

## Fall 2012 STEM Tuesday Seminars

STEM seminars are held at 4PM on the first and third Tuesdays of each month during the academic year in Hasbrouck 138. Everyone is welcome; no reservations are needed, and there is no charge. Parking is available in the Campus Center Garage.

September 18

Robert and Ellen Kaplan Founders, The Math Circle  
“Math Talent Is a Myth”

This will be an interactive conversation with the lecture audience as we show you what our approach to learning math is in our Math Circles — We won’t describe but demonstrate the approach of our Math Circle, whose fundamental principle is: tell no one anything, but give them an attractive mystery to work on collegially, letting them discover insights together, and together invent proofs. It takes no special talent to do this because math is our forgotten native language. To find out more, see our website, [www.themathcircle.org](http://www.themathcircle.org), or read our book, *Out of the Labyrinth: Setting Mathematics Free*.

September 25

David Lustick, Professor, Graduate School of Education, UMass, Lowell  
“Cool Science: Improving Public Understanding of Climate Change”

The purpose of the presentation/workshop is to provide k16 teachers with an overview and information about how to get their students involved with a statewide art competition about climate change science. Winning students and their schools will receive \$200 in gift certificates and have their work put on display throughout the Lowell public transportation system in the first half of 2013. Ideas about how to integrate the Cool Science competition into existing curricula and strategies for interdisciplinary collaboration will be addressed. All interested educators are encouraged to attend.

October 2

Bob Tinker, Founder and Director of the Concord Consortium  
"InquirySpace: A Space for Real Science"

“Before graduating from high school, students should design and carry out at least one major investigation that closely approximates sound science.” This ringing call for real science in the AAAS Benchmarks remains an unfulfilled but vitally important goal. I will present a technology-enhanced approach that seems to be able to make this goal more realistic.

October 16

Linda Slakey, Former Dean of Commonwealth College, Dean of the UMass College of Natural Sciences and Mathematics, and Deputy Assistant Director for Education and Natural Resources at the National Science Foundation

“Improving Undergraduate STEM Education”

November 13

Joan Thormann, Professor, Lesley University

“Nuts and Bolts of Planning and Implementing your Online Course”

This seminar will describe strategies to support online course development and teaching that have proven to make the online experience engaging and satisfying for both students and the faculty member. Techniques to enhance student participation such as optimizing introductions, using targeted grading systems and voice conferencing will be presented. Ways to implement strategies that enhance student learning including having student moderators, using templates and setting up forums that encourage peer support will be discussed.

The presenter has been teaching courses online since 1996. The strategies to be presented are based on research and have been employed successfully in online courses for nearly two decades. They are described in detail in Dr. Thormann’s recent book *The Complete Step-by-Step Guide to Designing and Teaching Online Course* published by Teachers College Press at Columbia University.

December 4

Richard Yuretich, Professor, UMass, Geosciences

“Technology and Team-Based Learning (TBL) in Introductory Oceanography”

Team-based Learning (TBL) is an active-learning strategy that uses class time primarily for investigations conducted by formal groups kept intact for the semester. Prior research has demonstrated that TBL increases student engagement, allows for a more flexible and dynamic class environment, fosters critical thinking and analysis, and elevates student performance. UMass-Amherst has constructed two prototype TBL classrooms outfitted with the technology to support development of appropriate teaching methods. The features of these classrooms include: round tables that accommodate nine students apiece; hard-wired laptops at each table to encourage research and presentations during class time; wall-mounted LED monitors and whiteboards for each table; and a centrally-located instructor's podium to manage the various audiovisual systems.