

You are cordially invited to attend

**Wednesday, November 7, 2018**

**12:00 - 1:30 pm**

133F Erickson Hall

Michigan State University

Light refreshments provided

## Marilyne Stains

Associate Professor, Dept. of Chemistry, University of Nebraska-Lincoln

### **Importance of characterizing STEM faculty members' instructional mindsets and practices in an era of instructional transformation**

#### **Abstract:**

Local and national initiatives to improve the learning experiences of students enrolled in Science, Technology, Engineering, and Mathematics (STEM) courses have been on-going for a couple of decades with a heightened momentum within the last ten years. However, recent large-scale studies have demonstrated that transmission of information is still the primary mode of instruction in STEM courses across the undergraduate curriculum. The limited impact of instructional change reform efforts can be partly explained by the one-sided focus of educational research on the development of evidence-based instructional practices and production of evidence demonstrating their impact on student learning. This has been done at the expense of understanding faculty members' instructional practices and mindsets as well as their beliefs and knowledge about teaching and learning. Indeed, extensive research on instructional change within various fields has positioned instructors at the center of successful educational reforms.

Our research endeavors focus on addressing this gap. In this presentation, we will share the results of a qualitative study investigating instructional planning practices and mindsets using the four-step cycle for instructional planning embedded within the Scientific Teaching pedagogical framework.



**Marilyne Stains** is an associate professor in the Department of Chemistry at the University of Nebraska-Lincoln. She received her Bachelor's degree in Chemistry for the Université des Sciences de Luminy in Marseilles, France; her Master in quantum chemistry from the Université Paul Sabatier in Toulouse, France; her Ph.D. in Chemistry from the University of Arizona.

She started her academic career at the University of Nebraska-Lincoln in 2011 and was promoted in 2016 to associate professor.

Her research focuses on characterizing the extent, nature, and factors involved in the gap between instructional practices in science college classrooms and discipline-based education research.

This speaker is part of the **CREATE Seminar Series**.

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