

CHRIS FORMAN
PETER AND STEPHANIE NOLAN PROFESSOR OF APPLIED ECONOMICS AND
MANAGEMENT
CHARLES H. DYSON SCHOOL OF APPLIED ECONOMICS AND MANAGEMENT
CORNELL UNIVERSITY

I. EARNED DEGREES

- June 2002 **Northwestern University**, Evanston, IL
Ph.D., Managerial Economics and Strategy
Thesis: Organizations, User Choice, and the Data Communications Revolution
- May 1994 **University of Pennsylvania**, Philadelphia, PA
B.A., Major: Economics; Minor: Mathematics (*summa cum laude*)

II. WORK EXPERIENCE

- 7/16 - **Cornell University**, Ithaca, NY
Peter and Stephanie Nolan Professor of Applied Economics and Management, Charles
H. Dyson School of Applied Economics and Management
- 9/19 – **ZEW**, Mannheim, Germany
Research Associate
- 1/16 – 5/17 **Georgia Institute of Technology**, Atlanta, GA
Professor (with Alton M. Costley Chair of Sales and Management), Scheller College of
Business
- 4/13 – 12/15 **Georgia Institute of Technology**, Atlanta, GA
Professor (with Brady Family Term Professorship), Scheller College of Business
- 7/12 – 4/13 **Georgia Institute of Technology**, Atlanta, GA
Associate Professor (with Brady Family Term Professorship), Scheller College of
Business
- 11/12 – 12/18 **Federal Reserve Bank of Atlanta**, Atlanta, GA
Visiting Scholar
- 8/09 – 6/12 **Georgia Institute of Technology**, Atlanta, GA
Associate Professor (with Robert & Stevie Schmidt Term Professorship), College of
Management
- 8/07 – 7/09 **Georgia Institute of Technology**, Atlanta, GA
Assistant Professor (with Robert & Stevie Schmidt Term Professorship, 5/08 – 7/09),
College of Management
- 8/02 – 7/07 **Carnegie Mellon University**, Pittsburgh, PA
Assistant Professor, Tepper School of Business
- 6/04 **Federal Reserve Bank of San Francisco**, San Francisco, CA
Visiting Scholar, Economic Research
- 9/99 – 6/02 **Northwestern University**, Evanston, IL
Instructor, Kellogg School of Management

- 6/99 – 9/99 **Board of Governors of the Federal Reserve System**, Washington, DC
Summer Intern, Industrial Output Division
- 5/94 – 8/96 **Lehman Brothers**, Boston, MA
Associate Economist, Global Economics
- 5/93 – 8/93 **National Westminster Bank**, Bridgewater, NJ
Summer Intern, Call Center Operations

III. TEACHING

A. INDIVIDUAL STUDENT GUIDANCE

Students who have completed their dissertations (PhD)

Co-advisor for Vijayaraghavan Venkataraman (Georgia Tech)

Thesis: Essays on Platform Ecosystems

Graduation: Summer 2019

Initial Placement: Indian Institute of Management Bangalore (India)

Co-advisor for Patricia Angle (Georgia Tech)

Thesis: IT-Enabled Business Practices: Empirical Investigations of Productivity and Innovation

Graduation: Summer 2019

Initial Placement: Florida Gulf Coast University

Principal Advisor for Jiao Xu (Georgia Tech)

Thesis: Consumer Adoption and Usage Behavior on the Mobile Internet

Graduation: Winter 2015

Initial Placement: University of Wisconsin-Madison

Co-advisor for German Retana (Georgia Tech)

Thesis: Technology Support and Demand for Cloud Infrastructure Services: The Role of Service Providers

Graduation: Summer 2013

Initial Placement: INCAE (Costa Rica)

Committee Member for Tianshi Wu (Georgia Tech)

Thesis: Essays on Learning by Doing after Information Systems Implementation in Developing Countries: The Case of Costa Rica.

Graduation: Summer 2013

Initial Placement: Harbin Institute of Technology (China)

Principal Advisor for Wen Wen (Georgia Tech)

Thesis: The Implications of Incumbent Intellectual Property Strategies for Open Source Software Success and Commercialization

Graduation: Summer 2012

Initial Placement: University of Texas Austin

Committee Member for Peng Huang (Georgia Tech)

Thesis: Essays on Innovation Ecosystems in the Enterprise Software Industry

Graduation: Summer 2010

Initial Placement: University of Maryland (College Park)

Committee Member for Bryon Balint (Carnegie Mellon)

Thesis: Capabilities and Learning in eSourcing

Graduation: Spring 2010

Initial Placement: Belmont University

Committee Member for Nishtha Langer (Carnegie Mellon)

Thesis: Essays on Outsourcing

Graduation: Spring 2007

Initial Placement: Indian School of Business

Committee Member for Ji Woong Yoon (Carnegie Mellon)

Thesis: Essays on Technology Innovation and Policy

Graduation: Fall 2005

Initial Placement: Kyung Hee University

Current Ph.D. Students

Doctoral Advisory Committee Member (Primary Advisor), Xiaomeng Chen, PhD, Graduate Field of Applied Economics and Management, In-Process. (2016 - Present). (Cornell)

Doctoral Advisory Committee Member (Primary Advisor), Ruyun Chen, PhD, Graduate Field of Applied Economics and Management, In-Process (2018 – Present). (Cornell)

Doctoral Advisory Committee Member, Xiaolu Wang, PhD, Graduate Field of Economics, In-Process (2017-Present). (Cornell)

Students who have completed their Master's Thesis

Thesis Supervisor, Chenyang Cao, Graduate Field of Applied Economics and Management, 2019. (Cornell)

Other Dissertation Committees

- Saram Han, School of Hotel Administration, Cornell University, 2019
- Hongchang Wang, Scheller College of Business, Georgia Institute of Technology, 2019.
- Jessica Pye, Robinson College of Business, Georgia State University, 2018 (external reader).
- Mike Frutiger, Scheller College of Business, Georgia Institute of Technology, 2015.
- Hemang Subramanian, Scheller College of Business, Georgia Institute of Technology, 2015.
- Marcus Bellamy, Scheller College of Business, Georgia Institute of Technology, 2015.
- Dawei Zhang, Haskayne School of Business, University of Calgary, 2013 (external reader)
- Hyun Jung, Scheller College of Business, Georgia Institute of Technology, 2013.
- Vincenzo Palermo, Scheller College of Business, Georgia Institute of Technology, 2013, Post-doctoral fellow, University of Toronto.
- Rodrigo Belo, Engineering and Public Policy, Carnegie Mellon University, 2012, Post-doctoral Fellow, Carnegie Mellon University (external reader)

- Lin Jiang, College of Management ,Georgia Institute of Technology, 2010, Assistant Professor, Robert Trulaske College of Business, University of Missouri.
- Byung Cho Kim, Tepper School of Business, Carnegie Mellon University, 2007, Assistant Professor, Pamplin College of Business, Virginia Institute of Technology
- Jeff Roberts, Tepper School of Business, Carnegie Mellon University, 2006, Assistant Professor, A.J. Palumbo School of Business Administration, Duquesne University

Research with Undergraduate Students

- Karan Jhurani, Georgia Institute of Technology, Industry Dynamics in Enterprise Software, Summer 2008 – Fall 2008.

B. OTHER TEACHING ACTIVITIES

Courses Taught at Cornell for academic appointment

Business Processes, Analytics and Enterprise Systems (AEM 4610), Undergraduate, 2017-2019.
 Digital Platform Strategy (AEM 4615), 2017-present.¹
 Digital Platform Strategy (NBA 5615), 2017-present.
 Applied Micro Economics II (AEM 7020), PhD, 2017-2018.
 Models and Methods for Causal Inference in Management Research (AEM 7023), PhD, 2019-present.

