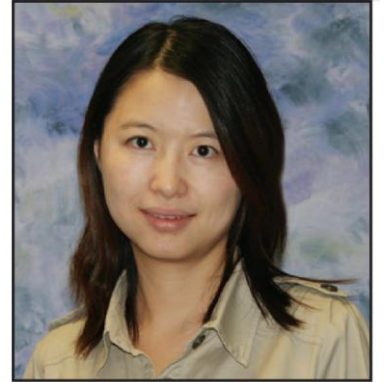# 数学与系统科学研究院

计算数学所学术报告

报告人：**Prof. Huiyan Sang**

（ *Texas A&M University, USA* ）

报告题目：

Smoothed full-scale covariance approximation for large spatial data sets

邀请人： 刘歆 副研究员

报告时间：**2015 年 6 月 17 日（周三）**

上午 10:30~11:30

报告地点： 科技综合楼三层

311 报告厅

Abstract：

With the advent of remote sensing and GPS techniques, spatial data collection capacity increases dramatically. The growth in data size imposes challenges to classical spatial modeling methods and has driven the innovations of new modeling and computation tools scalable and parallelizable to handle large datasets. This work extends the state-of-the-art full scale covariance approximation approach that combines merits of reduced rank methods and sparse approximations, by accounting for the dependence across blocks of the residual covariance. We show that the proposed likelihood approximation approach induces a valid Gaussian process, which allows for a unified framework for model estimation and spatial prediction following standard kriging methods.

Short Biography：

Dr. Huiyan Sang received her Ph.D in Statistics from Duke University, NC, USA, in 2008, and B.S. in Mathematics and Applied Mathematics from Peking University, China, in 2004. She joined the faculty at Texas A&M University in 2008, where she is currently an Associate Professor in the Department of Statistics. Her research focuses on spatial statistics, extreme values and computational methods for large datasets. Interdisciplinary application areas have included research in climatology, ecology, environmental science and electrical engineering. Dr. Sang has authored numerous peer-reviewed publications on theoretical, methodological and applied research in spatial and spatiotemporal data analysis. Her research is funded by two grants as PI and Co-PI from the National Science Foundation (NSF). Her work is being published in top tier statistics journals such as JRSS-B, Biometrika, and Annals of Applied Statistics. She is also extremely active in providing service to the statistics community. This includes organizing invited sessions at a number of statistics meetings, refereeing for top statistics journals, serving as grant panel reviewer for the NSF and the Research Council for Natural Sciences and Engineering at the Academy of Finland, as well as being appointed as Associate Editor for the International Statistics Institute Journal, STAT since 2011.

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