

数学与系统科学研究院  
计算数学所网络学术报告

报告人: **Prof. Eric Chung**

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报告题目:

**Data-driven computational  
multiscale methods**

邀请人: 张文生 研究员

报告时间: 2021 年 7 月 22 日 (周四)  
下午 15:00-16:00

报告工具: 腾讯会议 ID: (869 626 952)

会议链接:

<https://meeting.tencent.com/s/qxOLQXdEoEyu>

## **Abstract:**

Many practical problems have multiscale features due to medium heterogeneities, nonlinearity and coupling of multiple models. The goal of multiscale methods or numerical upscaling techniques is to compute the solutions of these complicated problems efficiently by constructing coarse scale equations for some dominant components of the solutions. In this talk, we will present the latest development of a class of multiscale methods, which make use of solutions of local problems to obtain coarse scale equations and have rigorous convergence theories. For nonlinear problems, the macroscopic parameters in the coarse scale equations can be computed efficiently by the use of deep learning techniques. We will discuss the general concepts and present some applications.

**欢迎大家参加！**