

# Science Education Colloquium and Interactive Workshop 3

Hosted by the Center for Advancing Mathematics, Science, and Engineering Education (CAMSEE) and the UC San Diego Education Initiative

## Science Practice-Based Assessments in STEM to Make Students' Thinking Visible



### Diane Ebert-May

Professor, Department of Plant Biology  
Michigan State University

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Tuesday, March 17, 2015

Natural Sciences Building (NSB) Auditorium – 1<sup>st</sup> Floor  
4:00pm - 5:30pm

*Register at [educationinitiative.ucsd.edu](http://educationinitiative.ucsd.edu) by Monday, March 16, 2015.*

This quarter, our workshops focus on developing and implementing learner-centered curricula and assessments based on scientific practices in both small and large enrollment courses. To date, we examined how to build a learner-center community with all students and worked with strategies to actively engage students in learning the core concepts of the discipline by using modeling, arguments, quantitative reasoning, and collaboration. During the last workshop, participants developed scientific models that described and represented phenomenon and were used to make predictions in response to new evidence.

During this workshop we will continue to work with models as performance assessments that make students' thinking visible and provide evidence of understanding. We will use an instrument that we developed at Michigan State University focusing three intertwined dimensions of learning (1) core ideas, (2) scientific practices, and (3) crosscutting concepts, and disciplinary core ideas to characterize assessments. This tool, Three-Dimensional Learning Assessment Protocol (3D-LAP), has two purposes: (1) to characterize the extent to which formative and summative assessments are aligned with three-dimensional learning and (2) to guide the redesign of current assessment items to provide explicit evidence that makes student thinking visible.

Even if you have not participated in the previous workshops, do not hesitate to join us. We'll get you up to speed quickly! In order to get the most benefit out of the workshop, **please complete** this short [homework](#).

Diane Ebert-May provides international leadership for discipline-based biology education research that integrates life sciences and cognitive science. She promotes professional development, assessment and improvement of faculty, postdoctoral scholars, and graduate students who actively participate in creative research about teaching and learning in the context of their scientific discipline. She teaches plant biology, introductory biology to majors in a large enrollment course, and a graduate /postdoctoral seminar on scientific teaching. Her plant ecology research continues on Niwot Ridge, Colorado, where she has conducted long-term ecological research on alpine tundra plant communities since 1971. She is an AAAS Fellow in the Biological Sciences. Her recent awards include the US Professor of the Year Award for Michigan from the Carnegie Foundation/CASE (2011) and the Education Award from the American Association for Biological Science (2012). She earned her BS from University of Wisconsin, Madison (Botany), MA and PhD University of Colorado (Ecology and Evolutionary Biology). ([Learn more](#))