

数学与系统科学研究院

计算数学所学术报告

报告人: **Dr. Chris Ryan**

( *Booth School of Business, University of Chicago* )

报告题目:

**An algebraic approach to  
Lagrangian duality in general vector  
spaces**

邀请人: 刘歆 博士

报告时间: **2012 年 3 月 23 日 (周五)**

**上午 10: 00-11:00**

报告地点: **科技综合楼三层 311**

**计算数学所报告厅**

## **Abstract:**

**We develop a theory of Lagrangian duality for very general convex optimization problems over vector spaces. The associated theory in finite dimensional space is well known, and most existing generalizations to infinite dimensional spaces making numerous topological assumptions, including the existence of inner products (Hilbert spaces) and norms (Banach spaces). We describe how the essentials of Lagrangian duality can be understood without any topological structure at all, merely using the inherent "algebraic" structure of the vector space itself. We then show how many existing duality results in topological vector spaces can be seen as refinements of the algebraic theory.**

**Joint work with Kipp Martin (University of Chicago).**

**欢迎大家参加!**