

## *Engineering an expanded chemical palette in cells*

Hal S. Alper  
Department of Chemical Engineering  
The University of Texas at Austin

### **Abstract**

An industrial biotechnology revolution is approaching. Recent technical advances are leading to a rapid transformation of the chemical palette available in cells making it conceivable to produce nearly any organic molecule of interest—from biofuels to biopolymers to pharmaceuticals. However, these feats require the ability to “hijack” native cellular machinery and metabolism and navigate the complexity inherent in cellular regulation. In this vein, this talk will describe recent advances in engineering various yeasts for the production of important products, such as organic acids and oleochemicals, with a focus on the synthetic biology tools and paradigms required along the way. Collectively, these case studies demonstrate the power and utility of using yeasts as a production host for chemicals.