**经济与管理学院-智能决策与风险分析研究所与国际交流处联合举办**

**Competitive and Cooperative Behavior under Conflict: An Agent-based System of Systems Engineering Modeling and Simulation Framework**

A Presentation by

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**报告时间与地点：6月16日2：00--4：00，将军路校区经管院报告厅704**

方黎平博士是加拿大瑞尔森大学（Ryerson University）机械和工业工程系教授。现任瑞尔森大学工程和建筑学院副院长。他也是加拿大滑铁卢大学系统设计工程系兼职教授。方黎平于分别于1985年5月和1989年5月在滑铁卢大学系统设计工程系获硕士学位（M.A.Sc.）和博士学位（Ph.D.）。方黎平教授长期从事管理工程, 工业工程等领域的研究。他现在是四种国际杂志的编委, 包括IEEE Transactions on Systems, Man, and Cybernetics, Part A。方黎平博士是加拿大安大略省注册工程师，加拿大工程学会联合会会士（Fellow of the Engineering Institute of Canada）, 和加拿大机械工程学会会士（Fellow of the Canadian Society for Mechanical Engineering）。方黎平教授是图模型分析的创始人之一，并且是现有的决策支持系统GMCR II的开发和设计者。他的专著《交互式决策：基于图模型的冲突分析》是冲突分析领域的经典文献。

**2. Higher Education in Administration in Canada**

**报告时间与地点：6日16日 10:00-11:30 将军路校区经管院会议室711**

**3. Undergraduate and Graduate Programs and Student Affairs in Canada**

**报告时间与地点：6月17日10：00--11：30 明故宫校区综合楼519**

**Abstract**

Simulation environments are useful tools to assess our understanding of how things work, as well as to test new designs to make things work better. This research adopts the perspective of system of systems engineering. The overarching goals are to understand values of participants and to design policies to regulate interactions among natural, human and engineered systems so as to achieve societal and environmental goals. Here, an agent-based framework is presented to simulate competitive and cooperative behavior under conflict. The conflict modeling requires hard thinking on participants’ values in order to develop mathematical abstractions of their value systems. Furthermore, creative thinking is needed to generate options for each participant, whereas critical thinking is applied in mapping outcomes to indicators which feedback into value systems. The simulated behavior of the agents can be analyzed to anticipate responses of participants to policies that seek to govern the macrobehavior of the system. These results can thus be used to inform the design of new policies. The applicability of the system of systems modeling and simulation framework is demonstrated using a general common pool resources problem.

2.