

**Indiana University-Purdue University
Indianapolis**
Department of Mathematical Sciences

STATISTICS SEMINAR

12:15pm—1:15pm, Tuesday, April 5, 2022
Zoom Meeting: Meeting ID: 845 0989 4694

Speaker: **Yen-Ning Huang**
*Center for Neuroimaging,
Indiana Alzheimer's Disease Research Center*

Title: **Bayesian Applications in Climate Data Analysis**

Abstract:

In environmental science, data are often obtained from computer models or monitoring networks. Climate models are not perfect reflections of reality. It is of importance to accommodate the spatial misalignment between the two data sources for calibration of the computer model output and for better forecast in the future. In this work, we propose a Bayesian spatial method to calibrate model output using observed data. The key advantage of our approach is that we can calibrate both the marginal distribution and the spatial correlation of model output. We apply the proposed method to global climate model output in North America and show that it successfully calibrates the model output for temperature and precipitation.

Bio:

Dr. Yen-Ning Huang is a research data analyst at the Center for Neuroimaging and the Indiana Alzheimer's Disease Research Center. She received her Ph.D. in Statistics from Purdue University. Her research interests include spatial statistics, medical statistics, machine learning and statistical computation.