

# W. Graham Mueller

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## Education

- 2007-present **Ph.D. Economics**, *Texas A&M University*, Degree expected May 2012.  
2003–2005 **M.S. Applied Mathematics**, *University of Illinois-Chicago*.  
1999–2003 **B.S. Mathematics, B.S. Economics**, *Oklahoma State University*.

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## Dissertation

- Title: ***“Essays on Network Formation”***.  
Committee: Rajiv Sarin (chair), Brit Grosskopf, Silvana Krasteva, Yoonsuck Choe

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## Fields of Specialization

- Major: Microeconomic Theory, Game Theory, Social and Economic Networks  
Minor: Financial Economics, Econometrics

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## Papers

1. **“Competing Allocation Rules in Networks”**, *Job Market Paper*.

Abstract: I examine a model in which two competing groups offer different allocation rules that may depend on the network of connections among the individuals that make up each group. I assume the existence of a single divisible good, such as a monetary prize, to be divided by each group. The probability of winning the prize will depend on the group sizes, but we examine a more general contest function as well. I examine two well known allocation rules: the Myerson value and the egalitarian rule. I prove existence of equilibria and characterize the properties of the two networks. The implications for the outcome of the contest are examined

2. **“Reinforcement Learning in Dynamic Network Formation”**.

Abstract: I examine a dynamic model of network formation in which individuals use reinforcement learning to choose their actions. Typically, economic models of network formation assume the entire network structure to be known to all individuals involved. The introduction of reinforcement learning allows us to relax this assumption. Q-learning is a reinforcement learning algorithm from the artificial intelligence literature that allows for state-dependent learning. Using Q-learning, one may allow for varying degrees of information available to the agents. I determine what network structures process may converge to

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## Working Papers

1. **“Competing Allocation Rules in Minimum Cost Spanning Forest Games”**.

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## Teaching Experience

- Instructor: Games and Economic Behavior (400-level), Texas A&M University, Fall 2010  
Intermediate Microeconomics (300-level), Texas A&M University, Fall 2009, Spring 2010
- TA: Intermediate Microeconomics, Texas A&M University, Spring 2011, Fall 2011  
Economics of Resource Scarcity, Texas A&M University, Spring 2009

Calculus II, University of Illinois-Chicago, Spring 2005  
Finite Mathematics for Business, University of Illinois-Chicago, Fall 2004

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## Presentations

October 2011 Theory and Experimental Economics Workshop, Texas A&M University  
March 2010 Student Research Week, Texas A&M University

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## Professional Experience

2005-2007 **Research Analyst**, *IPOX-Schuster LLC*, Chicago, IL.  
Primary responsibilities included database programming, equity research, and equity index back-testing

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## Fellowships, Honors & Awards

2011 **S. Charles Maurice Graduate Fellowship in Economics**, *Texas A&M University*.  
Awarded to outstanding 4th year economics Ph.D. student

2009, 2010 **Private Enterprise Research Center Summer Fellowship**, *Texas A&M University*.  
Designed to support outstanding 2nd or 3rd year Ph.D. students doing research in the summer.

2007-present **Graduate Assistantship**, *Texas A&M University*.

2003 **University Fellowship**, *University of Illinois-Chicago*.  
University-wide award meant to support outstanding students newly admitted to graduate programs.

2001 **NSF Research Experience for Undergraduates**, *Northern Arizona University*.

1999 **Oklahoma State Regents for Higher Education Scholar**.  
5-year full scholarship to an Oklahoma University for achieving an ACT score in the top 99.5 percentile

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## References

### **Rajiv Sarin (chair)**

Professor  
University of Birmingham  
previously:  
Alfred F. Chalk Professor  
Texas A&M University  
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e-mail: [r.sarin@bham.ac.uk](mailto:r.sarin@bham.ac.uk)

### **Brit Grosskopf (member)**

Professor  
University of Birmingham  
previously:  
Associate Professor  
Texas A&M University  
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### **Silvana Krasteva(member)**

Assistant Professor  
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### **John Allen (teaching)**

Professor (retired)  
Texas A&M University  
e-mail: [jwatx@suddenlink.net](mailto:jwatx@suddenlink.net)

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## Technical Skills

Matlab, Mathematica, Octave, R, Stata, SAS, L<sup>A</sup>T<sub>E</sub>X, C, Java, Excel VBA