

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Habib N. Najm**

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报告题目:

**Uncertainty Quantification with
model error**

邀请人: 周涛 副研究员

报告时间: **2019 年 10 月 25 日(周五)**

上午 10:00-11:00

报告地点: 科技综合楼三层

311 报告厅

Abstract:

The predictive fidelity of computations of physical systems is often limited due to structural errors in model specification. Increasingly, there is interest in, and ongoing work on, the modeling of model error, and its estimation in the process of model calibration. This talk will discuss the statistical representation of model error in computational models, and its estimation in a Bayesian inference framework. The context of physical system modeling motivates a particular strategy of embedding model error within the model, where key approximations are present. I will discuss the general construction, outlining its key elements and variants, and illustrate its application in model problems of practical relevance.

Bio:

Habib N. Najm is a Distinguished Member at Sandia National Laboratories in Livermore, CA. He leads research programs in computational reacting flow and uncertainty quantification, funded by the US Department of Energy. His research has spanned the development of numerical methods for reacting flow computations, development of uncertainty quantification methods and software with application in large-scale physical systems, analysis and reduction of chemical systems, modeling of electrochemical systems, stochastic dynamical systems, and Bayesian inference methods. He is author/co-author of over 100 journal articles and a number of US patents. He is currently the Editor-in-Chief of International Journal for Uncertainty Quantification and is an Associate Editor of SIAM JUQ.

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