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**EDUCATION**

Ph.D. Economics, University of Maryland at College Park, expected May 2012  
M.A. Economics, University of Maryland at College Park, December 2009  
B.S. Physics, University of Texas at Austin, December 1998

**DISSERTATION**

*Information Contagion*  
Committee: Professor John Rust (Chair), Professor Ginger Jin, Professor Emel Filiz-Ozbay

**FIELDS OF SPECIALIZATION**

Primary: Applied Microeconomics, Industrial Organization  
Secondary: Information Economics, Computational Economics

**PUBLICATIONS AND PAPERS**

“Information Contagion with Costly Communication”, *Job Market Paper*.  
*Presented at the Workshop on Information in Networks, September 2010*

“Can the Job Market for Economists Be Improved?”, *Oxford Handbook of Market Design*  
(forthcoming) with Sarbartha Bandyopadhyay, Fedor Iskhakov, Terence Johnson,  
Soohyung Lee, John Rust, Joel Watson and John Watson

“Cognition and Satisfaction Guarantees”, *working paper*

“Search and Bargaining with Plastic: Money and Charge Cards as Competing Media of  
Exchange”, *working paper*

“Technology Adoption and the Shimer Puzzle”, *working paper*

“System and method for enabling file transfers executed in a network environment by a  
software program”, *U.S. Patent #6907463 issued June 2005* with Tom Kleinpeter  
and Michael Merhej

**TEACHING EXPERIENCE**

*Instructor*, Money and Banking (Undergraduate), UMD, Summer 2011  
*Teaching Assistant*, Money and Banking (Undergraduate), UMD, Fall 2011

**RESEARCH EXPERIENCE**

*Research Assistant*, Prof. John Rust, UMD, Fall 2006-Spring 2011

**OTHER EXPERIENCE**

*Founder, Vice President*, ByteTaxi Inc. 2002-2003. Creator of *foldershare.com*, a peer-to-peer application for remote file management. Acquired by Microsoft in 2005.

*Founder, Vice President*, Audiogalaxy, Inc. 1998-2002. Internet music company with peer-to-peer file-sharing. In 2002 Audiogalaxy had 25 employees and 35 Million users.

**REFERENCES**

Prof. John Rust	University of Maryland	<a href="mailto:jrust@gemini.econ.umd.edu">jrust@gemini.econ.umd.edu</a>	(301) 405-3489
Prof. Ginger Jin	University of Maryland	<a href="mailto:ginger@umd.edu">ginger@umd.edu</a>	(301) 405-3484
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## ABSTRACTS

### *“Information Contagion”* [Job Market Paper]

In data from a large index of blogs, social media and news websites, the number of documents containing a given phrase follows a heavy-tailed distribution — most phrases appear rarely, while a small portion appear very many times. The count distribution is very similar for any subset of phrases regardless of topic, implying it is not related to the information content. This phenomenon is consistent with an epidemiological model of information diffusion where many facts spread through a population like competing viruses and social media is a vector of transmission. In the model, agents communicate facts by posting messages which other agents may read and potentially re-post. Whichever fact happens to spread first becomes more likely to spread again. Thus information received through a social network can be skewed simply because propagation from person to person is a stochastic process that amplifies small differences in information availability. The contagion model can be solved analytically under strong assumptions including bounded rationality. The predicted distribution is a generalized Yule-Simon which fits the data well. Relaxing these assumptions and providing a microeconomic foundation for individuals' communication decisions requires a computational solution. Agents solve a dynamic problem to choose how many messages to post faced with a convex cost, a constant value of learning facts, and assuming agents split the expected surplus of communication. Since recipients get additional value from re-posting, this surplus depends on the entire future path of contagion. The distribution of facts that satisfies rational expectations is found by a fixed point algorithm with Monte Carlo simulation of the contagion process. The numerical solution matches the data both in distribution and in the time profile of new messages. The numerical distribution is also well approximated by the generalized Yule-Simon distribution from the analytical solution, meaning that individuals' optimal communication choices are overwhelmed in aggregate by the contagion effect.

### *“Can the Job Market For Economists Be Improved?”*

(with S. Bandyopadhyay, F. Iskhakov, T. Johnson, S. Lee, J. Rust, J. Watson and J. Watson)

We consider the effects of a new institution in the job market for PhD economists, EconJobMarket.org (EJM), which facilitates the exchange of information between applicants and recruiters. EJM lowers both the cost of applying to a position and the cost of evaluating a given applicant. We explore how this effects the quality of the match in the two-sided search problem, including the possibility of an inferior match when recruiters are less able to evaluate the increased number of applications despite the lowered cost per application.

### *“Cognition and Satisfaction Guarantees”*

A response to Tirole (2008) “Cognition and Incomplete Contracts”. Satisfaction guarantees in sales contracts can remove the problem of over-cognition. If thinking about the buyer's needs ahead of time is costly and imperfect, then in expectation it may be less costly to deliver a standard product and make changes to it after the buyer's realizes another design would be preferred.

### *“Search and Bargaining with Plastic: Money and Charge Cards as Competing Media of Exchange”*

Charge cards are introduced into a money search model to examine the implications of intermediated exchange. Charge cards lower the cost of inflation, and can make some inflation beneficial. A higher cost of holding money can push agents to become cardholders, which results in a higher quantity of goods being exchanged. Higher nominal interest rates can also help card companies set higher spending limits, which can also increase the level of exchange.

### *“Technology Adoption and the Shimer Puzzle”*

A labor search model with productivity shocks that are heterogeneous across job tenure matches labor market fluctuations at business cycle frequencies much better than the standard model.

## PERSONAL INFORMATION

Citizenship: U.S.

Gender: Male

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