

**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**

**(University of British Columbia)**

**报告题目:**

**Computing Solution Concepts in  
Games with Integer Decisions**

**邀请人: 袁亚湘研究员**

**报告时间: 2009年11月16日(周一)**

**下午 3:30—5:00**

**报告地点: 科技综合楼三层 311**

**计算数学所报告厅**

**Abstract:**

**I discuss algorithms and complexity results**

**for two game theoretic extensions of integer programming: integer programming games and bilevel integer programming. In the case of integer programming games, I discuss an algorithm which computes pure Nash equilibria using rational generating functions which runs in polynomial time when certain parameters are fixed. In the case of bilevel integer programming, I describe an algorithm which decides the existence of and computes "optimistic" optimal solutions using parametric integer programming and binary search. I show that this algorithm runs in polynomial time when the number of integer variables are fixed, extending a result by Lenstra on integer programming in fixed dimension to the bilevel setting.**

**This is joint work with Matthias Koeppel and Maurice Queyranne**

**欢迎大家参加！**