

Catalysis and Reactors needed to realize “Energy Everywhere”, a talk by Dr. Robert Weber to be held on April 26 at 6 PM at the Washington State University Tri-Cities campus, West building, room 131.

About the talk: Distributed, waste, or stranded feedstocks, converted and upgraded into fuels, could replace about one third of the US demand for liquid fuels. I will review the current state of modular approaches for conversion of these feedstocks and provide a perspective on their utility and economics for the processing carbon-containing waste and stranded, carbon-containing gas.

The wide geographic distribution of the feedstocks will require technology that can be scaled down effectively and that can be manufactured, installed, operated and monitored in ways that gain economies of mass production rather than economies by scaling up. Hydrothermal liquefaction coupled with electrochemical upgrading appears to be an appropriate technology for the conversion of wet waste into fuel precursors.

About the speaker:



Dr. Robert Weber
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Dr. Weber is a Senior Scientist and the Sector Manager for Commercial Business in the Physical and Computational Science Directorate at Pacific Northwest National Laboratory. His activities include research on heterogeneous catalysis for fuels and chemicals. Previously he was CTO of Sunrise Ridge Algae, a startup company that attempted to commercialize the production of fuel precursors from aquatic biomass. Before that, he was the director of the chemical engineering practice of TIAX, the successor to the technology and product development division of Arthur D. Little and a member of the chemical engineering faculties of the University of Delaware and of Yale University. At Yale he served for two years as an associate dean of the graduate school. He chaired the 2000 Gordon Conference on Catalysis and was the associate editor of the Journal of Catalysis from 1990 to 1995. Currently he serves as an associate editor of Energy & Fuels, as a member of the Advisory Committee of the Tianjin Engineering Center for Biomass Gas/Oil Technology and on the boards of directors of Conservation through Poverty Alleviation, International and Palo Verde Ridge Scholarship Fund. He was the theme manager for the National Meeting of the American Chemical Society held in March 2015.

His research applies synthetic, spectroscopic, analytical and informatics methods to create kinetic models of the networks of elementary steps to represent the rates of heterogeneously catalyzed reactions. He holds a BA from Cornell University and a PhD from Stanford University, both in physical chemistry.