



# MATHEMATICAL MODELING EXPERIENCES FOR STUDENTS & FUTURE TEACHERS

## SUMMARY

This project will support the exploration of the mathematical modeling learning experiences of students and teachers during both an innovative summer camp and after-school program.

## DESCRIPTION

Students and teachers will engage with 21st century skills through hands-on activities that will connect mathematics with other disciplines. Specifically, three goals will be achieved through this project: 1) foster 6-8th grade students' learning of mathematical connections to the world; 2) develop teachers' knowledge of teaching mathematics as they co-teach mathematical modeling to the students; and 3) provide research experiences for Marquette students using the data collected from the program.



## MILESTONES

### Summer 2018

Professional development; summer camp for students

### Fall 2018

Professional development; After-school program for students; Data collection

### Spring 2019

Data analysis and dissemination

## ABOUT OUR TEAM

### Dr. Hyunyi Jung, Team Leader

Assistant Professor, Department of Mathematics, Statistics, and Computer Science

### Theresa Dobbs, Co-Teacher of Summer Camp

Milwaukee School of Languages

### Sarah Brand, Alexis Aguirre, Alejandra Macias, Samuel Gailliot, & Zhi Du

Co-Teachers and Research Assistants

Our project is timely and needed since many students and teachers have limited experience with mathematical modeling, despite the value of mathematics in the decision-making of real-world problems. Mathematical modeling has recently been recommended as a content and process that should be taught in K-12 classrooms. We got together to provide authentic problem-solving opportunities to students and study about the learning

## BEYOND BOUNDARIES

This project advances three MU strategic plan themes. First, the Pursuit of Academic Excellence for Human Well-Being is addressed via this program's high-impact educational experiences for students and teachers. Second, Research in Action is achieved by sharing the results with a broader audience through publications that contribute to the greater community of education scholarship. Last, Social Responsibility through Community Engagement is achieved by strengthening Marquette's community engagement and inviting students to participate in the summer camp and after-school programs.