Statistics Seminar

Department of Mathematics and Statistics

DATE:	Tuesday, March 10, 2026
TIME:	12:15pm – 1:15pm
LOCATION:	WH 100E
SPEAKER:	Zifan Huang, Binghamton University
TITLE:	From roots to strict zero crossings: developing a well-posed definition of the Buckley-James estimator

Abstract

The Buckley–James estimator (BJE) is a classical extension of least squares for linear regression with right-censored responses. Because the Buckley–James estimating function is nonsmooth and piecewise linear, defining the BJE simply as a root of the estimating equation can be ill-posed: roots may fail to exist, may be non-unique, or may form flat regions that include uninformative candidates. This talk develops a well-posed definition of the BJE through a sequence of examples, each motivating a refinement from roots to zero crossings (ZC), then to strict zero crossings (SZC), and finally to a refined multivariate SZC based on sign changes and the geometry of connected zero-crossing components.