

### Quantitative Skills (QS) in Science: Featured Speakers

## Infusing Quantitative Approaches into the Undergraduate Biology Curriculum



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10 December 2012  
University of Sydney

More info:  
[www.qsinscience.com.au/events](http://www.qsinscience.com.au/events)

A major curriculum redesign effort at the University of Maryland is infusing all levels of our undergraduate biological sciences curriculum with increased emphasis on interdisciplinary connections and quantitative approaches. Our efforts have largely been guided by the recommendations in the NRC report BIO 2010 (2003) and have resulted in revisions to courses in biology, biochemistry, chemistry, mathematics, and physics. Our MathBench initiative addresses the need for enhancing quantitative proficiency through a series of interactive, web-based modules that are used to supplement existing course content in five fundamental biology courses. The modules allow students to hone their quantitative skills, preparing them for more complex mathematical approaches that represent the future of modern biology. University of Maryland students who have used MathBench in their coursework show increased quantitative skills and enhanced appreciation for the essential role of mathematics in modern biology. We are currently partnering with 32 institutions of differing type, size, and demographics to gather data on the effectiveness of MathBench in diverse educational contexts. This process has given us insight into the factors that both encourage the adoption of teaching innovations, and will serve as the basis for creating a faculty development framework that supports wider dissemination.

Katerina (Kaci) Thompson is Director of Undergraduate Research and Internship Programs in the College of Computer, Mathematical, and Natural Sciences (CMNS) at the University of Maryland (UMD). She holds BSc and MSc degrees in Biology from Virginia Tech and a PhD in Zoology from UMD. She is also a Smithsonian Institution Research Associate in the Department of Reproductive Sciences, National Zoological Park, working on social influences on reproductive behavior and physiology. Kaci coordinates externally funded curriculum development initiatives in the biological sciences and oversees the CMNS Teaching and Learning Center.