

Charles Zukoski

Department of Chemical Engineering
University of Illinois Urbana Champaign

Charles F. Zukoski is the William H and Janet G. Lycan Professor of Chemical and Biomolecular Engineering at the University of Illinois at Urbana Champaign and Chairman of the Science and Engineering Research Council in the Agency of Science Technology and Research, Singapore. As a professor his research interests focus on colloidal materials, phase change phenomena and self assembly. As Chairman of the Science and Engineering Research Council he has responsibility for setting directions for 7 research institutes that support the manufacturing sector of the Singapore economy and are the major source of technology innovation within Singapore. Dr. Zukoski was the Vice Chancellor for Research at the University of Illinois at Urbana Champaign from 2002-2008 where he focused on enhancing the impact of the scholarship and research of faculty members across the University through the development of multidisciplinary efforts, and in enabling the campus to accelerate the commercialization of innovative research. Dr. Zukoski received his undergraduate degree in Physics from Reed College in 1977 and his Ph.D. from Princeton University in Chemical Engineering in 1985 when he joined the faculty at Illinois. Dr. Zukoski was head of the Department of Chemical and Biomolecular Engineering at Illinois from 1995-2002. Dr. Zukoski's accomplishments in the study of suspensions have been recognized through numerous awards. He is a member of the National Academy of Engineering.

Title: Biomass to Chemicals: Economic Development Opportunity for Singapore?

Abstract: Singapore is the third largest oil processing city in the world. All major pharmaceutical companies manufacture drugs in Singapore. Four of the world's top biologics are manufactured in Singapore. Thus there is a large chemical and pharmaceutical base in Singapore. The government of Singapore recently increased its investment in publically funded research by 18%. There are two strong research universities in Singapore and a series of government research laboratories under the Agency of Science Technology and Research, A*STAR, that cover deep expertise in chemicals, materials, bioprocessing and the life sciences. As a result there are deep competencies in core areas of importance to building a biomass to chemicals industrial cluster in Singapore. With these resources, Singapore looks like a natural location to build a biomass to chemicals industry. Here I will briefly review the research landscape in Singapore and the processes by which areas on which to focus research topics are chosen. I will then give an overview of the biomass to chemicals efforts under construction in Singapore with a focus on considerations that drive decision making for investment of public funds in support of research.