

数学与系统科学研究院

## 计算数学所学术报告

**Speaker:** Jeffrey Larson (University of Colorado Denver)

**Topic:** Derivative-Free Optimization Using Weighted Regression Models in a Trust-Region Framework

**Time:** 15:30-17:30,  
September 28<sup>th</sup> (Tuesday)

**Venue:** Room 311, Lan-Bai Building

## **Abstract:**

In this talk, we present a new technique for finding local minima of computationally expensive functions with numerical noise. Such functions arise in many areas of applied mathematics, including joint work with biologists as the US National Renewable Energies Lab. We present an overview of previous techniques used to solve such problems, highlighting the most successful techniques which use surrogate models in a trust-region framework. Though such models are typically of the interpolation or least-squares variety, we propose a weighted-regression model which we believe will provide quicker convergence. Various techniques for calculating weights are outlined, some of which have encouraging performance on benchmark problems.

**欢迎大家参加！**