

## AYEH BANDEH-AHMADI

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### EDUCATION

*Ph.D.* Economics, University of Maryland at College Park, expected June 2012  
*M.A.* Economics, University of Maryland at College Park, December 2008  
*B.S.* Physics & Economics (double major), California Institute of Technology, June 2002

### DISSERTATION

*Industry Structure of Innovation Landscapes: Case Studies in Public Firms and Editorial Decisions*  
Committee: Prof. John Rust (Chair), Prof. Peter Murrell, Prof. Ginger Jin

### FIELDS OF SPECIALIZATION

*Primary:* Industrial Organization, Financial Economics, Applied Microeconomics  
*Secondary:* Computational & Network Economics, Econometrics, Labor, Technical Change and R&D

### PAPERS AND PUBLICATIONS

“Evaluating the Role of Editorial Decisions on Innovation Landscapes” (Job Market Paper)  
“Industry Structure and Its Determinants” (working paper, Presented at Workshop on Information Networks, NYU Stern 2011)  
“Defense Firm Mergers and Acquisitions,” Institute for Defense Analyses (IDA) Paper P-4602 Volumes 1 & 2  
“Tailoring Active Duty Commitments for Reserve Component Service Members,” IDA Paper NSP-4751.  
(Presented at Western Economics Association Meeting 2011)

### TEACHING EXPERIENCE

*Instructor*, Workshop on Empirical Tools for Network Economics, Univ. of Maryland, 2011  
*Tutor (Game Theory, Adv. Macroeconomics, Microeconomics)*, Univ. of Maryland, 2006-present  
*Algebra & Geometry Tutor*, Building Better Futures, Alexandria City Public Schools, 2005-2010  
*Founding Co-Director*, IDA Educ Outreach Program (five-time award-winning 50-person program), 2004-present  
*Teaching Assistant*, California State University Sacramento: Algebra I & II, Summer 1995, 1996.

### WORK EXPERIENCE

*Research Assistant*, Prof. John Rust, University of Maryland, September 2006 – present  
*Research Assistant*, Prof. Robert Axtell, George Mason Univ. Center for Social Complexity, 2009-2010  
*Adjunct Research Staff*, Institute for Defense Analyses (IDA), 2002 - present  
Led development of economic models and optimal contracts for managing military labor force, estimating terrorism risks in financial sector, and advising on competition/innovation effects of mergers & acquisitions for research sponsors including Depts of State, Treasury, Homeland Security, Defense, NSF & White House.  
*Senior Scientist & Advisor*, Quid Inc. (formerly YouNoodle), 2009 - present  
Developed algorithms for identifying and analyzing multi-sided industries & competitors among startups and innovation industries as well as their investors, attracting \$10M investment, featured in BusinessWeek, Harvard Business Review, and briefed to Prime Minister of UK, Office of Secretary of Defense, & others.  
*Consultant*, MergeGlobal Inc., 2002  
*Physicist*, Lawrence Livermore National Lab, 1996 - 1999

### AWARDS

Graduate Assistantship, University of Maryland 2006-2011  
NIST Technology Innovation Program Scholarship, 2010-2011  
Robert Noland Leadership Award & Scholarship, Caltech 2002  
John Isaacs Scholarship, Calif State Science Fair (\$10,000), 1998  
Richard Hayman Scholar, Caltech 2001-2002  
Robinson Scholarship, Caltech 1999-2001  
Kanel Foundation Scholar, Caltech, 1999-2002

**REFERENCES**

John Rust	University of Maryland	jrust@gemini.econ.umd.edu	(301) 405-3489
Peter Murrell	University of Maryland	murrell@econ.umd.edu	(301) 405-3476
Ginger Jin	University of Maryland	jin@econ.umd.edu	(301) 405-3484

**SELECTED PAPERS***“Evaluating the Role of Editorial Decisions on Innovation Landscapes” (Job Market Paper)*

Through semantic and econometric analysis of paper revisions, referee reviews, and citations from editorial databases covering 2004-2009, I study the determinants of editorial and referee decisions as well as the information content of referee review. I disambiguate referee language that are significant predictors of referee scores versus predictors of eventual citations, developing an estimator of potential impact for all reviewed submissions, published or unpublished. I also measure submissions' textual overlap with past accepted articles in the same journal. Using these metrics, I develop and estimate a model of editorial decision-making over submissions' impact potential, accuracy, fit within a journal's niche and other characteristics. I present results on editorial and referee preferences over these characteristics as well as bias for mentions of the editors' own work throughout the evaluation process.

*“Industry Structure and Its Determinants” (working paper, Presented at WIN, NYU Stern 2011)*

Using textual analysis of business descriptions from public filings of over 24,000 companies in the CRSP/COMPUSTAT merged database, this work develops a network representation of relationship strength between firms. The study findings together with past work on textual determinants of firm competitors make a strong case for the networked nature and complex structure of relationships between companies rather than distinct markets or even isolated multi-sided market relationships typically studied in economic literature. This complexity of relationships between firms and markets raises questions about the nature of concentration and the role of a firm's environment in determining positive/negative spillovers it experiences, incentives for innovation and other firm behavior, as well the lifecycle and dynamics of firms and markets. Here, I extend past work on industry structure by decomposing the economic factors that contribute to the strength of textual overlap. By estimating an econometric model of co-movement amongst various firm factors, I identify and decompose textual factors associated with different types of firm relationships including co-movement of growth in R&D, sales, advertising, and labor force. I show that these factors are independent of each other and significant for understanding market structure and predicting innovation outcomes. Finally, I develop a theoretical framework for studying why such multi-sided relationships between firms emerge and evolve.

*“Mortgage Markets with Lender Competition and Asymmetric Information” (working paper)*

This analysis introduces a theoretical framework for assessing empirical discussion of asymmetric information amongst mortgage lenders and adds the idea of lender competition into this framework. Results are generally consistent with previous findings that diversified lenders will act as uninformed investors, selling most of their mortgages and making less profit off each mortgage while concentrated lenders do the opposite. However, if lenders can resell mortgages in a setting (either directly or via securitization) where information-sharing is allowed, diversified lenders will still be able to extract full profit.

*“How do Navy Officers Respond to Changes in Pay & Commitments: A Dynamic Retention Model for Evaluating Changes in the Critical Skills Retention Bonus” (working paper, IDA)*

This paper offers a dynamic retention model of the Navy Surface Warfare Officer population. I estimate officers' annualized decisions to stay in the military, leave, or make additional commitments in exchange for a Critical Skills Retention Bonus using a thirty-year time horizon, random-effects expected utility model incorporating a taste distribution for military service that is fitted to data on actual stay and leave rates. Results show significant expected variation between retention of officers with different levels of prior enlisted service, which points to the potential for meeting labor demand with prior-enlisted officers at mid-career levels, and show significant potential cost-savings may be possible by increasing bonuses associated with additional commitments.

**PERSONAL INFORMATION**

**Citizenship:** U.S. **Gender:** Female **Languages:** English, Farsi (native); German (int); Arabic, Spanish (basic)