The DIVISION OF BIOSTATISTICS
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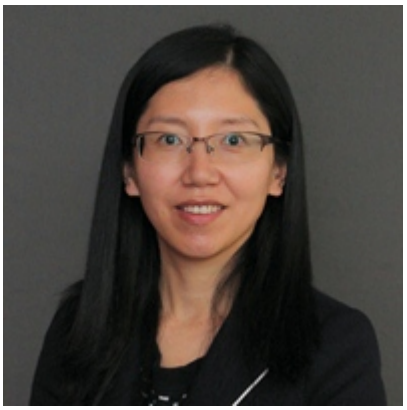
MEDICAL COLLEGE OF WISCONSIN

Proudly Presents
A Special Talk
By:



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Trajectory Quantile Regression for Longitudinal Data

Quantile regression has demonstrated promising utility in longitudinal data analysis. Existing work is primarily focused on modeling cross-sectional outcomes, while outcome trajectories often carry more substantive information in practice. In this work, we develop a trajectory quantile regression framework that is designed to robustly and flexibly investigate how latent individual trajectory features are related to observed subject characteristics. The proposed models are built under multilevel modeling with usual parametric assumptions lifted or relaxed. We derive our estimation procedure by novelly transforming the problem at hand to quantile regression with perturbed responses and adapting the bias correction technique for handling covariate measurement errors. We establish desirable asymptotic properties of the proposed estimator, including uniform consistency and weak convergence. Extensive simulation studies confirm the validity of the proposed method as well as its robustness. An application to the DURABLE trial uncovers sensible scientific findings and illustrates the practical value of our proposals.

Tuesday, October 31, 2017
3:30 – 4:30 PM
Medical College of Wisconsin
Room M2050 – 2nd floor of the MEB
Refreshments are provided