



CENTER FOR
INTEGRATED
BIOSYSTEMS

Presents a seminar by

Dr. Eric W. Schmidt

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University of Utah Health Sciences Center

Location: Biotechnology Building room 103
August 9, 2007 from 3:30 – 4:30 PM

Engineering New Natural Products by Observing Symbiotic Interactions

Abstract: Bacteria living symbiotically with eukaryotes synthesize complex natural products that find multiple uses as pharmaceuticals and in biology. More importantly, symbionts occupy defined relationships with their hosts, allowing biosynthetic pathway mutations to be easily observed. We examined >60 marine ascidians (chordate animals) living with uncultured symbiotic cyanobacteria and found several new modes of biosynthetic pathway evolution. By recapitulating these pathways in laboratory *E. coli*, new small molecules could be synthesized by rational genetic engineering. Symbiotic bacteria thus provide excellent models bridging organic synthesis, biology, and bioengineering. Following the symbiotic model, pathways can be manipulated to provide large libraries of unusual small molecules for bioassay and other purposes.

Hosted by: Dr. Bart Weimer 797-2753

Refreshments will follow in the Biotechnology Building Lobby

Seminar