

# CO<sub>2</sub> capture and recycling using microalgae



## Mark Crocker

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Given the potential of microalgae for recycling CO<sub>2</sub> into bio-products coupled with the large number of coal-fired power plants in Kentucky, the Commonwealth of Kentucky has tasked the University of Kentucky with determining the technical and economic feasibility of algae-based carbon capture and utilization in Kentucky. These efforts have led to the development and on-going deployment of a pilot-scale photobioreactor system at Duke Energy's East Bend station focused on process development/improvement, power plant integration, and the implementation of strategies to increase algae growth rates. We have also developed a protocol for the harvesting and dewatering of algae (with minimal energy input) based on flocculation-sedimentation and for the conversion of extracted lipids to liquid hydrocarbons by means of catalytic deoxygenation.

This talk will focus on recent developments in this project, as well as providing a brief overview of other activities at the University of Kentucky Center for Applied Energy Research.

**Tuesday, May 19, 2015**  
**10:30 – 11:30 a.m.**  
**Wrigley Hall Room 481 (ASU Tempe Campus)**

Questions:  
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Seating is limited. Please RSVP to guarantee your seat.

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