

California Section American Chemical Society



All are welcome
Saturday, September 14, 2024

Title

Designing Tomorrow

Time

10:30 – 11:00 am
Chatting

11:00 am
Talk and Discussion

Reservation

Please visit the CalACS website
www.calacs.org to register for this
meeting or use Brown Paper Tickets.

RSVP here!

Please register before Thursday,
September 12, 2024, 12 noon. Your
email address is needed to send the
ZOOM link, which will be shared with
attendees on or before the day of the
event via Brown Paper Tickets.

Cost

Free!

About the Speaker



Julie Beth Zimmerman, PhD

Dr. Julie Beth Zimmerman is an internationally recognized engineer whose work is focused on advancing innovations in sustainable technologies. Dr. Zimmerman serves as Yale's inaugural Vice Provost for Planetary Solutions. She holds joint appointments as a Professor in the Department of Chemical and Environmental Engineering, School of Engineering and Applied Sciences and School of the Environment at Yale University and serves as the Deputy Director of Center for Green Chemistry & Green Engineering at Yale.

Her pioneering work established the fundamental framework for her field with her seminal publications on the "Twelve Principles of Green Engineering" in 2003. The framework,

in conjunction with Green Chemistry, is guiding the innovation of products and processes in academia and industry including her own research group on topics that include breakthroughs for the integrated biorefinery, carbon dioxide valorization, designing safer chemicals and materials, novel materials for water treatment, and analyses of the water-energy nexus. Professor Zimmerman is the co-author of the textbook, Environmental Engineering: Fundamentals, Sustainability, Design that is used in the engineering programs at leading universities domestically and abroad. In addition, Dr. Zimmerman is the Editor in Chief for Environmental Science & Technology, is a Member of the Connecticut Academy of Sciences, and Fellow of the Royal Society of Chemistry.

Prior to coming to Yale University, Dr. Zimmerman was a program manager at the U.S. Environmental Protection Agency where she established the national sustainable design competition, P3 (People, Prosperity, and Planet) Award, which has engaged thousands of students from hundreds of universities across the U.S. since its inception in 2004. Dr. Zimmerman earned her B.S. from the University of Virginia and her Ph.D. from the University of Michigan jointly from the School of Engineering and Applied Sciences and the School of Environmental and Sustainability.

Abstract

The half-century history of environmental protection is, at best, mixed and the approaches of the past will need to be significantly changed if we are going to realize a sustainable future. While there have been improvements since the 1960's in the most obvious and egregious problems such as air and water pollution in certain parts of the world, these advances have been uneven. The approaches to environmental protection of the past have been marked by characteristics including 1. A win-lose framework; 2. Reductionist, fragmented, analytic-only thinking; 3. Risk assessment; 4. Narrow metrics of success; and 5. Near-term vision.

The elements of a future approach that would allow for a pathway to sustainability include: 1. Alignment rather than conflict between environment/human health and economic goals; 2. Integrated systems thinking coupled with reductionist analysis; 3. Sustainable design as a goal rather than risk management; 4. Design for a dynamic world; 5. A focus on what to invent, create and innovate rather than simply what to reduce, limit, and minimize; and 6. Addressing inherent nature rather than circumstantial factors.

Questions?

Please contact Elaine Yamaguchi at eyamaguchi08@gmail.com