Courses Taught at Georgia Tech for academic appointment

Business Process Analysis and Design, MBA, 2007-2016
 Business Process Analysis and Design, Undergraduate, 2007-2016
 Business Process Analysis and Design, Undergraduate – Technology & Mgmt Program, 2015-2016
 Special Topics in Management (Ph.D. Seminar in IT Management), Ph.D., 2009, 2010, 2013, 2016

Executive education courses taught at Georgia Tech

Technology Forecasting, Executive MBA, 2011-2015
 China Mobile Program, Non-degree executive education, 2014

Courses Taught at Carnegie Mellon

Information Technology Management, MBA, 2006-2007
 Real Time Decisions with Resource Planning Systems, MBA, 2005-2007
 Telecommunications and Network Management, Undergraduate, 2005-2007
 Management Information Systems, Undergraduate, 2002-2005
 Seminar in Information Systems, Ph.D., 2003-2004, 2006-2007

Pedagogical Materials Developed

1. Nabil Al-Najjar, Sandeep Baliga, and Chris Forman, “Sugar Daddy: Quotas and the U.S. Government” (Kellogg teaching case)

Illustrates welfare concepts such as consumer surplus, producer surplus, and dead-weight loss in a concrete, real-world market context.

¹ Between 2017-2019, AEM 4615 and NBA 5615 were co-meeting courses.

2. Nabil Al-Najjar, Sandeep Baliga, and Chris Forman, “Steel Wars: A Battle for the Future of American Steel” (Kellogg teaching case)

Studies the impact of tariffs, subsidies, and quotas on the U.S. steel market. Focuses on "winners" and "losers" from different policies. Applications to the events in the U.S. steel market in 2001 illustrate the impact of these policies.

IV. SCHOLARLY ACCOMPLISHMENTS

A. PUBLISHED BOOKS AND PARTS OF BOOKS

1. Forman, Chris, Avi Goldfarb, and Shane Greenstein (2018) “How Geography Shapes—and is Shaped by—The Internet” *The New Oxford Handbook of Economic Geography*, Gordon L. Clark, Maryann P. Feldman, Meric Gertler, and Dariusz Wojcik, Oxford University Press, pp. 269-285. <http://doi.org/10.1093/oxfordhb/9780198755609.013.21>
2. Forman, Chris (2015) “Comment: What are We Doing When We’re Not Online” In *Economic Analysis of the Digital Economy*, Avi Goldfarb, Shane Greenstein, and Catherine Tucker (Eds.), University of Chicago Press.
3. Forman, Chris, Avi Goldfarb, and Shane Greenstein (2015) “Information Technology and the Distribution of Inventive Activity” In *The Changing Frontier: Rethinking Science and Innovation Policy*, Adam Jaffe and Ben Jones (Eds.), University of Chicago Press.
4. Forman, Chris (2014) “How Has Information Technology Use Shaped the Geography of Economic Activity?” *Handbook of Economic Geography and Industry Studies*, Frank Giaratanni, Geoffrey Hewings, and Philip McCann (Eds.), Edward Elgar, pp. 253-270.
5. Forman, Chris, Avi Goldfarb, and Shane Greenstein (2013) “Technology Adoption” In *The Palgrave Encyclopedia of Strategic Management*, Mie Augier and David Teece (Ed.), Palgrave Macmillan, Available at: <http://www.palgraveconnect.com/esm/doi/10.1057/9781137294678.0011>.
6. Forman, Chris and Avi Goldfarb (2008) “How has electronic commerce research advanced understanding of the offline world,” *Statistical Methods in Ecommerce Research*, Wolfgang Jank and Galit Shmueli (Eds.), New York: Wiley, p. 19-34 (refereed).
7. Arora, Ashish, Chris Forman, and Ji Woong Yoon (2008) “Software,” In *Innovation in Global Industries: U.S. Firms Competing in a New World*, David C. Mowery and Jeff Macher (Eds.), Washington, DC: National Academies Press, p. 53-100 (refereed).
8. Forman, Chris and Avi Goldfarb (2006) “Diffusion of Information and Communication Technologies to Businesses,” In *Handbooks in Information Systems, Volume 1: Economics and Information Systems*, Terrence Hendershott (Ed.), Amsterdam: Elsevier, p. 1-52 (reviewed by editor).
9. Forman, Chris, Avi Goldfarb, and Shane Greenstein (2003a) “The Geographic Dispersion of Commercial Internet Use,” In *Communications Policy and Information Technology: Promises, Problems, Prospects*, Steven Wildman and Lorrie Cranor (Eds.), Cambridge: MIT Press, p. 113-145 (refereed).
10. Forman, Chris, Avi Goldfarb, and Shane Greenstein (2003b) “Which Industries Use the Internet?” In *Organizing the New Industrial Economy: Advances in Applied Microeconomics – vol. 12*, Michael Baye (Ed.), Bristol, UK: Elsevier, p. 47-72 (reviewed by editor).

B. REFERRED PUBLICATIONS

B.1 Published or Forthcoming Papers in Refereed Journals

1. Forman, Chris and Nicolas van Zeebroeck, (2019), "Digital technology adoption and knowledge flows within firms: Can the Internet overcome geographic and technological distance?," *Research Policy* 48: 1-16 <https://doi.org/10.1016/j.respol.2018.10.021>
2. Xu, Jiao (Tina), Chris Forman, and Yu (Jeffrey) Hu, (2019), "Battle of the Internet Channels: How Does Mobile and Fixed-Line Quality Drive Internet Use," *Information Systems Research* 30(1): 65-80 <https://doi.org/10.1287/isre.2018.0776>
3. Breznitz, Dan, Chris Forman, and Wen Wen, (2018), "Venture Capital's Role in the Formation of a New Technological Ecosystem: Evidence from the Cloud," *MIS Quarterly* 42(4): 1143-1169. DOI: 10.25300/MISQ/2018/13577
4. Retana, German, Chris Forman, Sridhar Narasimhan, Marius Florin Niculescu, and D.J. Wu., (2018), "Technology Support and Post-Adoption IT Use: Evidence from the Cloud," *MIS Quarterly* 42(3): 961-978. <https://doi.org/10.25300/MISQ/2018/13064>
5. Balint, B., Forman, C., Slaughter, S., (2017), "Process Capability and Performance in Business Services Offshoring," *International Journal of Services Sciences* 6(1): 56-77.
6. Wen, Wen, Marco Ceccagnoli, and Chris Forman, (2016), "Opening Up Intellectual Property Strategy: Implications for Open Source Software Entry by Start-up Firms," *Management Science* 62(9): 2668-2691.
7. Forman, Chris, Avi Goldfarb, and Shane Greenstein, (2016), "Agglomeration of Invention in the Bay Area: Not Just ICT." *American Economic Review: Papers & Proceedings* 106(5): 146-151. (not refereed)
8. Retana, German, Chris Forman, and D.J. Wu, (2016) "Proactive Customer Education, Customer Retention, and Demand for Technology Support: Evidence from a Field Experiment," *Manufacturing and Service Operations Management (MSOM)* 18(1): 34-50.
9. Overby, Eric and Chris Forman, (2015) "The Effect of Electronic Commerce on Geographic Purchasing Patterns and Price Dispersion," *Management Science* 61(2): 431-453.
10. Dranove, David, Chris Forman, Avi Goldfarb, and Shane Greenstein, (2014) "The Trillion Dollar Conundrum: Complementarities and Health Information Technology," *American Economic Journal: Economic Policy* 6(4): 239-270.
11. Xu, Jiao, Chris Forman, Jun Kim, and Koert Van Ittersum, (2014) "News Media Platforms: Complements or Substitutes? Evidence from mobile phone usage" *Journal of Marketing* 78(July): 97-112.
12. Forman, Chris, John Leslie King, and Kalle Lyytinen (2014) "Special Section Introduction—Information, Technology, and the Changing Nature of Work." *Information Systems Research* 25(4): 789-795. (not refereed)
13. Wen, Wen, Chris Forman, and Stuart Graham, (2013) "Research Note: The Impact of Intellectual Property Enforcement on Open Source Adoption," *Information Systems Research* 24(4): 1131-1146.

