

数学与系统科学研究院

计算数学所学术报告

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报告题目:

**Numerical Analysis of  
Time-fractional Diffusion Equations**

邀请人: 于海军 副研究员

报告时间: 2019 年 4 月 28 日 ( 周日 )

上午 10:00-11:00

报告地点: 科技综合楼三层

311 报告厅

## **Abstract:**

Over the past few decades, there has been substantial interest in evolution equations that involve a fractional-order derivative in time, commonly known as subdiffusion, due to their many successful applications in engineering, physics, biology and finance. Thus, it is of paramount importance to develop and to analyze efficient and accurate numerical methods for reliably simulating such models. In this talk, we shall begin with the time-fractional diffusion equation and its application to model the anomalously slow diffusion. Then semidiscrete schemes and fully discrete schemes for the linear model are proposed with rigorous error analysis, which is optimal with respect to the sharp regularity estimate. Finally, we shall establish some qualitative properties of the numerical schemes and apply them to analyze the error of numerical methods for solving nonlinear models.

**欢迎大家参加！**