

Atkinson Center for a Sustainable Future Topical Lunch

Title: "New Technologies for the Capture and Utilization of Carbon Dioxide in Commercializable Products."

Hosts: **Natalie Mahowald**, Professor, Atmospheric Sciences, Department of Earth and Atmospheric Sciences, Faculty Director for the Environment, Atkinson Center for a Sustainable Future

Song Lin, Asst. Professor Chemistry and Chemical Biology

Date: **Friday May 12, 2017 12:00 – 1:15pm 300 Rice Hall**

Chemical fixation of carbon dioxide (CO₂) is a central topic in modern environmental science, as CO₂ has been implicated as a major contributor to climate change while potentially representing an abundant, clean, and cost-efficient carbon source. The ability to develop new and practical transformations of CO₂ into value-added products using sustainable energy resources would be of broad interest. In this context, Cornell researchers have developed various innovative approaches to solve the challenging research problem of CO₂ sequestration and utilization. These new technologies include carbon capture with rationally designed nanocomposite sorbents, molecularly catalyzed copolymerization of CO₂ and epoxide for polycarbonate synthesis, and photo- and electrocatalysis of CO₂-to-fuels conversion using nanostructured inorganic materials. Another interesting research direction is to design and engineer novel reactors to facilitate CO₂ capture and utilization. Many of these processes have been or will be commercialized and applied in industrial applications to promote our goal of building a sustainable future. Our goals in this topical lunch are to synergize existing research, inspire new research and facilitate the development of technologies that make money while solving the carbon dioxide problem.