14. Huang, Peng Huang, Marco Ceccagnoli, Chris Forman, and D.J. Wu, (2013) "Appropriability Mechanisms and the Platform Partnership Decision: Evidence from Enterprise Software," *Management Science* 59(1): 102-121.
15. Langer, Nishtha, Chris Forman, Sunder Kekre, and Baohong Sun, (2012) "Ushering Buyers into Electronic Channels: An Empirical Analysis," *Information Systems Research* 23(4): 1212-1231.
16. Forman, Chris and Nicolas van Zeebroeck, (2012) "From wires to partners: How the Internet has fostered R&D collaborations within firms," *Management Science* 58(8): 1549-1568.
17. Ceccagnoli, Marco, Chris Forman, Peng Huang, and D.J. Wu, (2012) "Co-creation of Value in a Platform Ecosystem: The Case of Enterprise Software," *MIS Quarterly* 36(1): 263-290.
18. Forman, Chris, Avi Goldfarb, and Shane Greenstein, (2012) "The Internet and Local Wages: A Puzzle" *American Economic Review* 102(1): 556-575.
19. Forman, Chris and Anne Gron, (2011) "Vertical Integration and Information Technology Investment in the Insurance Industry," *Journal of Law, Economics, and Organization* 27(1): 180-218.
20. Arora, Ashish, Chris Forman, and Jiwoong Yoon, (2010) "Complementarity and information technology adoption: Local area networks and the Internet," *Information Economics and Policy* 22(3): 228-242.
21. Arora, Ashish, Chris Forman, Anand Nandkumar, and Rahul Telang, (2010) "Competition and patching of security vulnerabilities: An empirical analysis," *Information Economics and Policy* 22(2): 164-177.
22. Forman, Chris, Anindya Ghose, and Avi Goldfarb (2009) "Competition between Local and Electronic Markets: How the benefit of buying online depends on where you live," *Management Science* 55(1): 47-57.
23. Forman, Chris, Anindya Ghose, and Batia Wiesenfeld (2008) "Examining the Relationship Between Reviews and Sales: The Role of Reviewer Identity Disclosure in Electronic Markets," *Information Systems Research* 19(3): 291-313.
24. Forman, Chris, Avi Goldfarb, and Shane Greenstein (2008) "Understanding the Inputs into Innovation: Do Cities Substitute for Internal Firm Resources?" *Journal of Economics and Management Strategy* 17(2): 295-316.
25. Langer, Nishtha, Chris Forman, Sunder Kekre, and Alan Scheller-Wolf (2007) "Assessing the Impact of RFID on Return Center Logistics" *Interfaces* 37(6): 501-514.
26. Arora, Ashish and Chris Forman (2007) "Proximity and Information Technology Outsourcing: How Local are IT Services Markets" *Journal of Management Information System* 24(2): 73-102.
27. Chen, Pei-yu and Chris Forman (2006) "Can Vendors Influence Switching Costs and Compatibility in an Environment with Open Standards?" *MIS Quarterly* 30(Special Issue): 541-562.
28. Forman, Chris (2005) "The Corporate Digital Divide: Determinants of Internet Adoption," *Management Science* 51(4): 641-654.
29. Forman, Chris, Avi Goldfarb, and Shane Greenstein (2005) "How Did Location Affect Adoption of the Commercial Internet? Global Village vs. Urban Leadership," *Journal of Urban Economics* 58(3): 389-420.

30. Doms, Mark and Chris Forman (2005) "Prices for Local Area Network Equipment," *Information Economics and Policy* 17(3): 365-388.
31. Forman, Chris, Avi Goldfarb, and Shane Greenstein (2005) "How do industry features influence the role of location on Internet adoption?" *Journal of the Association for Information Systems* 6(12): 383-408.
32. Forman, Chris, Avi Goldfarb, and Shane Greenstein (2005) "Geographic Location and the Diffusion of Internet Technology," *Electronic Commerce Research and Applications* 4(1): 1-10.

B.2 Submitted Journal Articles and Working Papers

33. Huang, Peng, Marco Ceccagnoli, Chris Forman, and D.J. Wu, "IT Knowledge Spillovers and Productivity: Evidence from Enterprise Software," under second round review, *Information Systems Research*.
34. Forman, Chris and Kristina McElheran, "Firm Organization in the Digital Age: IT Use and Vertical Transactions in U.S. Manufacturing," under revision for third round review, *Management Science*.
35. Wen, Wen, Chris Forman, and Sirkka Jarvenpaa, "The Effects of Technology Standards on Infrastructure Complementor Innovation: Evidence from the IETF," under first round review, *Information Systems Research*.
36. Angle, Patricia, and Chris Forman, "Does IT Level the Playing Field for Small Establishments? Evidence from Manufacturing," under revision for second round review, *Information Systems Research*.
37. Chen, Xiaomeng, Chris Forman, and Michael Kummer, "Chat more and contribute Better: An empirical study of a knowledge-based economy."
38. Venkataraman, Vijay, Marco Ceccagnoli, and Chris Forman "Multihoming within platform ecosystems: The strategic role of human capital," under revision.

B.3 Conference Presentation with Proceedings (Refereed)

1. Venkataraman, Vijay, Marco Ceccagnoli, and Chris Forman, "Multihoming within Platform Ecosystems: The Strategic Role of Human Capital," *Proceedings of the 40th International Conference on Information Systems*, December 2019.
2. Forman, Chris and Nicolas van Zeebroeck, "Internet Adoption and Knowledge Diffusion," *Proceedings of the 23rd European Conference on Information Systems*, June 2015.
3. Brezniz, Dan, Chris Forman, Wen Wen, "The role of venture capitalists in the formation of new technological trajectories: Evidence from the Cloud," *Proceedings of the 35th International Conference on Information Systems*, December 2014.
4. Xu, Jiao, Chris Forman, Jun Kim, Koert van Ittersum, "News Media Channels: Complements or Substitutes: Evidence from Mobile Phone Usage," *Proceedings of the 34th International Conference on Information Systems*, December 2013.
5. Retana, German, Chris Forman, Sri Narasimhan, Florin Niculescu, and D.J. Wu, "Technical Support and IT Capacity Demand: Evidence from the Cloud," *Proceedings of the 33rd International Conference on Information Systems*, December 2012.

6. Forman, Chris and Nicolas van Zeebroeck, "From wires to partners: How the Internet has fostered R&D collaborations within firms," *Proceedings of the 31st International Conference on Information Systems*, December 2010.
7. Wen, Wen, Chris Forman, and Stuart Graham, "Threat to Freedom: The Impact of Intellectual Property Enforcement on Open Source Adoption," *Proceedings of the 31st International Conference on Information Systems*, December 2010.
8. Overby, Eric and Chris Forman, "The Market is Flat (Or Is It?) The Effect of Electronic Trading on Buyer Reach, Geographic Transaction Activity, and Geographic Price Variance," *Proceedings of the 30th International Conference on Information Systems*, December 2009.
9. Huang, Peng, Ceccagnoli, Marco, Chris Forman, and D.J. Wu, "When Do ISVs Join a Platform Ecosystem: Evidence from the Enterprise Software Industry," *Proceedings of the 30th International Conference on Information Systems*, December 2009.
10. Arora, Ashish and Chris Forman "Proximity and Software Programming: IT Outsourcing and the Local Market," *Proceedings of the 40th Hawaii International Conference on System Sciences*, January 2007.
11. Forman Chris, Anindya Ghose, and Avi Goldfarb "The Impact of Location on Consumer Purchases in Electronic Markets," *Proceedings of the 27th International Conference on Information Systems*, December 2006.
12. Forman, Chris and Anne Gron "Vertical Integration and Information Technology Adoption: A Study of the Insurance Industry," *Proceedings of the 38th Hawaii International Conference on System Sciences*, eds. Ralph H. Sprague, Jr., January 2005.
13. Forman, Chris, Avi Goldfarb, and Shane Greenstein "Adoption of the Internet by Commercial Establishments: Urban Density, Global Village, and Industry Composition," *Proceedings of the Fifth International Conference on Electronic Commerce*.
14. Forman, Chris "Switching Costs, Network Effects, and Networking Equipment: Compatibility and Vendor Choice in the Market for LAN Equipment," *Proceedings of the 23rd International Conference on Information Systems*.

C. OTHER PUBLICATIONS

C.1 Other Non-refereed publications

1. Wen, Wen and Chris Forman (2016) "Do Patent Commons and Standards-Setting Organizations Help Navigate Patent Thickets?" *Communication of the ACM* 59(5): 42-43.
2. OECD (2014) "The Economics of Transition to Internet Protocol version 6 (IPv6)" *OECD Digital Economy Papers*, No. 244, OECD Publishing. (Report prepared by Chris Forman, Reviewed by delegates of OECD prior to publication).
3. Forman, Chris, Avi Goldfarb, and Shane Greenstein (2014) "Did the internet prevent all invention from moving to one place?" VoxEU, Available at <http://www.voxeu.org/article/did-internet-prevent-all-invention-moving-one-place>.
4. Marco Ceccagnoli, Chris Forman, Peng Huang, and D.J. Wu (2014) "Digital Platforms: When is Participation Valuable?," *Communication of the ACM* 57(2): 38-39.

