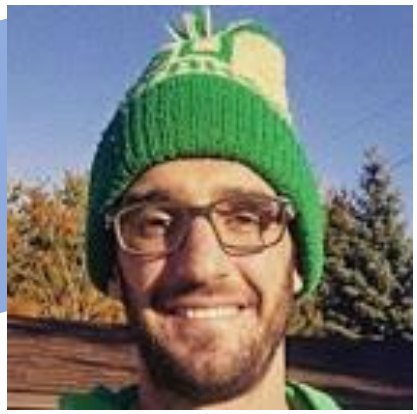
PRIME & CREATE for STEM Present: **Co-Integrate Mathematics Series**

**Willie Wong**

Willie is in his fifth year as an assistant professor in the math department. According to his Form D, his day job should be the geometric analysis of hyperbolic partial differential equations. When not putting out Calculus II related fires, he relaxes by blowing up naive conjectures on MathOverflow.

## Deploying Computer-Based Lab Activities in Mainstream Calculus II

The course MTH133 is the second semester in our main calculus sequence, and focuses on integral calculus, sequences and series, and the calculus of planar curves. The majority of enrolled students (approximately 2000 per year) have declared interest in engineering and are in their first three semesters at MSU; the remainder are primarily students from the College of Natural Sciences. Over the past 4 years, we developed and piloted the lab activities, with an eye towards deploying them at scale. This year, the labs are in use across all MTH133 sections. We will begin our presentation with a detailed demonstration of one of the labs, mainly to showcase the student experience. We will follow this up with a discussion of our philosophy toward the "place" the labs occupy in calculus instruction, specifically in relation to the extant curriculum. We will also describe ongoing research aimed at understanding students' learning experiences with the labs, as well as some of our findings.



**Andrew Krause**

Andy co-coordinates teaching professional development for ULAs, GTAs, post-docs, and new faculty in the Department of Mathematics. He also teaches a variety of large-lecture introductory courses, usually Calculus 1, and strives to incorporate research-based teaching practices in these challenging teaching contexts. Andy enjoys playing softball and basketball, cooking, and gardening.

**Thursday, January 30, 2020**
**12:00-1:00 pm**
**133F Erickson Hall, Michigan State University**

College of Natural Science
**Program in Mathematics Education**

CREATE for STEM Institute

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