

**数学与系统科学研究院**

**计算数学所学术报告**

**报告人: Prof. Ulrich Ruede**

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**报告题目:**

**Simulating Complex Flows on  
300,000 compute cores**

**邀请人: 周爱辉研究员**

**报告时间: 2010年5月14日(周五)**

**下午 2:00—5:00**

**报告地点: 科技综合楼三层 311**

**计算数学所报告厅**

## **Abstract:**

**In this talk, I will present and discuss some of the largest computational fluid dynamics computations that have been performed to date. I will introduce the lattice Boltzmann method (LBM) as an alternative to conventional models that are based on the Navier–Stokes equations. I will illustrate, how the LBM can be used to compute complex flows involving free surfaces or a fluid–structure interaction. The focus of the talk will be on the parallel algorithms and their implementation on very large supercomputers, using up to 300,000 compute cores. Applications will be taken from nano–technology, chemical and bio–engineering, and advanced material science.**

**欢迎大家参加！**