

# EASTERN MICHIGAN UNIVERSITY

## *Chemistry Department*

***Seminar by Prof. Megan Grunert,***

***Western Michigan University***

***Monday, Feb. 17<sup>th</sup> 4:00-5:00 pm Science Complex 156***

### **Learning about Teaching: STEM Education Research at WMU**

#### **Abstract**

Several projects addressing teaching and learning in STEM have been ongoing at Western Michigan University. In chemistry, a collaborative effort between research groups has led to the development of two problem-based learning (PBL) units that have been included in the general chemistry laboratory curriculum. Throughout the PBL implementation process, we have been evaluating affective student outcomes through pre/post-surveys, open-response questionnaires, and interviews. We have also been interested in the outcomes for teaching assistants, as they are asked to take on the role of “research advisor” for this unit. Extensive data collection has occurred with the teaching assistants, allowing us to qualitatively and quantitatively map changes in teaching practice through discourse analysis. Results for both students and teaching assistants will be presented. Across campus, we are also interested in teaching practices in the STEM disciplines. With the funding from an NSF WIDER grant, we are in the process of pilot testing a Teaching Practices Instrument. This will be used to gather data on instructors’ perceptions of their teaching. Additionally, we will be looking at social networks as they relate to teaching practices and will be conducting case studies with selected departments. Current progress and future plans for this project will be discussed..