

Announcing: Two Workshops With  
**George W. Cobb**

## Overview of Experimental Design and Analysis of Variance

George Cobb is professor emeritus of mathematics and statistics at Mount Holyoke College and a national leader in statistics education. A Fellow and former vice president of the American Statistical Association, winner of the ASA Founders' Award, and winner of the lifetime achievement award from the Consortium for the Advancement of Undergraduate Statistical Education, he has authored and co-authored several well regarded statistics texts, including *Introduction to Design and Analysis of Experiments* (Springer Verlag, 1998), and *Statistics in Action: Practical Principles for a World of Uncertainty* (Key Curriculum Press, 2003), written with Richard L. Scheaffer and Ann E. Watkins.



The “Cobb report” in the early 1990s catalyzed a shift in undergraduate statistics education. More recently, his keynote speeches at national conferences herald an ongoing change toward the increased use of randomization and Bayesian statistics in the early statistics curriculum.

George is visiting the Twin Cities for two weeks. As part of his visit he is giving these two workshops.

### **Session 1** Principles of Design. Monday, Oct 19, 2009

This first workshop of two will introduce an approach to experimental design that I have used at Mount Holyoke College for teaching the subject as a first course in statistics. I'll introduce basic design principles and five experimental designs via a set of classroom activities. If time permits, I'll talk about using a design course (1) as a vehicle for introducing the basic ideas of statistics usually taught in an introductory course, and (2) as a way to engage students explicitly in the experience of “abstraction-as-process.”

### **Session 2** Analysis of Variance. Monday, Oct 26, 2009

This second workshop assumes basic familiarity with the basics of experimental design, as covered in the first workshop. My goal will be to illustrate an elementary treatment of three topics that are not ordinarily taught at the freshman/sophomore level: (1) Balanced ANOVA via group representations, without groups or representations; (2) transition to an abstract view of design; and (3) a visual approach to expected mean squares via “double-decomposition diagrams.”

**Time and Location:** Each of the sessions runs from 4:30 to 6:00 PM at Macalester College in the John B. Davis lecture hall in the Macalester Campus Center. (Building 25 on the map at <http://www.macalester.edu/about/mapbynumber.html>. Parking is available in the lot at map location 20 or the two lots near building 14.)

#### **Who should come?:**

- Statistics educators who want to see a new approach to introducing experimental design.
- Undergraduate statistics students.
- Graduate students in statistics who are interested in expanding their repertoire.
- Anyone who wants to see a masterful teacher at work.

**To register:** Contact Danny Kaplan at [kaplan@macalester.edu](mailto:kaplan@macalester.edu). If you are leading a group of attendees, just provide an estimate of the number of people who will be coming.

These workshops are supported by the W.M Keck Foundation's project on Data Fluency.