STAT 547H, Empirical Likelihood
2019/2020, Term 2
Instructor: Jiahua Chen

Time and Place: Monday/Wednesday 1:30-3:00 pm, ESB 4192

Description: Empirical likelihood is a nonparametric method of inference based on a data-driven likelihood ratio function. Like parametric likelihood methods, empirical likelihood makes an automatic determination of the shape of the confidence regions; it straightforwardly incorporates side information expression through constraints or prior distributional it extends to biased sampling and censored data and it has very favorable asymptotic power properties. This course covers the asymptotic properties for population means, estimating functions as well as numerical procedures.

Prerequisites: Stat 460/560, Stat461/561, Stat547 and Stat 305 are recommended.

Textbook/course material: Lecture notes will be posted online

References:
Art Owen (2001). Empirical Likelihood. Chapman and Hall.
Jing Qin (2017). Biased Sampling, Over-identified Parameter Problems and Beyond. ICSA Book Series in Statistics. Springer

Website: Canvas will be used to post additional course information.

Evaluation: 10-assignment problems plus a term project in the form of 10-page research report.

Topics:

1. Empirical likelihood for population means.
2. Empirical likelihood and estimating functions.
3. Empirical likelihood and biased sampling.
4. Empirical likelihood and its numerical problems.
5. Selected topics.