Spring 2011 Course Announcement

BTRY 4830/6830 Quantitative Genomics and Genetics

Professor: Jason Mezey
Biological Statistics and Computational Biology

Time: Mon., Weds. 8:40 am - 9:55 am

Room for Cornell, Ithaca: 226 Weill Hall

Room for WCMC: Main Conference Room, Dept. Genetic Medicine (13th Floor, Weill-Greenberg Building)

COURSE DESCRIPTION: A rigorous treatment of analysis techniques used to understand complex genetic systems. This course will cover both the fundamentals and advances in statistical methodology used to identify genetic loci responsible for disease, agriculturally relevant, and evolutionarily important phenotypes. Data focus will be genome-wide data collected for association, inbred, and pedigree experimental designs. Analysis techniques will focus on the central importance of generalized linear models in quantitative genomics with an emphasis on both frequentist and Bayesian computational approaches to inference.

GRADING: S/U or Letter Grade.

CREDITS: 4 (lecture + computer lab).

PREREQUISITES: Introductory probability and statistics.

REQUIRED TEXT: Applied Statistical Genetics with R (Andrea Foulkes) Springer 2009.