UC SANTA BARBARA

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Better Chemistry

Phillip Christopher, an associate professor of chemical engineering at UC Santa Barbara, has received the 2020 Young Investigator Award from the Catalysis and Reaction Engineering Division of the American Institute of Chemical Engineers (AIChE). The biennial award recognizes individuals who have made significant contributions to the science and/or technology of catalysis and chemical reaction engineering through publications or practice. AIChE is the world's leading organization for chemical engineers, with more than 60,000 members from more than 110 countries.

"I am grateful to receive this award and to know the research community values my group's efforts to understand and discover new catalytic materials and processes," said Christopher, who is the the campus's Mellichamp Cluster Chair of Sustainable Manufacturing.

Christopher's research focuses on developing new ways to understand and design catalytic processes — chemical reactions driven and expedited by a material known as a catalyst — which are key to industrial processes that generate trillions of dollars per year. Converting oil to gasoline, and turning natural gas and nitrogen into fertilizer, are just two important processes that rely on catalysis.

Building and designing reactors, Christopher's lab uses light, spectroscopy and microscopy to probe the structure and function of catalysts in order to gain insights at a molecular level. His work is aimed at uncovering insights that enable the design of more sustainable materials, and more environmentally friendly catalytic

processes, to produce or consume chemicals and fuels.

“One of our goals is to design new catalytic materials that reduce the need for expensive precious metals and other limited resources,” Christopher said. “The environment should be the most important driver motivating the use of new materials or new catalytic processes that drive chemical reactions.”

Christopher’s research has garnered him multiple awards over the years, including the American Chemical Society’s Early Career in Catalysis Award, the Presidential Early Career Award for Scientists and Engineers (PECASE), the National Science Foundation’s Early CAREER Award, and the Young Investigator Award from the U.S. Army Research Office.

“I offer congratulations to Phillip Christopher on receiving an AIChE Young Investigator Award, the latest in a string of awards recognizing his leadership as an early career researcher,” said Rod Alferness, dean of the UCSB College of Engineering. “His work in developing catalysts that are both more efficient and more environmentally sustainable addresses a major challenge of our time.”

A symposium to honor Christopher will take place during AIChE’s annual fall meeting in San Francisco.

About UC Santa Barbara

The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.