



## American Statistical Association Mid-Michigan Chapter

The Chapter is pleased to announce its 2015 spring meeting. Our guest speaker is Dr. Robert C. delMas, University of Minnesota, Minneapolis, MN.



Robert delMas is Associate Professor of Educational Psychology at the University of Minnesota. His primary research interest is in the study of educational experiences that promote conceptual change and development of statistical concepts. He is a fellow of the American Statistical Association. He served as chair of the joint committee on statistical education of the ASA and the American Mathematical Association of Two-Year Colleges (AMATYC) and as the chair of the ASA Section on Statistical Education. He served as the Editor of the *Statistics Education Research Journal*, as an Associate Editor for the *Journal of Statistics Education*, on the Editorial Panel of the *Journal for Research in Mathematics Education*, and as an advisor to the Carnegie Foundation for the Advancement of Teaching StatWay project. He currently serves on the Research Advisory Board (RAB) of the Consortium for the Advancement of Undergraduate Statistics Education (CAUSE). He has been co-PI on several projects funded by the National Science Foundation.

### **Thursday, March 19, 2015, 7:00 – 8:30 pm**

Chapter business meeting and presentation

Social hour & meeting: 7:00 – 7:30 pm

Presentation: **7:30 – 8:30 pm**

Location: **Central Michigan University, Pearce Hall, Room 138**

Title of presentation: **A Comparison Between a Randomization-based and Conventional Introductory Statistics Courses**

**Abstract:** Preliminary results are presented from an ongoing study of the development of tertiary students' reasoning in a one-semester college-level statistics course. The modeling and simulation-based course relies on randomization and bootstrap methods for inference. Students in the statistics course learn to use TinkerPlots® to create “just by chance” models that form the basis of simulated distributions of sample statistics in order to draw an inference about an observed effect or difference. Comparisons of performance between students enrolled in the modeling and simulation-based course and students enrolled in statistics courses based on conventional parametric methods of inference suggest that students taking the modeling and simulation-based course have a better understanding of the principles of study design and statistical inference. To provide a richer view, summaries of qualitative data from nine students who participated in think-aloud, problem-solving interviews are reported. Preliminary analyses of the qualitative data indicate that these nine students had begun to develop three of the four dimensions of statistical thinking described by Wild and Pfannkuch (1999): the logic of inference, engagement in the interrogative cycle, and integration of statistical and contextual information.

**Chapter web address:** <http://asa.mth.cmich.edu/>