



# BIG energy seminar series

Addressing the scale and complexity of the global energy challenge.



## *Adaptive and productive mechanisms of diatoms and microbial systems*

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**Date:** Tuesday, January 28<sup>th</sup>, 2013 at 2:30pm

**Location:** Caruthers Biotechnology Building, A115 (East Campus)

### **Abstract:**

Among species that fix carbon on Earth, diatoms are some of the most prolific producers in aquatic environments. They are widespread and productive throughout the oceans, due in part to the sensitivity and adaptability encoded in their relatively large algal genomes. Diatoms have also been considered some of the most promising biofuel producers for decades, but it has not been possible to decode their complex biology, or to truly engineer them until very recently. In this talk I will discuss the current state of the art in diatom research and present my recent efforts to efficiently decipher and reverse engineer physiological and adaptive mechanisms in diatoms (and other microbes) using experimental 'omics, systems biology and molecular prediction methods. This kind of work will be essential to fully understand the biology of diatoms and to fully take advantage of their productive potential.

### **Bio:**

Dr. Justin Ashworth is currently a Postdoctoral Fellow at the Institute for Systems Biology, Seattle, WA. He is a Gordon and Betty Moore Foundation Fellow of the Life Sciences Research Foundation (LSRF). Ashworth studies molecular mechanisms to describe how regulatory genetic diversity drives systems-level cellular physiology.

CAMPUS MAP: [Caruthers Biotechnology Building.](#)

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