Statistics Seminar

Department of Mathematical Sciences

DATE:	Thursday, April 21, 2022
TIME:	1:15pm – 2:15pm
LOCATION:	Zoom meeting
SPEAKER:	Mengyu Chen, Binghamton University
TITLE:	An Empirical Likelihood Approach with Bivariate Data

Abstract

Bivariate data where the marginal distributions differ by a location and scale parameter are considered. Inference about these two parameters is based on the empirical likelihood approach. As the first component and the location and scale transformed second component have the same distribution, there is a large supply of constraint functions. Both known and estimated constraint functions are studied. Wilks' type theorems are obtained for these settings leading to large sample confidence regions and tests. The local asymptotic power of the resulting tests is derived. Finally maximum empirical likelihood estimators of the location and scale parameters are studied and shown to be asymptotically normal. An extensive simulation study supports the theoretical findings.