5. Forman, Chris, Avi Goldfarb, and Shane Greenstein (2012) “The internet is everywhere, but the payoff is not,” *Communications of the ACM* 55(8): 34-35.
6. Forman, Chris (2010) “Book Review: The Digital Economy: Business Organization, Production Processes, and Regional Development” *Journal of Regional Science* 50(3): 781-782.
7. Arora, Ashish, Matej Drev, and Chris Forman (2009) “Viewpoints: The Extent of Globalization of Software Innovation,” *Communications of the ACM* 52(2): 20-22.
8. Forman, Chris, Avi Goldfarb, and Shane Greenstein (2004) “City or Country: Where Do Businesses Use the Internet?” *Federal Reserve Bank of San Francisco Economic Letter*, September 3, 2004.

C.2 Research-related media mentions of refereed publications

1. Charles Kenny, “What the Web Didn’t Deliver: High Economic Growth,” *Bloomberg Businessweek*, June 20, 2013
2. Matt Nesvisky, “Does Health Information Technology Reduce Costs?” *The NBER Digest* January 2013.
3. Gillian Tett, “Will the iPad flatten us all?” *Financial Times* January 14, 2011.
4. CSPAN Telecast of Testimony at FCC National Broadband Plan Staff Workshop, “Economic Growth, Job Creation, Private Investment,” August 26, 2009.
5. Lester Picker (2009) “The Internet, Wages, and Consumer Welfare” *The NBER Digest* April 2009.
6. Larry Yu (2008) “The Benefits of City Locations” *MIT Sloan Management Review* 49(2): 12.

C.3 Technical reports

1. Local Capabilities and Broadband Bandwidth at Community Anchor Institutions, Report for the National Telecommunications and Information Administration, 2011 (with Avi Goldfarb and Shane Greenstein).
2. Analysis of the Costa Rica Public Procurement Database, TIP-TR-0001, 2009 (with Sri Narasimhan, German Retana, Sandra Slaughter, Sebastian Urbina, and Tianshi Wu).

D. PRESENTATIONS

Conference and workshop presentations

1. NBER Conference “Beyond 140 Characters: The Role of Innovation and Entrepreneurship in Economic Growth,” January 2020, “Concentration and agglomeration of IT innovation and entrepreneurship: Evidence from patenting.” *
2. Workshop on Information Systems and Economics, December 2019, “Chat More and Contribute Better: An Empirical Study on a Crowdsourcing Platform.”
3. Strategic Management Society Annual Meeting, Minneapolis, MN, October 2019, Panel on AI, Firm Strategy, and Organization.
4. ZEW ICT Conference, Mannheim, Germany, July 2019, “Chat More and Contribute Better: An Empirical Study on a Crowdsourcing Platform.”**

5. Hawaii International Conference on System Sciences, January 2019, Digital Platforms and Ecosystems Research Symposium.
6. INFORMS Annual Meeting, Phoenix, AZ, November 2018, “Chat More and Contribute Better: An Empirical Study on a Crowdsourcing Platform.”*
7. SMJ Special Issue Workshop on Platform Ecosystems, Minneapolis, MN, October 2018, “Multihoming within Platform Ecosystems: The Strategic Role of Human Capital.”*
8. Case Workshop on Digital Innovation, Case Western Reserve University, Cleveland, OH, October 2018, “The Platform Partnership Decision: A review and directions forward.”
9. Platform Research Symposium, Boston University, Boston, MA, July 2018, “Multihoming within Platform Ecosystems: The Strategic Role of Human Capital.”*
10. Digital Innovation Workshop, Boston College, Newton, MA, May 2017, “Internet adoption and knowledge diffusion.”
11. Academy of Management Meeting, Anaheim, CA, August 2016, “E-Commerce in the Manufacturing Supply Chain: A Plant-Level Investigation.”
12. Munich Summer Institute, Munich, German, June 2016, “Agglomeration of Invention in the Bay Area: Not Just ICT.” (Keynote talk)
13. ZEW ICT Conference, Mannheim, Germany, June 2016, “Agglomeration of Invention in the Bay Area: Not Just ICT.” (Keynote talk)
14. Academy of Management Meeting, Vancouver, BC, Canada, August 2015, “Standards, IPR, and Inventive Activity: Evidence from the IETF.”
15. USPTO-Searle Center Conference on Innovation Economics, Chicago, IL, June 2015, “Standards, IPR, and Inventive Activity: Evidence from the IETF.”
16. Workshop on Information Systems and Economics (WISE), Auckland, NZ, December 2014, “Fixed Line and Mobile Internet: Complements or Substitutes?”*
17. Atlanta Competitive Advantage Conference, Atlanta, GA, May 2014, “Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data.”
18. International Conference on Information Systems, Milan, Italy, December 2013, “News Media Platforms: Complements or Substitutes? Evidence from mobile phone usage.”*
19. ICT Conference Munich, Munich, Germany, October 2013, “The Trillion Dollar Conundrum: Complementarities and Health Information Technology.”
20. Conference on Information Systems and Technology, Minneapolis, MN, October 2013, “News Media Platforms: Complements or Substitutes? Evidence from mobile phone usage.”*
21. Academy of Management Meeting, Orlando, FL, August 2013, “IT Knowledge Spillovers and Productivity: Evidence from Enterprise Software.”
22. 2013 Winter Conference on Business Intelligence, Snowbird, UT, February-March 2013, “News Media Platforms: Complements or Substitutes? Evidence from Mobile Phone Usage.”*

23. International Conference in Information Systems, Orlando, FL, December 2012, “Technical Support and IT Capacity Demand: Evidence from the Cloud.”*
24. Workshop on Information Systems and Economics, (WISE), Orlando, FL, December 2012, “News Media Platforms: Complements or Substitutes? Evidence from mobile phone usage.”*
25. Workshop on Information Systems and Economics, (WISE), Orlando, FL, December 2012, “Network of Practice, IT Knowledge Spillovers, and Productivity: Evidence from Enterprise Software.”*
26. Workshop on Information Systems and Economics, (WISE), Orlando, FL, December 2012, “Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data.”*
27. Connecting the Future Conference (Keynote Speaker), Queen’s University, Kingston, ON, December 2012, “The Internet and Local Wages: A Puzzle.”
28. Atlanta Census Research Data Center Conference, Athens, GA, October 2012, “Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data.”
29. Workshop on Health IT and Economics, Arlington, VA, October 2012, “The Trillion Dollar Conundrum: Complementarities and Health Information Technology.”
30. Industry Studies Association Conference, Pittsburgh, PA, May 2012, “Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data.”
31. Industry Studies Association Conference, Pittsburgh, PA, May 2012, “Rise of the Cloud: Venture Capital Financing as a Catalytic Technology Adoption Decision.”
32. University of Florida Workshop on Multi-Channel Operations, Gainesville, FL, February 2012, “Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data.”
33. NBER Workshop on Patents, Standards, and Innovation, Tucson, AZ, January 2012, “Patent Pools, Thickets, and Open Source Software Entry by Start-Up Firms.”
34. Workshop on Information Systems and Economics (WISE), Shanghai, China, December 2011, “Patent Pools, Thickets, and Open Source Software Entry by Start-Up Firms.”*
35. Roundtable of Engineering and Entrepreneurship Research (REER), Atlanta, GA, November 2011, “Patent Pools, Thickets, and Open Source Software Entry by Start-Up Firms.”*
36. INFORMS Conference on Information Systems and Technology (CIST), Charlotte, NC, November 2011, “Patent Pools, Thickets, and Open Source Software Entry by Start-Up Firms.”*
37. INFORMS Conference on Information Systems and Technology (CIST), Charlotte, NC, November 2011, “Efficiency and Learning-by-Doing in System-Enabled Tasks after Information Systems Implementation and Upgrades: The Impact of Task Interruption and Task Interference.”*
38. NBER Summer Institute, Cambridge, MA, July 2011, “From wires to partners: How the Internet has fostered R&D collaborations within firms.”
39. NBER Pre-Conference on Patents, Standards, and Innovation, Cambridge, MA, May 2011, “Patent Pools, Thickets, and Open Source Software Entry by Start-Up Firms.”*

