

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Hong-Kun Xu**

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报告题目:

**Algorithmic Approaches to Big Data
Optimization**

邀请人: 袁亚湘 院士

报告时间: **2015 年 11 月 24 日 (周二)**

下午 15:30-16:30

报告地点: 科技综合楼三层

311 报告厅

Abstract:

Big Data refers to data sets which are of high-volume, high-velocity, and/or high-variety, and which are beyond the ability of typical database software tools to capture, store, manage, and analyze, thus making it difficult to process by using state-of-the-art data processing approaches or traditional data processing platforms; consequently, innovative optimization methods must be employed. Big data occurs everywhere in daily life (such as health care, commerce and business, and society administration), and also in scientific research that is highly data-driven (such as astronomy, meteorology, bioinformatics, and computational biology, to name only a few).

A big data optimization problem can mathematically be formulated as minimizing a structured objective function that is the sum of two (or more) convex/nonconvex functions. Various optimization methods such as parallel coordinate descent, (accelerated or stochastic) gradient, proximal methods, and the alternating direction method of multipliers (ADMM) can apply.

In this talk, we will focus on first-order methods and proximal-gradient method and their accelerated versions that solve big data optimization problems.

欢迎大家参加！