

ACS-GHS May Seminar Dr. Mary K. Carroll



ChrisBrenSchmidt Photography

Wednesday, May 22, 2024

6:30 - 8:00 pm CT

via Zoom

Register to receive the meeting link at <https://acsghs.wildapricot.org/event-5700445>

Aerogel Materials: A Journey from Research to Commercialization

Aerogels are porous materials with unusually high surface areas and low densities that give them simply remarkable properties. Silica aerogel materials, in particular, are of interest for window applications. They are thermal, electrical and acoustic insulators, and can be fabricated in monolithic forms that are translucent or even transparent in the visible region of the electromagnetic spectrum. Invention and development of a rapid supercritical extraction (RSCE) method has allowed an interdisciplinary team of undergraduate students and faculty members to make substantive contributions to the scientific literature, and facilitated productive internal and external collaborations. In this presentation I will introduce the Union College RSCE method for fabricating aerogel monoliths, provide an overview of research enabled by the RSCE method, and describe the progress of a start-up company, SunThru LLC, founded to bring that technology from the lab to the marketplace.

Biography: Mary K. Carroll is the Dwane W. Crichton Professor of Chemistry at Union College (in Schenectady, NY) and the 2024 President of the American Chemical Society. Mary earned a BS in chemistry from Union College, a PhD in analytical chemistry from Indiana University, Bloomington, and performed postdoctoral research at the University of Massachusetts, Amherst. At Union College, she teaches courses in introductory and analytical chemistry and mentors undergraduate research students. She co-directs the Union College Aerogel Lab, a vibrant and productive interdisciplinary research group. In addition to fundamental studies, the group investigates applications of aerogels in sustainable buildings, chemical sensing, drag reduction, and automotive pollution mitigation. Mary co-founded SunThru LLC to commercialize the aerogel technology developed at Union. Mary has been a member of ACS since 1986 and an ACS volunteer leader since 1993. She served as Councilor of the ENY ACS section from 1998-2022, representing the section at Council meetings and participating in ENY Executive Committee meetings. At the national level, she has served on the ACS Committee on Science (COMSCI), the ACS Leadership Advisory Board (LAB) and served and held leadership positions on the ACS Council Policy Committee (CPC), the ACS Society Committee on Education (SOCED), the ACS Women Chemists Committee (WCC), and numerous working groups and task forces. Based on her contributions to science and service to the ACS, she was selected for recognition as a member of the class of 2016 ACS Fellows.