



Engineering and Science Education Seminar
Friday, October 24, 2008, 3:30 – 4:30 pm
422 Rhodes Engineering Research Center

Designing Instruments for Chemistry Education Research

Dr. Stacey Lowery Bretz
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Discipline based education research is currently equipped with few tools to measure changes in student learning, particularly in chemistry. We have developed CHEMX, a survey instrument to measure knowledge about learning chemistry. Evidence for both the reliability and validity of CHEMX and data from undergraduate chemistry students will be presented. Results include changes in knowledge, comparisons between majors and non-majors, and a profile of faculty expectations in comparison to students' expectations. Online database and development of the Spanish translation, QUIMX, will be discussed.

Presenter Biography

Stacey Lowery Bretz earned her Ph.D. in 1994 in chemistry education from Cornell University and held a post-doc appointment in CER at the University of California Berkeley with Angy Stacy in the Department of Chemistry. She is currently a Professor of Chemistry at Miami University in Oxford, OH where her research on assessment of student learning has been funded in excess of \$2.75M by NSF, the Camille and Henry Dreyfus Foundation, the U.S. Department of Education FIPSE program, and the Ohio Board of Regents. Dr. Bretz chaired the Gordon Research Conference on CER in June 2005 and is the Chair-Elect of the Board of Trustees for the American Chemical Society Division of Chemical Education Examinations Institute. She is a member of Project Kaleidoscope Faculty 21, and has won multiple teaching awards. Her publications include research reports in the *Journal of Chemical Education*, *Chemistry Education Research and Practice*, *Journal of College Science Teaching*, *Biochemistry and Molecular Biology Education*, and *The Chemical Educator*, as well as several book chapters.

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