ACS SyntheticBiology
Introducing Our Authors
pubs.acs.org/synthbio

YIDAN DING

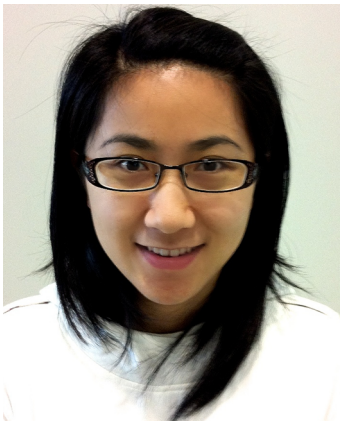

Image courtesy of Yidan Ding

Current position: Ph.D. Candidate, Department of Chemistry, University of Alberta, Edmonton, Canada. Advisor: Prof. Robert Campbell

Education: B.S. in Pharmaceutical Science, Tianjin University, China

Nonscientific interests: sports, travel, and sci-fi movies

My research is focused on developing and utilizing fluorescent protein (FP) based biosensors, mainly for concurrent imaging of multiple biochemical changes at the subcellular level. Dimerization-dependent FPs (ddFPs) are heterodimers that undergo a dramatic fluorescence increase upon dimerization. This unique property of ddFPs opens up new avenues for designing intensiometric biosensors. In this work, we used green fluorescent ddFPs to design a new reporter system for visualizing close contacts between the endoplasmic reticulum and mitochondria. Accordingly, this reporter enables the direct visualization of the mitochondria associated membrane. Currently, I am working on expanding the scope of ddFP applications in various aspects of cell biology research. Furthermore, I am also interested in combining ddFPs with other FP based biosensors for multiparameter imaging. (Read Ding's article; DOI: 10.1021/sb300050j)

JOSHUA T. KITTLESON

Image courtesy of Jenny Nguyen of Studio Simplicity

Current position: Graduate student at the UC Berkeley/UCSF Joint Graduate Group in Bioengineering. Advisor: Dr. J. Christopher Anderson

Education: B.S. in Biochemistry and Computer Engineering at the University of Arizona. Advisor: Dr. Megan McEvoy

Nonscientific interests: I enjoy exploring new countries and cultures, particularly the part about eating excellent local cuisine. At home, I concoct my own culinary adventures and then counteract the added calories by trail running and hiking.

I am generally interested in engineering biological tools that can then be applied to developing useful biological systems. Because *E. coli* serves as the basis for numerous genetic manipulations, substantial improvements to the speed and throughput of basic operations in *E. coli* could lead to transformative changes in our ability to engineer novel biological systems. Here, we hijacked the native regulation of a bacteriophage to enable at-will release of phage particles bearing a specified plasmid instead of their own DNA. Subsequent infection of new cells completes the cycle, offering a rapid, highly automatable mechanism for plasmid transfer with potential for immediate application to directed evolution. Looking forward, I am interested in engineering biological systems to produce novel materials. (Read Kittleson's article; DOI: 10.1021/sb300054p)

DANTE W. ROMANINI

Image courtesy of Sarah Giannantonio

Current position: Postdoctoral fellow, Department of Chemistry, Columbia University. Advisor: Dr. Virginia Cornish

Education: Ph.D. Chemistry, University of California, Berkeley (2008). Advisor: Matt Francis; B.S. Chemistry, Carnegie Mellon University (2003)

Nonscientific interests: anything outdoors: running, cycling, hiking, camping; home-brewing beer

My Ph.D. work included developing new bioconjugate reactions for creating new materials constructed out of proteins, in particular self-assembling viral capsids. My current research is focused on creating tools for engineering living cells. This paper represents a significant step in that direction, providing us with a new way to create mutations and search very large sequence

Received: December 4, 2012
Published: December 21, 2012

space entirely inside living yeast cells. These types of tools are necessary for the continued advancement of synthetic biology, and I look forward to employing our system to create new enzymes and metabolic pathways. In the future I hope to continue working toward the goal of performing synthetic chemistry inside cells. (Read Romanini's article; DOI: 10.1021/sb3000904)