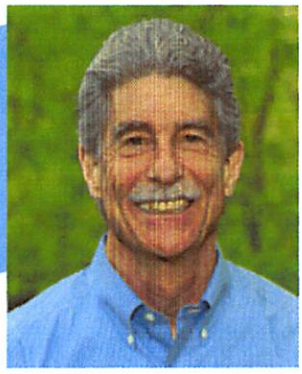
PRIME & CREATE for STEM Present: **Co-Integrate Mathematics Series**



John (Jack) Smith

As a professor of educational psychology here at Michigan State, his research concerns the nature of people's knowledge and learning of mathematics as evidenced in school and other settings.

When the Game Changes: The Development of Student Agency and Autonomy in Challenging Undergraduate Mathematics

In their pre-college and introductory collegiate mathematics coursework, students learn that mathematics centrally, if not exclusively involves computation. But many who pursue STEM disciplines routinely could encounter a quite different kind of mathematical work: The composition and evaluation of formal mathematical arguments, including proofs. The locus of this shift in mathematical activity on the MSU campus is MTH 299, Transitions, which introduces students to the basics of proof and argument. In the talk, we will present our current work conceptualizing agency and autonomy, the students who take the course, the challenges they face, and what we are learning about their experience in the course. We hope that these lessons will prove useful to all efforts to enrich introduction to proof mathematics courses.

Shiv Karunakaran

As an assistant professor of mathematics education here at Michigan State, his research involves the study of how post-secondary students of mathematics and professional mathematicians learn and do mathematics.

October 21, 2019
115 Erickson Hall
12:00 p.m. – 1:00 p.m.

CREATE for STEM Institute

College of Natural Science
Program in Mathematics Education

MICHIGAN STATE UNIVERSITY