

**MICHIGAN STATE UNIVERSITY**  
Department of Statistics and Probability

# **COLLOQUIUM**

**Qidi Peng**  
Claremont Graduate University

## **Estimation of the Pointwise Hölder Exponent of Hidden Multifractional Brownian Motion Using Wavelet Coefficients**

**Tuesday, March 14, 2017**  
**10:20 a.m. - 11:10 am**  
**Refreshments 10:00 am**  
**C405 Wells Hall**

### **Abstract**

We propose a wavelet-based approach to construct consistent estimators of the pointwise Hölder exponent of a multifractional Brownian motion, in the case where this underlying process is not directly observed. The relative merits of our estimator are discussed and we compare our approach to some other recently updated estimation methods (joint work with Sixian Jin and Henry Schellhorn).

### **Bio**

Dr. Qidi Peng obtained his M.S. and Ph.D. degree of Applied Mathematics at University of Lille - Science and Technology, France. Before that, he received his B.S. of Probability and Statistics from Wuhan University, China. Dr. Qidi Peng is currently a research assistant professor of Probability and Statistics at Claremont Graduate University, USA. His research interests are focused on stochastic processes and their applications to finance and engineering.

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