Graduate Student Research Session:

On how participation in a modeling competition occasions changes in undergraduate students’ self-efficacy regarding mathematical modeling

Suby Kandasamy

Though scholars have long called for applications and modeling to be explicitly added to classroom agenda (Niss, Blum, & Galbraith, 2007), opportunities for undergraduates to engage in modeling in the classroom remain scarce. We share the efforts of a national organization (SIMIODE) to provide extra-curricular opportunities for undergraduate STEM majors to engage in authentic, open-ended modeling tasks using differential equations through a modeling competition. In this preliminary report, we document changes in twenty-one undergraduates’ self-efficacy regarding their own modeling competencies, develop hypotheses about what aspects of the competition occasioned those changes, and how these changes may benefit students.

Professional Development Integrating Inservice And Prospective Teachers: Shared Resources From A Community Of Practice

Katty Zied & Christina Koehne

This study examines a professional development program that integrates inservice and prospective teachers to decompose the observed practice in a class associated with a summer math camp for elementary and middle school students. An embedded case study was used to analyze data from rich conversational episodes from two discussion groups over a two-week period. We report results regarding observations that reflected teaching and/or supporting students’ mathematical learning. The decomposition of practice benefited from various internal and external resources that emerged in a collaborative effort to support students in the math camp.