40. Industry Studies Association Conference, Pittsburgh, PA, May 2011, "From wires to partners: How the Internet has fostered R&D collaborations within firms."
41. The National Broadband Map: Early Results from Social Science Research, March 2011, "Broadband at Community Anchor Institutions."
42. International Conference in Information Systems, St. Louis, MO, December 2010, "From wires to partners: How the Internet has fostered R&D collaborations within firms."
43. ICT and Economic Growth Conference, Munich, Germany, November 2010, "From wires to partners: How the Internet has fostered R&D collaborations within firms."
44. Academy of Management Conference, Montreal, Canada, August 2010, "Participation in a Platform Ecosystem: Appropriability, Competition, and Access to the Installed Base."
45. Open and User Innovation Conference, Boston, MA, August 2010, "Participation in a Platform Ecosystem: Appropriability, Competition, and Access to the Installed Base."
46. Knowledge in Organizations Conference, Ascona, Switzerland, May 2010, "From wires to partners: how the Internet has fostered R&D collaborations within firms."
47. Industry Studies Association Conference, Chicago, IL, May 2010, "Participation in a Platform Ecosystem: Appropriability, Competition, and Access to the Installed Base"
48. INFORMS Conference on Information Systems and Technology (CIST), San Diego, CA, October 2009, "Globalization of Software Research: Does the US Have an Advantage in Applications?"
49. TPRC, Arlington, VA, September, 2009, "The Internet and Local Wages: Convergence or Divergence?"
50. Industry Studies Association Conference, Chicago, IL, May 2009, "Globalization of Software Research: Does the US Have an Advantage in Applications?"
51. Atlanta Competitive Advantage Conference, Atlanta, GA, May 2009, "Globalization of Software Research: Does the US Have an Advantage in Applications?"
52. International Industrial Organization Conference, Boston, MA, April 2009, "The Internet and Local Wages: Convergence or Divergence?"
53. American Economic Association Meetings, San Francisco, California, January 2009, "Globalization of Software Research: Does the US Have an Advantage in Applications?"
54. Workshop on Information Systems and Economics, Paris, France, December 2008, "The Internet and Local Wages: Convergence or Divergence?"
55. North American Regional Science Association Meetings, New York, New York, November 2008, "Information Technology, Organizations, and the Spatial Distribution of Economic Activity."
56. DRUID Conference on Entrepreneurship and Innovation, Copenhagen, Denmark, June 2008, "Vertical Integration, Transactions Costs, and Technology Adoption in the Insurance Industry."
57. NYU Conference on Global Delivery of Services, New York, NY, May 2008, "Process Innovation and Performance in IT and Business Services Outsourcing: Does Fit Matter?"

58. Sloan Industry Studies Conference, Boston, MA, May 2008, "Process Innovation and Performance in IT and Business Services Outsourcing: Does Fit Matter?"
59. Rocket Science Retailing Workshop, University of California, Riverside, Riverside, CA, February 2008, "Ushering Buyers into Electronic Channels: An Empirical Analysis."
60. International Symposium in Information Systems (ISIS), Hyderabad, India, December 2007, "Standardization as Innovation: Decisions and Outcomes in the Implementation of a Process Improvement Framework for Service Providers."
61. Workshop on Information Systems and Economics (WISE), Montreal, Canada, December 2007, "Ushering Buyers into Electronic Channels."
62. Regional Science Association Annual Conference, Savannah, GA, November 2007, "Proximity and Information Technology Outsourcing: How Local are IT Services Markets?"
63. INFORMS Annual Meeting, Seattle, WA, November 2007, "Globalization of Software Innovation."
64. INFORMS Conference on Information Systems and Technology (CIST), Seattle, WA, November 2007, "Competition between Local and Electronic Markets: How the benefit of buying online depends on where you live."
65. Third International Conference on Outsourcing of Information Services (ICOIS), Heidelberg, Germany, May 2007, "Standardization as Innovation: Decisions and Outcomes in the Implementation of a Process Improvement Framework for Service Providers."
66. Sloan Industry Studies Conference, Boston, MA, April 2007, "Globalization of Software Innovation."
67. Statistical Challenges in Electronic Commerce Research (SCECR), Stamford, CT, May 2007, "Ushering Buyers into Electronic Channels."
68. Hawaii International Conference on Systems Science (HICSS), Waikoloa, HI, January 2007, "Proximity and software programming: IT Outsourcing and the Local Market."
69. Hawaii International Conference on Systems Sciences (HICSS), Waikoloa, HI, January 2007, "Geography and Electronic Commerce: Measuring convenience, selection, and price."
70. Workshop in Information Systems and Economics (WISE), Evanston, IL, December 2006, "Understanding the Inputs into Innovation: Do Cities Substitute for Internal Firm Resources?"
71. NBER Summer Institute, Boston, MA, July 2006, "Understanding the Inputs into Innovation: Do Cities Substitute for Internal Firm Resources?"
72. Board on Science, Technology, and Economic Policy (STEP) Conference on Globalization of Innovation, National Academy of Sciences, Washington, DC, April 2006, "Globalization of Software Innovation."
73. Sloan Industry Studies Annual Meeting, Boston, MA, December 2005, "Proximity and Software Programming: IT Outsourcing and the Local Market."
74. Workshop on Information Systems and Economics (WISE), Irvine, CA, December 2005, "Complementarity of Technology Adoption and Technology Innovation: Evidence from the Software Industry."

75. INFORMS Conference on Information Systems and Technology (CIST), San Francisco, CA, November 2005, "Do Cities Substitute for Internal Firm Resources? A Study of Advanced Internet Technology Adoption."
76. Workshop on RFID-Integrated Supply Chains, Baylor University, Waco, TX, October 2005, "The Value of RFID Use in Return Center Logistics."
77. NSF-CONACYT Workshop on Internet use in the Americas, Mexico City, Mexico, June 2005, "Do Cities Substitute for Internal Firm Resources? A Study of Advanced Internet Technology Adoption."
78. International Industrial Organization Conference (IIOC), Atlanta, GA, April 2005, "Vertical Integration and Information Technology Adoption: A Study of the Insurance Industry."
79. Hawaii International Conference on System Sciences (HICSS), Waikoloa, HI, January 2005, "Vertical Integration and Information Technology Adoption: A Study of the Insurance Industry."
80. Management Information Systems Research Center (MISRC)/Center for Research on Information Technology and Organizations (CRITO) Symposium on the Digital Divide, Minneapolis, MN, August 2004, "How Do Industry Features Affect the Role of Location on Adoption."
81. Workshop on Information Systems and Economics (WISE), Seattle, WA, December 2003, "How Did Location Affect the Adoption of the Commercial Internet? Global Village, Urban Density, and Industry Composition."
82. International Conference on Electronic Commerce (ICEC), Pittsburgh, PA, October 2003, "How Did Location Affect the Adoption of the Commercial Internet? Global Village, Urban Density, and Industry Composition."
83. Conference on Economics of Information and Communication Technologies, ZEW, Mannheim, Germany, July 2003, "How Did Location Affect the Adoption of the Commercial Internet? Global Village, Urban Density, and Industry Composition."
84. International Industrial Organization Conference (IIOC), Boston, MA, April 2003, "Digital Dispersion: An Industrial and Geographic Census of Commercial Internet Use."
85. International Conference on Information Systems (ICIS), Barcelona, Spain, December 2002, "Switching Costs, Network Effects, and Networking Equipment: Compatibility and Vendor Choice in the Market for LAN Equipment."
86. Workshop on Information Systems and Economics (WISE), Barcelona, Spain, December 2002, "Digital Dispersion: An Industrial and Geographic Census of Commercial Internet Use."
87. Productivity Potpourri Session, NBER Summer Institute, Cambridge, MA, July 2002, "The Corporate Digital Divide: Determinants of Internet Adoption."
88. UNU/WIDER Conference: The New Economy in Development, Helsinki, Finland, May 2002, "The Corporate Digital Divide: Determinants of Internet Adoption."
89. Workshop on Information Systems and Economics (WISE), New Orleans, LA, December 2001, "The Corporate Digital Divide: Determinants of Internet Adoption."
90. Session on Output and Price Measurement, NBER Summer Institute, Cambridge, MA, July 2001, "Prices for Local Area Network Equipment."

