

**Jamie Cate**

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Jamie Cate is an Associate Professor of Biochemistry and Molecular Biology and of Chemistry at UC Berkeley. His research focuses on the production of biofuels, as well as protein synthesis. He is interested in understanding how microbes extract carbon from plant biomass, an abundant resource for a sustainable chemical industry. Dr. Cate's lab is using synthetic biology and systems approaches to retool baker's yeast for biorefinery applications. The lab also probes the molecular basis for protein synthesis, and the structural basis for antibiotic action on the ribosome. Dr. Cate received his Ph.D. in Molecular Biophysics and Biochemistry from Yale University, and has been on the UC Berkeley faculty since 2001. He received a Searle Scholars award in 2000 and was honored with the 2008 Irving Sigal Young Investigator Award of The Protein Society.

lab webpage: <http://lanai.qb3.berkeley.edu/CateLab/Home.html>

**Title:** "A tale of two fungi: Improving biofuel production from plant biomass"

**Abstract:** The deconstruction of plant biomass into soluble sugars remains a significant barrier to the use of abundant sugars in plant cell walls for biofuel production. Filamentous fungi are excellent plant biomass degrading organisms and are promising sources of enzymes for improving plant cell wall deconstruction. To explore the biochemical basis for fungal growth on plant biomass, we are probing the physiology and enzymology of the NIH model fungus, *Neurospora crassa*. I will discuss results from my group, in collaboration with the labs of Louise Glass and Michael Marletta, in unraveling cellulose degradation and sugar transport strategies used by *N. crassa* to grow on plant cell walls. I will also discuss how these pathways in *N. crassa* might be used to improve the ability of the yeast *Saccharomyces cerevisiae* to produce biofuels.