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Department of Chemistry

Student Seminar Series

9:45 a.m. Tuesday, April 12, 2016 • 331 Smith Hall

Professor

Melanie Cooper

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Evidence-Based Approaches to Curriculum Reform and Assessment

Website:
https://www.chemistry.msu.edu/faculty-research/faculty-members/melanie-m-cooper/

Abstract

There is now fairly large body of work from the learning sciences providing us with insights into how people learn; and from Discipline Based Education Research (DBER) we know what discipline-specific difficulties students face. However, it is quite surprising that relatively little of this understanding has made its way into the design of science and engineering curricula offered at most colleges and universities. While there is much discussion of evidence based reform, most of these efforts are focused on incorporating pedagogical techniques, rather than redesigning the curriculum and the concomitant assessments of student learning in light of evidence from research. This presentation will focus on the need for evidence based curriculum reform, the research findings that can guide such reforms, and how we might assess the results of these reforms. Examples of curriculum reform efforts and assessment strategies will be presented.

Melanie Cooper is the Lappan-Phillips Chair of Science Education at Michigan State University in East Lansing, MI.

She received both her Bachelor of Science degree and doctorate from the University of Manchester, England. She initially conducted post-doctoral research in the field of organic chemistry before changing her focus to chemical education.

Cooper was a professor at Clemson University from 1987-2012. Currently, she holds joint appointments at Michigan State University in the Department of Chemistry, Teacher Education and the CREATE for STEM Institute.

Her research centers around the development and assessment of evidence-based curricula to improve teaching and learning in large-enrollment undergraduate courses. She is the recipient of the 2013 James Flack Norris Award for Outstanding Achievement in the Teaching of Chemistry, the 2014 Achievement in Research for Teaching and Learning of Chemistry, and the 2015 Best Technology Enhancement Award of Excellence.

Hosts:
Megan Weisenberger and Victoria Szlag