91. Conference on the Economics of Information and Communication Technologies, ZEW, Mannheim, Germany, June 2001, “The Effects of Compatibility on Buyer Behavior in the Market for Computer Networking Equipment.”
92. CCC Doctoral Colloquium, Duke University, Durham, NC, April 2001, “The Effects of Compatibility on Buyer Behavior in the Market for Computer Networking Equipment.”
93. Brookings Institution Workshop on Communications Output and Productivity, Washington, DC, February 2001, “Prices for Local Area Network Equipment.”

*Indicates a presentation by one of my Ph.D. students or co-author while I was attending.

Invited seminars at other institutions

1. Carlson School of Management, University of Minnesota, October 11, 2019, “Technology Standards and the Impact on Patenting: Evidence from the IETF.”
2. Eli Broad College of Business, Michigan State University, September 20, 2019, “Firm Organization in the Digital Age: IT Use and Vertical Transactions in U.S. Manufacturing.”
3. MIT Sloan School of Management, MIT, May 14, 2019, “IT Knowledge Spillovers, Absorptive Capacity, and Productivity: Evidence from Enterprise Software.”
4. NYU Stern School of Business, NYU, May 9, 2019, “IT Knowledge Spillovers, Absorptive Capacity, and Productivity: Evidence from Enterprise Software.”
5. Whitman School of Management, Syracuse University, March 1, 2019, “Technology Standards and the Impact on Patenting: Evidence from the IETF.”
6. Questrom School of Business, Boston University, November 30, 2018, “Internet adoption and knowledge diffusion.”
7. Goizueta Business School, Emory University, October 5, 2018, “IT Knowledge Spillovers, Absorptive Capacity, and Productivity: Evidence from Enterprise Software.”
8. Smith School of Business, University of Maryland, April 6, 2018, “Internet adoption and knowledge diffusion.”
9. Harvard Business School, December 13, 2017, “Internet adoption and knowledge diffusion.”
10. Federal Communications Commission, November 15, 2017, “Battle of the Internet Channels: How Does Mobile and Fixed Line Quality Drive Internet Use?”
11. Lehigh University, October 9, 2017, “IT Knowledge Spillovers, Absorptive Capacity, and Productivity: Evidence from Enterprise Software.”
12. University of Southern California, September 21, 2017, “How Geography Shapes—and is Shaped by—the Internet.
13. University of California, Irvine, September 20, 2017, “Internet adoption and knowledge diffusion.”
14. Simon School of Business, University of Rochester, September 8, 2017, “IT Knowledge Spillovers, Absorptive Capacity, and Productivity: Evidence from Enterprise Software.”

15. Johns Hopkins Carey Business School, Johns Hopkins University, April 5, 2017, "IT Knowledge Spillovers, Absorptive Capacity, and Productivity: Evidence from Enterprise Software."
16. Ecole des Mines de Paris (MINES ParisTech), December 6, 2016, "Internet adoption and knowledge diffusion."
17. HEC Paris, December 5, 2016, "Internet adoption and knowledge diffusion."
18. Ross School of Business, University of Michigan, October 14, 2016, "Battle of the Internet Channels: How Does Mobile and Fixed Line Quality Drive Internet Use?"
19. David Eccles School of Business, University of Utah, October 12, 2016, "Battle of the Internet Channels: How Does Mobile and Fixed Line Quality Drive Internet Use?"
20. Krannert School of Management, Purdue University, September 23, 2016, "IT Knowledge Spillovers, Absorptive Capacity, and Productivity: Evidence from Enterprise Software."
21. Solvay Brussels School of Economics and Management, ULB (Université libre de Bruxelles), June 14, 2016, "IT Knowledge Spillovers, Absorptive Capacity, and Productivity: Evidence from Enterprise Software."
22. Heinz College, Carnegie Mellon University, March 21, 2016, "Standards, Intellectual Property, and Strategic Patenting: Evidence from the IETF."
23. Dyson School of Applied Economics and Management, Cornell University, October 30, 2015, "Standards, Intellectual Property, and Strategic Patenting: Evidence from the IETF."
24. Wharton School of Business, University of Pennsylvania, October, 13, 2015, "Standards, Intellectual Property, and Strategic Patenting: Evidence from the IETF."
25. Fox School of Business, Temple University, June 5, 2015, "Battle of the Internet Channels: How Does Mobile and Fixed Line Quality Drive Internet Use?"
26. NBER Productivity Lunch, April 14, 2015, "Standards, IPR, and Inventive Activity: Evidence from the IETF."
27. W.P. Carey School of Business, Arizona State University, April 10, 2015, "Standards, IPR, and Inventive Activity: Evidence from the IETF."
28. Georgia Institute of Technology, School of Public Policy, March 12, 2015, "IT Investment, Geography, and Firm Organization: A Research Agenda."
29. LMU (Ludwig Maximilian University of Munich), April 30, 2014, "Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data."
30. Solvay Brussels School of Economics and Business, ULB (Université libre de Bruxelles), April 29, 2014, "Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data."
31. Copenhagen School of Business, April 22, 2014, "Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data."
32. McCombs School of Business, University of Texas at Austin, February 28, 2014, "Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data."

33. Stern School of Business, New York University, May 9, 2013, "Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data."
34. Center for Economic Studies, U.S. Census Bureau, April 4, 2013, "Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data."
35. Solvay Brussels School of Economics and Management, Université libre de Bruxelles, February 26, 2013, "The Trillion Dollar Conundrum: Complementarities and Health Information Technology."
36. Eller College of Management, University of Arizona, February 1, 2013, "The Trillion Dollar Conundrum: Complementarities and Health Information Technology."
37. Tepper School of Business, Carnegie Mellon University, January 18, 2013, "Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data."
38. NBER Productivity Lunch, April 10, 2012, "Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data."
39. Terry College of Business, University of Georgia, April 6, 2012, "The Trillion Dollar Conundrum: Complementarities and Health Information Technology."
40. Haskayne School of Business, University of Calgary, February 29, 2012, "Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data."
41. Naveen Jindal School of Management, University of Texas Dallas, November 7, 2011, "Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data."
42. Robert Smith School of Business, University of Maryland, September 23, 2011, "Information Technology and (Downstream) Vertical Integration: Evidence from Plant-Level Data."
43. Robinson College of Business, Georgia State University, April 1, 2011, "From wires to partners: How the Internet has fostered R&D collaborations within firms."
44. McCombs School of Business, University of Texas Austin, March 11, 2011, "From wires to partners: How the Internet has fostered R&D collaborations within firms."
45. Carlson School of Management, University of Minnesota, January 28, 2011, "From wires to partners: How the Internet has fostered R&D collaborations within firms."
46. Foster School of Business, University of Washington, November 19, 2010, "From wires to partners: How the Internet has fostered R&D collaborations within firms."
47. Wharton School of Business, University of Pennsylvania, October 19, 2010, "From wires to partners: How the Internet has fostered R&D collaborations within firms."
48. Sloan School of Management, MIT, April 8, 2010, "Vertical Integration, Transactions Costs, and Technology Adoption in the Insurance Industry."
49. Fox School of Business, Temple University, Philadelphia, PA, February 19, 2010, "The Internet and Local Wages: Convergence or Divergence?"

