

You are cordially invited to attend

Wednesday, March 27, 2019

12:00 - 1:30 pm

CREATE for STEM Institute (115 Erickson Hall)

Michigan State University

(Light refreshments provided)

Tammy Long

Associate Professor, Department of Plant Biology, MSU

Bethany Gettings

Ph.D. student, Department of Plant Biology and NRT-IMPACTS fellow, MSU

"Stuck in the middle with you!"

Abstract:

Universities frequently prioritize two groups of students for recruitment and student-success initiatives. High-achieving students are rewarded for their accomplishments through merit-based scholarships, awards, and fast-track programs that enable acceleration. Lower-achieving students are offered academic interventions such as bridge programs and supplemental instruction that aim to increase engagement and enhance retention. In 2014, Inside Higher Ed brought attention to students who complete their freshman year with a GPA between 2.0 and 3.0, typically considered neither low-nor high-achieving, but ultimately do not end up graduating. By some estimates, as many as 43% of students in this population won't graduate and have become referred to as the "murky middle".

For my dissertation research, I am developing a project that explores patterns in middle-achieving students majoring in life science. My proposal builds on findings from three previous studies focused on modeling-based instruction in a reformed introductory biology course that found middle achievers: (1) demonstrate less attrition in conceptual understanding over time; (2) maintain greater consistency in their approach to modeling over time; and, (3) may be less sensitive to contextual features of modeling prompts. I will explore cognitive and non-cognitive mechanisms that might explain how middle-achieving students are engaging in model-based instruction differently from their high and low peers.

In this 'work-in-progress' discussion, we hope to draw on the expertise of our colleagues as a way to obtain feedback that will inform our theoretical framework, methodologies, and potential analytic approaches. We invite your input and look forward to engaging a constructive conversation about this early-stage proposal.



Tammy Long is an Associate Professor in the Department of Plant Biology. Her lab conducts biology education research and is particularly focused on students' use and construction of models as a way to represent and reason about biological systems. Long is Director of Undergraduate Studies in Plant Biology and co-Director of IMPACTS a recently funded NSF Research Traineeship Program that interfaces computational and plant science.



Bethany Gettings is a 2nd-year Ph.D. student in the Department of Plant Biology and NRT-IMPACTS fellow. Beth has completed 1 of 2 phases of her comprehensive exams that were focused on plant biology, data science, and biology education. In April, she will defend her proposal for a Ph.D. project that will examine performance, behavioral, and attitudinal characteristics associated with students classified as "middle-achieving". Her work will specifically target students majoring in life science that are, or were previously, enrolled in a practice-based version of introductory biology.

This presentation is part of the **CREATE Seminar Series**

For more information, please visit

<http://create4stem.msu.edu/seminar-series>



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