

## A Tale of Two Fungi: Improving Biofuel Production from Plant Biomass

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Liquid biofuels derived from plant biomass in the form of lignocellulose have yet to make a dent in the use of fossil fuels. The technical hurdles to making cellulosic biofuels competitive on the world market cover all aspects of the process. I will discuss research in my lab, as part of the Energy Biosciences Institute, which approaches some of the technical hurdles from the perspective of fungal biology. We have used two well-developed National Institutes of Health model organisms to address the breakdown of plant cell wall material into soluble sugars (*Neurospora crassa*), and the transport and metabolism of these sugars into a usable biofuel (*N. crassa* and *Saccharomyces cerevisiae*). By leveraging the tools in systems biology available for these fungi, we are making headway in probing the basic biochemical mechanisms that could improve biofuel production from plants.

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