50. School of Management, George Mason University, Fairfax, VA, November 6, 2009, "The Internet and Local Wages: Convergence or Divergence?"
51. W. P. Carey School of Business, Arizona State University, Tempe, AZ, November 7, 2008, "The Internet and Local Wages: Convergence or Divergence?"
52. Terry College of Business, University of Georgia, Athens, GA, October 17, 2008, "Vertical Integration, Transactions Costs, and Technology Adoption in the Insurance Industry."
53. Terry College of Business, University of Georgia, Athens, GA, February 15, 2008, "Economics of Information Systems."
54. College of Management, Georgia Institute of Technology, Atlanta, GA, January, 16, 2007, "Geography and Electronic Commerce: Measuring convenience, selection, and price."
55. Eli Broad College of Business, Michigan State University, East Lansing, MI, November 17, 2006, "Geography and Electronic Commerce: Measuring convenience, selection, and price."
56. Department of Social and Decision Carnegie Mellon University, Pittsburgh, PA, September 29, 2006, "Geography and Electronic Commerce: Measuring convenience, selection, and price."
57. Federal Communications Commission, Washington, DC, March 28, 2006, "How Did Location Affect the Adoption of the Commercial Internet? Global Village vs. Urban Density."
58. Katz School of Business, University of Pittsburgh, Pittsburgh, PA, October 14, 2005, "Do Cities Substitute for Internal Firm Resources? A Study of Advanced Internet Technology Adoption."
59. Robert H. Smith School of Business, University of Maryland, College Park, MD, September 9, 2005, "Do Cities Substitute for Internal Firm Resources? A Study of Advanced Internet Technology Adoption."
60. Federal Reserve Bank of San Francisco, San Francisco, CA, June 9, 2004, "How Does Vendor Distance Influence the IT Outsourcing Decision."
61. Federal Reserve Bank of San Francisco, San Francisco, CA, June 8, 2004, "How Did Location Affect the Adoption of the Commercial Internet? Global Village, Urban Density, and Industry Composition."
62. Wharton School of Business, University of Pennsylvania, Philadelphia, PA, April 1, 2004, "How Did Location Affect the Adoption of the Commercial Internet? Global Village, Urban Density, and Industry Composition."
63. Sauder School of Business, University of British Columbia, Vancouver, BC, March 26, 2004, "How Did Location Affect the Adoption of the Commercial Internet? Global Village, Urban Density, and Industry Composition."
64. Carlson School of Management, University of Minnesota, Minneapolis, MN, January 23, 2004, "Switching Costs and Network Effects in the Market for Routers and Switches."
65. Center of Economic Studies, Bureau of the Census, Washington, DC, May 1, 2003, "Digital Dispersion: An Industrial and Geographic Census of Commercial Internet Use."
66. H.J. Heinz School of Public Policy and Management, Carnegie Mellon University, Pittsburgh, PA, November 18, 2002, "Digital Dispersion: An Industrial and Geographic Census of Commercial Internet Use."

Other presentations

1. Academy of Management, Boston, MA, August 2019, Discussant, “The Trust Machine” Symposium.
2. Platform Strategy Symposium, Boston, MA, July 2019, Discussant, “Optimal Platform Price Discrimination and Measuring the Value of Network Effects.”
3. Editor’s Panel, Conference on Information Systems and Technology, Phoenix, AZ, November 2018.
4. Editor’s Panel, Open and User Innovation Symposium, New York, NY, August 2018.
5. Professional Development Workshop, Academy of Management Meeting, Chicago, IL, August 2018, “The Right Tool for the Task.”
6. Platform Strategy Symposium, Boston, MA, July 2018, Discussant, “Competition, Contracts, and Creativity: Evidence from Novel Writing in a Platform Market.”
7. NBER Digitization Winter Meeting, Stanford, CA, March 2016, Discussant, “Digital America: A Tale of the Haves and Have-mores.”
8. Roundtable of Engineering and Entrepreneurship Research, Atlanta, GA, November 2015, Discussant, “Get with the Program: Software-Driven Innovation in Traditional Manufacturing.”
9. Panel Speaker, Georgia Tech series on Innovation and Collaboration in Liberal Arts, Science, and Technology (ICLAST), September 2015.
10. Panel, Professional Development Workshop, Academy of Management Annual Meeting, Vancouver, BC, Canada, August 2015, “Big Data Management & Strategy.”
11. NBER Summer Institute, Economics of IT and Digitization Workshop, Cambridge, MA, July 2015, Discussant, “What Makes Geeks Tick? A Study of Stack Overflow Careers.”
12. NBER Summer Institute, NBER/CRIW Conference, Cambridge, MA, July 2015, Discussant, “Moore’s Law Goes Multicore: The Economic Consequences of a Fundamental Change in How Computers Work.”
13. Meet the Editor’s Panel, Junior Faculty Consortium, International Conference on Information Systems, 2015.
14. Panel on Self-renewal, Symposium to Celebrate the Retirement of Detmar Straub, Georgia State University, April 2015.
15. Roundtable for Engineering and Entrepreneurship Research (REER), November 2013, Discussant.
16. Platform Strategy Conference, July 2013, Boston, MA, Discussant.
17. Research Roundtable on Technology Standards, Innovation, and Market Coordination, February 2013, Chicago, IL, Discussant.
18. Third Annual Conference on Internet Search and Innovation, Chicago, IL, June 2012, Discussant, ““A” Business by Any Other Name: Firm Name Choice as a Signal of Firm Quality” and “Bricks,

Clicks, Blockbusters, and Long Tails: How Video Rental Patterns Change as Consumers Move Online?”

19. Industry Studies Association Conference, “Panel on Publishing Industry Studies Research in the Journals.”
20. NET Institute Conference, New York, NY, April 2012, Discussant, “How Does Content Aggregation Affect Users’ Search for Information?”
21. NET Institute Conference, New York, NY, April 2010, Discussant, “Network Effects, User-Generated Content, and Social Ties: Evidence from an Online Social Network.”
22. Testimony at FCC National Broadband Plan Staff Workshop, “Economic Growth, Job Creation, Private Investment,” August 26, 2009.
23. Atlanta Competitive Advantage Conference (ACAC), Atlanta, GA, June 2008, Discussant, Session on “Strategies for Platform Competition.”
24. Measuring Broadband Workshop, Pew Internet Project, Washington, DC, June 2006, Panel on Measuring Internet Use in the U.S.
25. Productivity Program Meeting, NBER, Boston, MA, March 2003, Discussant, “IT and Productivity in IT-Using and IT-Producing Industries: New Micro Data Evidence.” (paper written by B.K. Atrostic and Sang Nguyen).

V. **SERVICE**

A. PROFESSIONAL CONTRIBUTIONS

A.1 Editorial Contributions

1. Department Editor, *Management Science* (November 2014 -)
2. Special Issue Co-Editor, *Information Systems Research*, “Information, Technology, and the Changing Nature of Work.”
3. Senior Editor, *Information Systems Research* (January 2013 – December 2015)
4. Special Issue Associate Editor, *MIS Quarterly*, “IT and Society”
5. Special Issue Associate Editor, *MIS Quarterly*, “IT and Innovation”
6. Special Issue Associate Editor, *Management Science*, “Special Issue on Business Analytics.”
7. Associate Editor, *Management Science* (April 2008 – December 2012) (Guest AE 2007-2008)
8. Associate Editor, *Information Economics and Policy* (January 2008 – December 2012)
9. Associate Editor, *Information Systems Research* (January 2007 -2011)
10. Editorial Board Member, *Journal of Association for Information Systems* (July 2007 - 2009)

11. Guest Editor, *Information Technology and Management* (June 2007)
12. Associate Editor, International Conference on Information Systems (2006 – 2009, 2014)

A.2 Service in Professional Organizations

1. Committee Member to Select Best Paper Award for Workshop on Information Systems and Economics, 2014.
2. Counselor, AMCIS Doctoral Consortium, August 2014.
3. Founding Member, Early Career Development Committee, Sloan Industry Studies Community, 2004-2006
4. Reviewer for Sloan Industry Studies Conference, 2007-2008.
5. Reviewer for Sloan Industry Studies Best Dissertation Award, 2005-2006.

A.3 Conference or Program Committee Chair or Member

1. Co-organizer, Cornell Workshop on Innovation, Entrepreneurship, and Technology (2019).
2. Co-Chair, Sandra A. Slaughter Software Conference 2015, Scheller College of Business, Georgia Institute of Technology, Atlanta, GA (2015).
3. Co-Chair, Digital and Social Networks Track, International Conference in Information Systems, Orlando, FL (2012).
4. Co-Chair, Workshop on Information Systems and Economics, Shanghai, China (2011).
5. Co-Chair, IT Teaching Workshop, College of Management, Georgia Institute of Technology, Atlanta, GA (2010).
6. Co-Chair, INFORMS Conference on Information Systems and Technology CIST, Denver, CO (2004).
7. Program Committee Member, INFORMS Conference on Information Systems and Technology (CIST), 2003-2009.
8. Session Chair, Session on RFID in Supply Chain and Services Management, INFORMS Annual Conference--2006.

