数学与系统科学研究院

计算数学所定期学术报告

报告人： **Dr. Yafeng Liu**

（ *LSEC, Institute of Computational Mathematics and Scientific/Engineering Computing, Academy of Mathematics and Systems Science, Chinese Academy of Sciences* ）

报告题目：

Complexity Theory: From Basic Concepts to Its Recent Applications to Wireless Communications

报告时间: **2013** 年 **10** 月 **10** 日（周四）

下午 **16：00~17：00**

（**15：30~16：00** 茶歇）

报告地点： 科技综合楼三层 **311**

计算数学所报告厅

Abstract：

Complexity theory has been widely used to characterize inherent intractability of problems arising from various scientific and engineering areas. It assists algorithm designers in directing their problem-solving efforts toward those approaches that have the greatest potential of leading to useful algorithms. In this talk, we shall give a brief introduction to complexity theory and its applications to some problems motivated from wireless communications. Specifically, we shall begin with a story which illustrates the importance of complexity theory. Then, we review some basic concepts in complexity theory such as P, NP, NP-complete, and NP-hard, and also some famous NP-complete problems. We shall also introduce the methodology of showing a problem is NP-complete/NP-hard. Finally, we conclude the talk with the application of complexity theory to problems arising from wireless communications.

In this talk, instead of introducing complexity theory in a very rigorous but boring fashion, we shall use common languages to make it easily understandable. In order to encourage discussions, we shall also prepare several "lottery" questions. The audiences are welcome to answer these questions and a gift will be rewarded. To get the gift, your answer is not necessarily to be correct, but you need to give a reason to support your answer.

欢迎大家参加！