

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Shiqian Ma**

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报告题目:

**Penalty Methods with Stochastic  
Approximation for Stochastic  
Nonlinear Programming**

邀请人: 刘歆 博士

报告时间: **2014 年 8 月 31 日 (周日)**

**下午 13:30-14:30**

报告地点: **科技综合楼三层 311**

**计算数学所报告厅**

## **Abstract:**

**In this work, we propose a class of penalty methods with stochastic approximation for solving stochastic nonlinear programming problems. It is assumed that only noisy gradients or function values of the objective function are available via calls to a stochastic first-order or zeroth-order oracle. In each iteration of the proposed methods, we minimize an exact penalty function which is nonsmooth and nonconvex with only stochastic first-order or zeroth-order information available. Stochastic approximation algorithms are presented for solving this particular subproblem. The worst-case complexity of calls to the stochastic first-order (or zeroth-order) oracle for the proposed penalty methods for obtaining an epsilon-stochastic KKT point is analyzed.**

**This is a joint work with Xiao Wang and Ya-xiang Yuan.**

**欢迎大家参加!**