A.4 Referee for Technical Journals

- *Management Science*
- *Information Systems Research*
- *MIS Quarterly*
- *Journal of Urban Economics*
- *Journal of Industrial Economics*
- *Journal of Labor Economics*
- *Review of Economics and Statistics*
- *RAND Journal of Economics*
- *Information Economics and Policy*
- *Decision Support Systems*
- *Electronic Commerce Research Journal*

- *Electronic Commerce Research and Applications*
- *Journal of Information Technology*
- *Growth and Change*
- *Journal of the Association for Information Systems*
- *Spatial Economic Analysis*
- *International Conference on Information Systems*
- *Hawaii International Conference on System Sciences*
- *International Conference on Electronic Commerce*
- *DATABASE*
- *Research Policy*

B. CAMPUS CONTRIBUTIONS

Committees at Cornell University

- Graduate Studies Committee, July 2019-present.
- Assistant Professor Mentor, 2018-present.
- Co-Leader, JCB Theme on Innovation, Entrepreneurship, and Technology, 2017-present.
- Dyson School Faculty Search in Entrepreneurship and Innovation, 2018-present.
- CALS Faculty Personnel Committee (Appt Reviews, Faculty Searches, Tenure committees), Committee Chair. (July 1, 2017 - June 30, 2018, July 1, 2019- June 30, 2020).
- Graduate AEM Field Exam, Committee Member. (July 1, 2017 – June 2019).
- JCB Faculty Advisory Committee, Committee Member. (July 1, 2017 - present).
- Cornell College of Business Cluster Search for Faculty Position in Innovation and Entrepreneurship, Chairperson. (2016 - 2018).

Committees at Georgia Tech

- Member, Reappointment, Promotion, and Tenure Committee, July 2015 – June 2016.
- Member, Dean Search Committee, Scheller College of Business (2013-2014).
- Chair, PhD Committee, Scheller College of Business, August 2013 – July 2015.
- Member, Institute Undergraduate Curriculum Committee, August 2012 – August 2013.
- PhD Coordinator, IT Management, Scheller College of Business, May 2012 – July 2015.
- Scheller College of Business Representative, Committee to Develop Technology & Management Program with College of Computing, 2009 – 2011.
- Co-Chair, Faculty Recruiting Committee, IT Management, Scheller College of Business/College of Management, 2008-2009, 2010 – 2011, 2011-2012
- Member, Ledbetter Professor Real Estate Committee, College of Management, 2009
- Member, Undergraduate Committee, Scheller College of Business/College of Management, 2007 – 2012.
- Member, IT Committee, College of Management, 2007 – 2008

Committees at Carnegie Mellon

- Information Networking Institute (INI) Curriculum Committee, 2005 – 2007
- Teaching Assignments Committee, Tepper School of Business, 2004
- Ph.D. Committee, Tepper School of Business, 2003 – 2007
- Coordinator, Information Systems Seminar Series, 2002-2003, 2006-2007

Other Activities

- External examiner for promotion & tenure cases (2013 – present): Wrote evaluation letters for individuals at the following Universities: Boston College, Carnegie Mellon University, Erasmus

- University, Georgia Institute of Technology, Hong Kong University of Science and Technology, Indian School of Business, Indiana University, New York University, Northeastern University, Purdue University, University of Arizona, University of Maryland, University of Minnesota (Twin Cities), University of Pennsylvania, University of Pittsburgh, University of Texas at Dallas, University of Texas at Austin, University of Texas at Dallas, University of Texas at San Antonio.
- Interview, MentorStudents.org, May 2018
 - Speaker, College of Management internal seminar series, April 2008
 - Guest Speaker, Information Technology Management Ph.D. seminar, Georgia Tech, February 2008
 - Guest Speaker, SETChange Program Course on Industry Dynamics and Technological Change, Carnegie Mellon, April 2004
 - Affiliate, Software Industry Center, Carnegie Mellon, 2004-2007.

VI. GRANTS AND CONTRACTS

A. AS PRINCIPAL AND CO-PRINCIPAL INVESTIGATORS

1. NBER Grant for “The Changing Frontier: Rethinking Science and Innovation Policy,” related to work for “Information Technology and the Distribution of Inventive Activity,” \$7500 (with Avi Goldfarb and Shane Greenstein).
2. NBER Grant for Patents, Standards, and Innovation Conference, related to work for “Patent Pools, Thickets, and Open Source Software Entry by Start-Up Firms,” \$7500 (with Marco Ceccagnoli and Wen Wen).
3. SAP Labs, Office of the Chief Scientist, “Research Initiatives on Innovation in the Enterprise Software Industry,” \$126,000, (with D.J. Wu).
4. SAP Labs, Office of the Chief Scientist, “IT and Intangible Assets,” \$54,000, (with D.J. Wu).
5. SAP Labs, Office of the Chief Scientist, “WISE Workshop,” \$10,000, (with D.J. Wu).
6. NET Institute, “When Do Complementors Join a Platform? Some Evidence from the Enterprise Software Industry,” \$3,000 (with Peng Huang, Marco Ceccagnoli, and D.J. Wu).
7. Kauffman/Georgia Research Alliance grant from Roadmap for an Entrepreneurial Economy Initiative, “Measuring How Users Influence Adoption of Enterprise Applications,” \$15,000 (with D.J. Wu).
8. Alfred P. Sloan Foundation Industry Studies Fellowship, “Lead User Innovation and the Globalization of Software Development,” \$45,000.
9. Contract from National Academy of Sciences for Research Project on the Globalization of Software Innovation, \$5000 (with Ashish Arora and Jiwoong Yoon)
10. Grant from NET (Networks, Electronic Commerce, and Telecommunications) Institute, “The Impact of Location on Consumer Purchases in Electronic Markets,” \$6000 (with Anindya Ghose and Avi Goldfarb).
11. Center for Analytical Research in Technology (CART) Grant, Tepper School of Business, “Uncertainty, Governance, and Performance Outcomes in eSourcing,” \$25,000 (with Sandra Slaughter and Elaine Hyder (lead investigators)).
12. Berkman Faculty Development Grant, Carnegie Mellon University, “How Does Location Shape Consumer Use of Online Channels,” \$1,500.

13. Teaching Innovation Center, Tepper School of Business, “Real Time Decisions with Resource Planning Systems,” \$18,580 (with Laurens Debo).
14. Carnegie Bosch Institute Faculty Development Grant, “Patent Litigation in the Rapid Prototyping Industry: The Effect on World Markets,” \$10,000 (with Karen Clay).
15. Grant from NET (Networks, Electronic Commerce, and Telecommunications) Institute, “Network Effects and Switching Costs in the Market for Routers and Switches,” \$9000 (with Pei-yu Chen).

VII. HONORS AND AWARDS

1. Information Systems Society Fellow (granted 2019)
2. Cooperative Strategy Interest Group, Best Paper Winner, “Multi-homing within Platform Ecosystems: The Strategic Role of Human Capital.” Strategic Management Society 37th Annual Conference, 2017.
3. Keynote speaker, ZEW Conference on Economics of Information and Communications Technology, Summer 2016.
4. Keynote speaker, Munich Summer Institute, Summer 2016.
5. Best Paper Award, Workshop on Information Systems and Economics, 2015.
6. Finalist for Oliver E. Williamson Best Conference Paper Award, ISNIE (International Society for New Institutional Economics) Annual Conference, 2014.
7. Keynote Speaker, Connecting the Future Broadband Conference, 2012.
8. Best Paper Award, Workshop on Health IT and Economics, 2012.
9. Meritorious Associate Editor for Management Science, 2012.
10. Brady Family Award for Faculty Research Excellence, 2012
11. Georgia Tech *Thank a Teacher* certificate, Fall 2010, Spring 2012
12. Runner Up Best Paper Award for “When Do ISVs Join a Platform Ecosystem? Evidence from the Enterprise Software Industry,” Thirtieth Annual International Conference on Information Systems, 2009 (with Peng Huang, Marco Ceccagnoli, and D.J. Wu).
13. Best Associate Editor Award, Information Systems Research, 2009
14. One of the 10 Most Cited articles 2004-2008 published in the Journal of Urban Economics.
15. Best Reviewer Award, Conference in Information Systems and Technology, 2007.
16. Alfred P. Sloan Foundation Industry Studies Scholar, 2007.
17. Best Paper Award for “Adoption of the Internet by Commercial Establishments: Global Village, Urban Density, and Industry Composition,” Fifth International Conference on Electronic Commerce, 2003.

18. Selection for Consortium on Competitiveness and Cooperation (CCC Doctoral Consortium), 2001.
19. Recognition for Outstanding Service, Founding Member of Early Career Development Committee, Sloan Industry Studies, 2008.