



Spring 2025 Seminar Series

Presents the 2025



**Alan S. Michaels Distinguished
Lectureship in Medical and
Biological Engineering**

Christina Smolke

Co-Founder & CEO, Antheia, Inc.



**From Benchtop to Breweries:
How Whole-cell Synthetic
Biochemistry is Transforming Essential
Medicine Supply Chains**

Friday, May 2, 2025

66-110, 3:00pm, 2:30pm reception

Christina Smolke is CEO and co-founder of Antheia, Inc. and Adjunct Professor of Bioengineering at Stanford University. Prior to Antheia, Christina was a Professor of Bioengineering and Chemical Engineering at Stanford University, the Associate Chair of Education in Bioengineering, and an Investigator at the Chan Zuckerberg Biohub. Christina pioneered a whole-cell engineering approach that enables the design and reconstruction of biosynthetic pathways of unprecedented complexity in brewer's yeast. At Antheia, she has scaled this biosynthesis technology to rebuild the supply chains for some of the most complex and valuable essential medicines known to humankind. Christina's impact in advancing the frontiers of biotechnology has been recognized with numerous awards, including Nature's 10, NIH Director's Pioneer Award, and Novozymes Award for Excellence in Biochemical Engineering.

About the Michaels Lectureship

The lectureship was established in 1995 to stimulate the collaboration of the medical profession, life sciences industries, and chemical engineering researchers. The most exciting and promising developments in medicine and the life sciences - those leading to improved therapies for the treatment or mitigation of intractable diseases, and strategies for prevention of debilitating or life-threatening genetic deficiencies - are largely emerging from discoveries in molecular biology and biochemistry, in concert with those in the sister-sciences of immunology, pharmacology, and genetics. These developments involve, in a very direct way, the basic tools that are the hallmark of the chemical engineer's profession: molecular thermodynamics, chemical reaction kinetics, homogeneous and the heterogeneous catalysis, fluid mechanics, and mass- and energy-transport processes. Few other engineering disciplines are as well qualified to deal with the microscopic and molecular phenomena affecting living systems.

