Title: “Clinical Diagnosis and Prognostication”

Abstract:
Choosing or developing a diagnostic or prognostic test or tests is a common problem in medicine. Issues and examples in clinical diagnosis and prognostication are explored. Several methods for developing diagnostic and prognostic tests are illustrated and discussed. Measures of quality, including simplicity, sensitivity, specificity, receiver operating characteristics, positive/negative predictive values, positive/negative likelihood ratios, costs, and risks, are examined. Techniques for comparing tests are illustrated. Rules-of-thumb for choosing a single test, the threshold for a score-based test, and a sequence of tests are developed and illustrated. Several examples from clinical practice highlight the discussed methods.

Biography:
Ben’s research interests include experimental design, multi-scale techniques, sequential methods, predictive modeling, applications of statistics in medicine and engineering, complex data sets, multivariate analysis, non-parametric modeling, Bayesian modeling and inference, statistical computing and algorithms, and numerical analysis. He has several medical publications and several statistics publications in top tier journals including JASA and Biometrika. He is currently working on projects in oncology, ophthalmology, emergency medicine, neurology, health economics, emulation of dynamic computer experiments, and several others. Ben enjoys analyzing data, doing mathematics, hanging out with his wife and cats, and exploring southeast Asia.

All are welcome to attend. No RSVP is required. Light refreshments will be served beginning at 11:45 outside the auditorium.