Indiana University-Purdue University Indianapolis

Department of Mathematical Sciences

STATISTICS SEMINAR

12:15pm—1:15pm, Tuesday, February 16, 2021
Zoom Meeting: Meeting ID: 751 025 519

Speaker: **Pei Geng**
Department of Mathematics, Illinois State University

Title: **Bias-corrected estimation of functional-coefficient autoregressive models with measurement errors**

Abstract:

In cybersecurity, the hacking data breach records are usually reported with measurement errors. To model the patterns in hacking incidents over time with covariates, the functional-coefficient autoregressive (FAR) models are flexible candidates. When the time series data is observed with measurement errors, this project develops a bias-corrected procedure based on the local linear estimation for the coefficients in the FAR models. A simulation study shows the efficiency of the proposed method compared to the naive estimation. Asymptotic properties of the bias-corrected estimators are also derived. A cybersecurity data application will be also presented.

Bio:
Dr. Pei Geng received her PhD degree in statistics from Michigan State University in 2017. She joined the Department of Mathematics at Illinois State University after graduation. Her research interest lies in measurement error models, nonparametric kernel estimation and neural networks.