CHEMICAL ENGINEERING

SEMINAR SERIES

DAVID BECK

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Research Assistant Professor of Chemical Engineering
University of Washington

From molecules to microbes: engineering for positive outcomes in energy, health and the environment

ABSTRACT: Microbes are purposely evolved cellular factories capable of a wide array of processes across scales and settings. In the environment, they sequester and produce greenhouse gasses, in and on our bodies they provide benefits such as preprocessing nutrients, but they can also put us on unhealthy trajectories towards disease. We have manipulated bacterial communities for industrial applications as well such as food production (e.g. wine & cheese), energy generation and bioremediation. In this talk, I will review our recent research efforts towards understanding, manipulating and engineering microbes and microbial communities for applications in energy, human health and the environment. In particular, the talk will focus on the computational and data science driven aspects of bacterial *omics and chemoinformatics.

BIOGRAPHY: David Beck is Director of Research for Life Sciences with the eScience Institute, the UW‚Äôs nexus for Data Science and Research Assistant Professor in Chemical Engineering. He received his BS in Computer Science from Drexel University in 2000 and Ph.D. from the University of Washington in Biomolecular Structure & Design from Medicinal Chemistry in 2006. He did a post-doc in the Bioengineering department, also at UW, and joined the eScience Institute in 2009 and Chemical Engineering in 2010. Dr. Beck is also an adjunct Research Assistant Professor in the Department of Environment and Occupational Health Sciences. The Beck Research Lab works on a variety of science problems at the intersection of Data Science, biology and chemistry with applications in energy, health and the environment.

RECEPTION 3:30 • LECTURE 4:00 – 5:00
PHYSICS ASTRONOMY BLDG. (PAA) A110

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