University. Dr. Myers holds 25 U.S. patents related to technology for Portland cement, oil well cementing, and concrete technology. Dr. Myers has a Ph.D. in Chemical Engineering from Princeton University.