数学与系统科学研究院

计算数学所学术报告

报告人：　**Prof. Hulin Wu**

（ ***School of Medicine and Dentistry, University of Rochester*** ）

报告题目：

Statistical Inverse Problems for Differential Equation Models with Applications to Biomathematical Modeling by Rigorously Using Experimental Data

邀请人：　袁亚湘研究员

报告时间：**2011** 年 **7** 月 **17** 日（周日）

上午 **10：00-11：30**

报告地点：　科技综合楼三层 **311**

计算数学所报告厅

Abstract:

Differential equations are widely used to describe dynamic systems in many scientific fields. In bioinformatics and systems biology research, differential equation models can be constructed to represent the dynamic biological processes. However, both model structures and model parameters need to be determined based on experimental data. It is very challenging to solve the inverse problems of differential equation models by rigorously using experimental data. In particular, most statistical inverse problems often boil down into a complex optimization problem. In this talk, I will discuss the model construction procedure in biomedical research, which includes model parameter identifiability, model structure identification, parameter estimation, model validation and evaluation based on experimental data. Experimental data from recent studies on immune response to influenza infection will be used to illustrate the modeling principles.

欢迎大家参加！